THE

CYCLOPAEDIA;

OR,

Universal Dictionary

OF

ARTS, SCIENCES, AND LITERATURE.

VOL. III.
THE

CYCLOPAEDIA;

OR,

UNIVERSAL DICTIONARY

OF

Arts, Sciences, and Literature.

BY


WITH THE ASSISTANCE OF

EMINENT PROFESSIONAL GENTLEMEN.

ILLUSTRATED WITH NUMEROUS ENGRAVINGS,

BY THE MOST DISTINGUISHED ARTISTS.

IN THIRTY-NINE VOLUMES.

VOL. III.

LONDON:

Printed for LONGMAN, HURST, REES, ORME, & BROWN, PATERNOSTER-ROW,
F.C. AND J. RIVINGTON, A. STRAHLAN, PAYNE AND FOSS, SCATCHERD AND LETTERMAN, J. CUTHELL,
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1819.
Cyclopædia: 
Or, A New 
Universal Dictionary 
Of 
Arts and Sciences. 
(Second Edition.)

Artery.

Artery, in Anatomy, from aers, air, and repus, to keep, is the name by which those vessels are distinguished through which the blood flows from the heart to every part of the body. The term was first adopted by the anatomists of the Alexandrian school, in consequence of the erroneous opinion which they entertained, that these vessels were designed for the distribution of air throughout the body.

Arteries, Structure of. The larger arteries have thick and elastic sides, so that they remain open when divided, and present a regularly circular aperture. The sides may be separated into three strata of dissimilar substances, which are technically called coats. The innermost, which is generally termed the cuticular coat, is very thin, but very strong and indurated. Upon this circumstance depends the regularly circular form of an injected artery; for if the cuticular coat bulks from too great force being used in injecting, the exterior elastic coats are detached into an irregular and uncertain figure. The internal surface of this coat is perfectly smooth, so that the blood glides along it without impediment; the external surface is a little rough, and is connected by cellular substance to that coat which surrounds it. The middle or muscular coat consists of circular fibres which are scarcely visible in the largest arteries, but are very manifest and strong in the smaller ones; they are seen projecting in circular ridges, beneath the thin cuticular coat of a small artery, when it is slit open. The great increase of the muscular power of the small arteries is not only evident to the light, but has been demonstrated by experiment. Mr. Hunter bled a horse to death, and afterwards examined the state of the arteries. The aorta was contracted about a 34th part of its natural area, the iliac 34th, the radial 34. (See his Treatise on the Blood, Inflammation, &c.) The external or elastic coat of the artery appears to be made of condensed cellular substance; it is powerfully elastic, and abounds in the larger arteries, but gradually diminishes in quantity as the size of the vessel decreases; so that the small arteries are quite flaccid, and collapse when divided. It is easy to perceive the use of these various degrees of elasticity and muscular power, which are given to the different sorts of arteries. In the large arteries, muscular power seems unnecessary, for the force of the heart is sufficiently adequate to the propulsion of the blood; but in the smaller arteries, where the effect of the heart's action declines, a proportionate muscular power is allotted to the vessel to urge on the circulating fluids. The arteries have their nutrient arteries and veins, their absorbents, and their nerves. All the arteries proceed from one great vessel, as the branches spring from the trunk of the tree; and we proceed to notice certain circumstances observable in Arteries, Ramification of the. 1. When a large artery gives off a branch, the conjoined areas of the two vessels make a greater space for the blood to move in, than the area of the original vessel. The increase of dimensions in the branches of a large artery is slight, but in those of a small one it is so considerable, that Haller has estimated it as surpassing by 3d that of the trunk from which they sprung. The conjoined areas of all the small arteries greatly exceed that of the aorta, that the fame anatomist, in opposition to former opinions, says, these vessels may be considered as conical, the base of the cone being in the extreme arteries, and the apex in the heart.

2. When a large artery sends off a branch, its course does not, in general, deviate further from that of the trunk, than an angle of 45 degrees. Sometimes a branch, which has gone off at an acute angle, returns, and proceeds in a contrary direction to that of the trunk; and these arteries are generally
ARTERY.

generally called circulations. Sometimes, indeed, a large artery does proceed from the trunk at a greater angle, nearly a right angle, as the renal arteries. &c. Though the large arteries generally ramify at acute angles, there is great diversity in the branching of the smaller ones.

3. Arteries, in general, do not pursue a straight, but serpentine course; in some instances it is remarkably the case; as in the spermatics, those of the face and occupit, and in most of the smaller arteries.

4. Though the ramification of arteries may be compared to the branching of trees, yet it differs materially in this particular, that the different branches frequently conjoint. This conjunction is technically termed, if we borrow the phrase from the Greek language, their "Anastomosis," if from the Latin, their "Inofoulation." This union of arteries rarely happens among the larger ones, but frequently among the smaller, and increases in number in proportion to the minuteness of the vessels. The utility of the inofoulation of arteries is evident: were it not for this circumstance, if any arteries trunk were accidentally compressed, so that the current of blood in it should be for some time obstructed, the parts which it supplied must perish. But in consequence of the frequent communication of the arteries with one another, the blood can pass from the adjacent arteries into all the branches of any one accidentally obstructed.

When arteries inofoulate, two currents of blood, moving in opposite directions, must come together, and retard each other's motion. This probably is the reason that larger arteries, through which it seems necessary that the blood should flow with rapidity, so seldom conjoint, whilst the small arteries, in which it is requisite the blood should move tardily, communicate in surprising numbers, and with a frequency proportionate to their minuteness. The very frequent communication of the minute arteries, almost as effectually prevents the prejudicial consequences of obstruction in the larger trunks, as if those arteries themselves were made to communicate by more direct and larger channels. All these minute arterial tubes are capable of enlargement, and it is an ascertained fact, that even the aorta itself may be gradually obstructed, without the parts which it supplies being deprived of nourishment. From an attentive consideration of all these circumstances, it has been concluded, that the moderate inofole of the area of the branches of large arteries, the acute angles at which they divide, their nearly rectilinear course, and the rare occurrence of inofoulation between them, are designed to facilitate the rapid motion of the blood in them, so that it may arrive unchanged and in the same state that it was projected from the heart, at part of the body for the nourishment of which it is intended; whilst, on the contrary, the great inofole of the area of the smaller vessels, the variety of their angles, their tortuous course, and their frequent communications, were designed to check the velocity of the blood's motion, when it has arrived at that part where secretion is to be performed, and nutrition is to take place. Contrary opinions have indeed been maintained; and for the further discussion of this subject, we must refer the reader to the Circulation of the Blood.

Arteries, Termination of. When the arteries have become very minute, they terminate in two ways; they either turn back again and become veins, or turn the blood to the heart, or they send off fine vessels which abstract something from the circulating blood, and which are therefore called the fecerning arteries. Though none but minute arteries are ever reflected so as to become veins, yet many of them are of sufficient magnitude to allow the passage of common waxen injection. The arrangement of the minute vessels can be demonstrated by impelling common waxen injection into the arteries, particularly if a degree of putrefaction be suffered to take place previously to the experiment. In the direction of such a preparation, the continuity of the arteries and veins is very manifest. It seems therefore to follow from this facility of communication, that the mals of blood is constantly and freely circulating, in order to undergo that change which is effectcd in the lungs, whilst but a small part of it proceeds into the very minute arteries, for the purpose of having secretions made from it. For these arteries, however minute, must be considered large in comparison to the exility of others, which cannot be injected with wax, and even reject the red globules of the blood, or admit them in such small proportion, that they do not impart the red colour to the fluid which moves in those vessels. Now we may venture to assert, that these globules do not much exceed, in diameter, the 150,000th part of an inch, which circumstance sufficiently shews the minuteness of the latter arteries. See the article Blood. But however minute arteries may become, still they must all end in the same manner; they must be continued into veins, for that is the route which the blood, or subtle injections pursue, and from the molt minute arteries those which perform secretion arise.

The fecerning arteries are too minute to admit commonly of demonstration; they are however evident in some glands; in the kidney for instance, they may be seen continued into the excretory vesicles or tubuli uriniferi. Subtle injections, when thrown into the larger arterial trunks, may be seen oozing out on the surfaces of membranes, and into the cellular substance, and they are generally supposed to be poured forth from the open orifices of the fecerning arteries. Analogy therefore, rather than actual demonstration, leads us to believe, that the fecerning arteries absorb the particles of nutrition, or the materials which compose the fabric of the body, from the circulating fluids, and deposit them from their open mouths, so as by this means to build up and keep in repair the structure of the body.

Arteries, Distribution of. The great artery, whose branches supply the whole of the body, is named the "aorta." It comes off from the upper and back part of the left ventricle, where it is surrounded for a short part of its course by the fleshy fibres of the heart. Its origin appears externally to be divided into three distinct eminences, which denote the situation of its femurval valves.

The aorta emerges from the basins of the heart, between the pulmonary arteries and the right auricle. It ascends at first rather to the right, till it arrives at the upper edge of the second rib. Then it begins to bend backwards across the division of the pulmonary artery and of the trachea, till it reaches the left side of the spine, in which situation it descends from the fourth or fifth dorsal to the last lumbar vertebra.

By the "arch of the aorta," is meant that part of the vesicle which arises from the heart, and bends across the chest. It teds off the following branches: viz. the two coronary arteries, whose mouths are situated just above the upper edge of the femurval valves. They depart from the trunk at right angles, and are distributed to the heart itself. The most convex part of the arch teds off three large branches; first, the artery innominata; secondly, the left carotid artery; and thirdly, the left subclavian artery. Varieties not unfrequently occur in the number of arteries which arise from this upper part of the arch: a long lift for them may be seen in Smeunerring de corporis humani fabrica, tom. v. p. 420.

The right coronary paifes in the groove between the right auricle and ventricle, covered by fat, to the flat surface
ARTERY.

The labial artery, which is also called the facial, external maxillary, or angular artery, arises from the external carotid under the digastric and mylohyoid muscles; it advances in a tortuous manner to the base of the jaw, passing through a deep furrow which is made for it in the submaxillary gland; by a bold and sudden turn it bends over the inner border of the jaw at the anterior margin of the masticator muscles, and then follows a tortuous course over the check to the side of the mouth and nose, under the zygomatic muscles.

Before it passes over the jaw, it sends off the following branches. 1. The ascending palatine artery, goes under the mylohyoid muscles to the pharynx, Eustachian tube, soft palate, and uvula. 2. An artery to the back of the tongue and tonsils. 3. A number of small branches to the submaxillary gland, the neighbouring lymphatic glands, the skin, the membrane of the mouth, &c. 4. The submental comes off just before the artery makes its turn; it runs forward on the mylohyoidus muscle towards the chin; there it turns over the lymphatics of the jaw, and is distributed to the skin and muscles of the chin, communicating with the inferior labial artery.

When the artery has passed over the basis of the jaw, it sends off; 1. A branch to the surface of the malleus, which communicates with the malleolar branch of the facial nerve. 2. The inferior labial artery, which supplies the lower part of the lower lip, and communicates with the submental, and with the coronary artery of the lower lip. 3. The coronary artery of the lower lip, which pursues a winding course under the orbicularis oris, till it meets and inosculates with its fellow of the opposite side. It is sometimes produced by the inferior labial. 4. The coronary artery of the upper lip may from its superior magnitude be considered as the continuation of the trunk; it follows the edge of the upper lip, lying on the membrane of the mouth, and in the middle of the lip has a large and free communication with the opposite artery; it sends off a large branch to the side of the nose, and two smaller branches which run along the front of the septum nasi; these communicate on the ala nasi with the branches of the ophthalmic and infraorbital arteries. The branches which the labial sends off vary much in size and number; sometimes it terminates in producing the coronary of the lower lip (vide Halleri Icon. facie. ii. tab. arter. faciei); sometimes the nasal arteries are entirely given off from the ophthalmic; sometimes the nasal branches of the labial extend over the nose to the forehead; sometimes the branches of one side differ from those of the other.

The ascending pharyngeal artery of Haller (Halleri Icon. facie. ii. tab. arter. pharyng.), which is the smallest branch of the external carotid except the posterior auricular, either arises from the back of the carotid opposite the lingual, or from the point of bifurcation. Its course along the neck is straight; it is found in front of the rectus capitis major, and on the side of the pharynx, being absolutely hidden by the two carotids. Its posterior branches supply the vagus, and mylohyoid muscle; the termination of the trunk enters the skull at the foramen jugulare, and ramifications on the dura mater. The occipital artery is covered at its origin by the digastric muscle; it passes in front of the jugular vein, then gets between the mastoid process and the atlas, under the muscles of the neck. Arriving near the ligamentum nuchae, it penetrates the complexus muscle, and becomes cutaneous. It sends off branches to the muscles along which it lies, one of which is much larger.

B 2
than the rest, descends along the outer side of the complexus, and communicates with the transversalis colli. A branch of the occipital artery enters the skull at the foramen jugulare, and forms the dura mater of the cerebellum. The trunk of the occipital artery branches over the back of the scalp, being distributed to the occipital portion of the occipito-frontalis, and to the skin. Its branches communicate freely with those of the temporal artery.

The posterior artery of the ear, the smallest branch of the external carotid, is given off higher up than any of the above-mentioned branches. Indeed it does not arise until the trunk has entered the parotid gland. It follows the course of the digastric muscle, ascends behind the external car, and distributes its branches to the ear and scalp, communicating with the temporal and occipital arteries. It sends off the artery of the mastoid process, which enters the foramen of that name, supplies the internal ear.

The superficial temporal artery continues its course through the parotid gland; it mounts over the zygomatic arch, and distributes its widely spreading branches over the side of the head.

Branches of the Temporal Artery.

Branches to the parotid gland; one or two small twigs to the front of the ear, called the anterior auricular arteries; a branch to the articulation of the lower jaw; and one or two branches to the mastoid muscle. The transverse artery of the face is given off by the temporal, while it is passing through the parotid gland; it emerges from that gland in company with the parotid duct, crosses over the mastoid muscle, and advances to the corner of the mouth, communicating with all the arteries of the face. The middle temporal artery, which is to be distinguished from the superficial temporal on the one hand, and the deep-seated temporal on the other, runs under the temporal aponeurosis, and extends as far as the fronto-occipitalis muscle.

After the temporal artery has passed over the zygoma, it divides sooner or later into the anterior and posterior temporal branches; these communicate with each other; the anterior branch communicates also with the frontal and supra-orbital branches of the ophthalmic; the posterior branch communicates with the posterior auricular and occipital arteries.

The internal maxillary artery is much larger than the temporal, and should therefore, if size be adopted as the criterion, be considered as the continuation of the carotid. It passes forwards and downwards between the external pterygoid muscle and the jaw; then following a serpentine course, it arrives at the pharynx, where it terminates by dividing into three branches.

Branches of the Internal Maxillary Artery.

A small twig entering the tympanum by the fissura Glaseri; another entering the skull at the foramen ovale.

The pharyngeal or middle meningeal artery mounts straight upwards through the pharynx of the sphenoid bone, and is distributed widely over the dura mater; it causes the deep grooves which impress the inner surface of the parietal bone; it communicates with the posterior meningeal vessels, which come from the vertebral and occipital arteries, and with the anterior ones from the ophthalmic.

The inferior maxillary artery enters the canal of the lower jaw, in company with the nerve of the same name; it feeds branches to the teeth and to the substance of the jaws; arriving at the foramen mentale, it divides into two branches; one of these goes forwards to supply the incisor teeth; the other comes out at the foramen mentale, and inosculates with the artery of the lower lip.

The pterygoid branches are distributed to the pterygoid muscles.

The two deep temporal arteries are two in number, and ramify deeply in the temporal muscle.

The artery of the cheek (arteria buccalis) runs along the buccinator muscle, and communicates with the arteries of the face.

The alveolar artery, or artery of the upper jaw, bends round the tuber of the jaw, and advances towards the face. Its chief branch enters a canal in the upper jaw, and supplies the teeth.

The infra-orbital artery enters and pales through the infra-orbital canal of the superior maxillary bone, and comes out upon the face at the infra-orbital foramen. It is distributed chiefly to the muscles of the face, and communicates with the coronary artery of the upper lip, and its nasal branches; with the transverse artery of the face, and the artery of the cheek.

The superior or descending palatine artery is one of the three branches, into which the internal maxillary divides at the spheno-maxillary fissure; it pales through the pterygo-palatine canal, and comes out at the posterior palatine foramen. After sending a branch backwards to the soft palate, the artery comes forwards under the arch of the teeth. A small branch of it pales by the foramen incisivum into the nose.

The upper pharyngeal artery is sent to the upper and back part of the pharynx.

The nasal artery, which is the continuation of the trunk, goes through the spheno-palatine foramen to the back of the nostrils; there it gives small twigs to the ethmoid and sphenoid cells, and larger branches to the septum and floor of the nostrils and antrum maxillare.

The internal carotid artery pursues a serpentine course along the front of the body of the vertebrae, till it arrives at the entrance of the carotid canal. It is connected with the par vagum, and the great sympathetic nerve, and also with the rectus anterior muscle. It follows the course of the canal of the temporal bone, passing first directly upwards, then turning horizontally forwards, and then ascending again in a straight direction, and entering the cavernous sinus. While in this sinus, it pales from the back of the sphenoid bone to the anterior clynoid processes, where it suddenly doubles back upon itself, and branches out to the brain.

Branches of the Internal Carotid Artery.

While in the cavernous sinus, it feeds off the two arteries of the receptaculum, which are spread upon the surrounding parts of the dura mater.

Having risen to the anterior clynoid processes, it feeds off the ophthalmic artery, which enters the orbit with the optic nerve. The artery is situated at first on the outside of the nerve; entering the orbit, it crofes obliquely over the nerve, and arrives at the internal angle of the eye. It feeds off the following branches,—The lacrimal artery supplies the lacrimal gland, and sends forward two small branches to the tarsi of the upper and lower eye-lid. The posterior ethmoidal artery passes through the posterior orbital hole to the ethmoidal cells. The supra-orbital or superior muscular artery passes along the upper part of the orbit, supplies the levator palpebrae, the rectus superior, and rectus internus orbii, quits the orbit at the supracylindrical foramen, and communicates with the arteries of the scalp. The central artery of the retina plunges into the optic nerve, runs along its axis, and ramifies beautifully on the retina. One of its branches penetrates the vitreous humor, and is distributed to the crystalline lens. The ciliary arteries do not all come off from the trunk of the ophthalmic, but many are produced by
by its branches. They may be divided into three classes.—The posterior or short ciliary arteries surround the optic nerve; they divide into twenty or thirty branches, which perforate the fontanelle of the sclerotic, and are distributed to the choroid. The long ciliary arteries are two in number; they perforate the sclerotic at one third of the distance between the optic nerve and the cornea; arriving at the orbiculus ciliaris, they divide into two branches, which follow the outer circle of the iris, and communicating together, form the zona major of the iris; the branches of this form the zona minor on the inner circumference of the iris. The anterior ciliary arteries penetrate the front of the sclerotic, and contribute to the formation of the zones of the iris. These vessels in the fuctus produce the arteries of the mem-

brana pupillaris. The inferior muscular artery goes to the muscle which are found beneath the globe of the eye; viz. the obliques minor, the rectus inferior and externus. The anterior ethmoidal artery passes through the anterior orbital hole; and entering the skull, is distributed to the dura mater. The superior and inferior palpebral arteries are defined for the upper and lower eyelids. The trunk, ar-

riving at the inner angle of the eye, splits into two branches: the nasal branch crosses the lacrymal bag, descends along the ala nasi, and communicates with the labial artery. The frontal branch is distributed to the scalp, and communicates with the temporal.

After the carotid has arrived at the anterior clinoid pro-

cess, it sends off several small branches, some one of which
goes to the choroid plexus.

Then it sends off the communicating artery, which meet-

ing and anastomosing with a similar branch of the vertebral, contributes to form the celebrated circle of Willis.

The artery then divides into an interior and a posterior branch.

The anterior branch, or the artery of the corpus callo-
fum, comes forward in the division between the two anterior lobes of the brain. Here it approaches the artery of the opposite side, and has a short but large communication with it just above the junction of the optic nerves. This commu-
nication completes the circle of Willis in front. The re-
lip of the trunk passes first upwards, and then turns backward over the corpus callosum, and between the two hemispheres of the brain.

The posterior branch, or artery of the sphenoid Sylvii, runs
directly forwards, and enters the sphenoid Sylvii; its branches
turn to the middle part of the brain chiefly. O:

bservation. All the arteries of the brain and cerebellum ramify first upon the pia mater, and then enter the cortical sub-

stance of the brain. They do not follow the directions of the convolutions. They are composed of thinner coats than other arteries, whence the blood may be seen even through the coats of the larger arteries.

The subclavian artery ascends behind the head of the clavicle and the insertion of the sternocleidomastoid muscle, towards the scaleni muscles; it passes between the ante-

rior and middle scalenes, and then bends over the first rib into the axilla, where it takes the name of the axillary ar-

tery. The outer edge of the scalenus may be considered as the boundary between the subclavian and axillary portions of the vessel.

Branches of the Subclavian Artery.

The internal mammary artery comes off from the front of the subclavian; it passes behind the articulation of the sternum and clavicle, then goes along the middle of the cartilages of the ribs, and terminates on the muscles abdom-
inis by communicating with the epigastric, intercostal, and lumbar arteries. It sends an artery to the thymus; a small branch which accompanies the phrenic nerve; two arteries to the pericardium; and some small twigs to the anterior mediastinum, and back of the ilium. Other branches come off at the intervals between the cartilages of the ribs, communicate with the intercostal arteries, and then go out to the muscles on the outside of the chest.

The inferior thyroidal artery arises from the upper part of the trunk; where it is covered by the sternocleidomasto-
des; it divides almost immediately into four branches.

1. The proper thyroid branch bends in a tortuous manner under the carotid artery, till it arrives at the thyroid gland, to which it is distributed communicating with the superior thyroidal artery. This branch sends one or two small twigs down along the trachea. 2. The ascending thyroid branch is a small but constant artery, which passes upwards in front of the trachea, and is distributed to the trachea, and is distributed to the trachea.

3. The inferior thyroidal artery of the neck goes along the side of the neck, and is distributed to the trapezius and neighbouring muscles of the capula. 4. The tracheo-cervical artery of the neck (tracheal or caroticus superior) passes along the root of the neck towards the capula, giving off branches to the neighbouring muscles. The trunk passing through the notch in the superior costal of the scapula, takes the name of the supra-epicardial artery; it sends off many branches to the supra-spinatus muscles, then descends under the acromion to the lower part of the scapula, where it communicates very largely and freely with the infra-epi-

cardial artery.

Observation. Sometimes the tracheo-cervical artery of the shoulder is a branch of the superficial cervical artery. Some-
times it comes off as a distinct trunk from the axillary artery, and then the name of suprascapular is applied to the whole of it. In these cases the fourth branch of the thy-

roidal is small, and only reaches to the surface of the trapezii, deltoïd, &c.

The vertebral, which is an artery of great magnitude, arises from the upper part of the subclavian, behind the inferior cervical ganglion of the great sympathetic nerve; it ascends through the foramina of the transverse processes of the cervical vertebrae, entering at the sixth, fifth, or fourth vertebra. In passing from the second to the first vertebra, it makes a great turn; then it again bends back-

wards along that groove of the atlas which is defined to receive it. Entering the skull at the foramen magnum, it ascends along the biliary processes of the occiput, and un-
der the medulla oblongata to meet the artery of the oppo-
site side at an acute angle; by the union of the two trunks the basilar artery is formed. The vertebral artery, as it passes through the transverse processes, gives off some branches to the spinal canal. And while it is passing through the occipital hole, it sends off the posterior meningeal artery, which supplies the dura mater on the occiput, and extends as far as the sphenoid bone. The inferior artery of the cerebellum arises immediately before, or after the union of the vertebrals; it comes off near the origin of the par-
vagus, and having distributed several branches to the inferior surface of the cerebellum, terminates in the fourth ventricle.

The anterior and posterior spinal arteries are usually given off before the union of the vertebrals. They descend along the spine and the back part of the medulla spinalis, and keep up their size almost to the bottom of it by means of frequent communications with branches from without. The basilar artery passes along the middle of the tuberulum annulare to its anterior margin, giving to several branches to its inferior surface. Then it divides into four branches, two for each side of the brain. The superior artery of the cerebellum bends round the crura cerebri, and is distributed to the upper part of the cerebellum; it also gives branches to...
to the crura cerebri, thalami, tubercula quadrigemina, and pineal gland. The deep-seated artery of the brain is separated from the former branch by the nerve of the third pair. Ascending between the cerebellum and posterior lobe of the cerebrum, it tends off the communicating branch, which meeting and inosculating with a similar branch of the carotid, completes the circle of Willis. The rel on the artery is distributed to the back of the brain.

The superior intercostal artery goes off from the back of the subclavian, and descends over the heads of the first and second ribs. It gives small twigs to the celiacus; two branches to the spinal marrow; two others which penetrate to the muscles of the back; and two branches for the first and second intercostal spaces, which communicate with the inferior intercostal arteries. These four branches are usually given off before the subclavian passes between the scaleni; the two following arise while it is passing, or immediately after it has passed.

The deep-seated cervical artery goes under the muscles of the neck, almost touching the vertebræ. It is entirely distributed to the surrounding muscles, and reaches almost to the occiput.

The superficial cervical artery is hidden under the brachial nerves; its first branches go to these nerves, and to the scaleni muscles; the rel of the trunk goes to the muscles behind the neck, as the splenius, complexus, trapezius, and levator scapulae.

The artery, having left the scaleni muscles, recedes from the trunk of the body, and assumes the name of axillary; it bends obliquely downwards over the middle of the first and second ribs, and under the clavicle into the axilla. Emerging from under the clavicle, it is covered by the brachial nerves, by the axillary veins and glands; externally it is protected by the pectoral muscles. It is situated in the axilla, between the serratus anterior and subscapularis muscles; at the lower margin of the tendon of the latissimus dorsi, it changes its name for that of the humeral artery.

**Branches of the Arterial Artery.**

The first or upper thoracic artery arises near the upper margin of the pectoralis minor muscle, behind which it descends; its branches supply the serratus anterior, pectoral, and some of the intercostal muscles. The long or second thoracic artery, which is sometimes a branch of the posterior circumflex, or infra-scapular arteries, passes also behind the pectoralis minor, as far as the sixth rib. Its branches go to the axillary glands and mammae, also to the serratus, pectoralis minor, and intercostal muscles.

The two thoracic arteries inosculate with the intercostals, and the internal mammary.

The thoracic artery of the shoulder (arteria thoracica humeraria) comes off near the second rib, and penetrating between the pectoralis major and deltoid is distributed chiefly to the former muscle, and the neighbouring integuments.

The deep or fourth thoracic branch (arteria thoracica alaris) supplies the axillary glands, the pectoralis minor, and subscapularis.

Observation. The thoracic arteries are subject to considerable variety in number, size, and distribution. The infraScapular, or subscapular artery, which is a very large trunk, comes off near the neck of the scapula. Its first branches go to the subscapularis, to the capsule of the shoulder joint, and to the muscles, which arise from the coraco-shoulder process. A very large muscular branch is distributed to the teres major and minor, the serratus, latissimus dorsi, subscapularis, &c. The principal part of the trunk turns over the inferior costal of the scapula, and ramifies on the dorso of the bone, supplying the infra-spinatus, and teres minor, and communicating with the suprascapular artery.

The posterior circumflex artery goes off between the teres major and subscapularis; it passes backwards between the two, and under the long head of the triceps, and is reflected round the head of the humerus, being connected with the deltoid. Its branches go to the deltoid and other muscles about the scapula, and communicate with the profunda humeri.

The anterior circumflex artery is a much more slender branch; it goes under the biceps and coracohumeralis, and terminates on the deltoid.

The brachial or humeral artery leaving the axilla, pursues its course along the middle of the biceps muscle; it passes over the brachialis internus, and advances gradually towards the front of the arm. In this course the large median nerve lies in front of it. Arriving at the bend of the elbow, it goes under that production which the tendon of the biceps bends off to the falcia of the fore-arm, and is lodged deep in the hollow which is left between the two mafhes of muscles of the fore-arm, where it divides into the radial and ulnar arteries. The median nerve full remains in front of the artery; the cephalic vein is situated considerably on the outside of the artery; and the median vein crosses over it to join the cephalic.

**Branches of the Brachial Artery.**

Branches of this consequence go to the teres major, latissimus dorsi, triceps, coracohumeralis, biceps, and nerves of the arm.

The larger deep-seated artery of the shoulder (profunda humeri major or collateralis magna) arises high up in the arm, and is frequently given off by the inferior scapular, or posterior circumflex arteries. It bends backwards between the long and the external head of the triceps, giving many large branches to that muscle, and comes out at the back of the arm, where it divides into two branches; these communicate at the back of the elbow with the radial and ulnar recurrences.

The nutrient artery of the humerus comes off near the insertion of the coracohumeralis, and having distributed branches to the neighbouring muscles, enters the sub stance of the bone.

The smaller deep-seated branch, or branches, go to the outside of the brachialis internus, supinator radii longus, extensores carpi radiales, &c. and communicate with the recurrences of the fore-arm.

The great anastomosing branch (ramus anastomoticus magnus) comes off from the inside of the trunk, within a short distance of the joint, and proceeds towards the inner condyle; its branches communicate above with the profunda below with the recurrences.

The two last-mentioned branches, with one or two more which descend along the triceps to communicate with the arteries of the fore-arm, are sometimes described under the name of collaterales minors.

The radial artery, which is smaller than the ulnar, seems to be given off as a branch from the ulnar; it passes along the surface of the pronator teres, and then goes on the inside of the supinator longus to the ulna. It bends under the extensor tendons of the thumb, and penetrates the abductor indicis to arrive in the palm of the hand. Here it passes along the heads of the metacarpal bones, and having formed the arcus profundus vulv. communicates on the opposite side of the hand with a branch of the ulnar.

**Branches**
ARTERY.

Branches of the Radial Artery.

The recurrent branch of the radial artery is reflected towards the outer condyle, between the brachialis internus and the radial extensors of the carpus; there it has numerous communications with the collateral arteries of the arm.

The superficial arch of the palm of the hand is given off just as the trunk begins to turn over the radius; it goes over the abductor pollicis, or through its fibres, to communicate with the ulnar, and thereby complete the superficial arch. This branch varies much in size; sometimes it is very small, and does not reach to the ulnar artery; sometimes it is so large, as to give off the branch to the outside of the thumb; or even to both sides of the thumb.

At the back of the hand, the radial gives off an artery or two to the back of the thumb, another to the back of the fore-finger, and a third to the back of the carpus (dorsalis carpis), which communicates with the interossei, and sends small branches between the metacarpal bones.

After the radial artery has entered the palm of the hand, it sends off the great artery of the thumb, which runs along the side of the first phalanx of the thumb, and then divides into three branches. Two of these are for the two sides of the thumb, and the third for the radial side of the forefinger. The branches of the deep-intersosseus arch are small, and supply the interosseus muscles, and come out at the back of the wrist and hand.

The ulnar artery goes under the pronator teres, flexor carpi radialis, ulnaris, and palmaris longus, and paves within the edge of the flexor carpi ulnaris to the wrist. There it is situated just within the pisiform bone, bends across the palm of the hand, over the flexor tendons, so as to form the superficial arch of the palm of the hand, which is situated under the palma falcis, and opposite to the middle of the metacarpal bones. It terminates at the opposite side of the palm by communicating with the superficial branch of the radial artery.

Branches of the Ulnar Artery.

The recurrent branch of the ulnar goes under the flexor muscles to the back of the internal condyle, where it communicates freely with the collateral arteries of the arm.

The interosseous artery comes off very soon from the ulnar: it immediately sends a large branch through the interosseous ligament to the back of the fore-arm; this branch gives off the interosseous recurrent, and then paves down the fore-arm to the wrist, supplying the extensor muscles. The trunk of the interosseous artery descends along the ligament to the pronator quadratus; there it perforates the interosseous ligament, and communicates with the other branch of the interosseous artery and with the dorsal branches of the radial and ulnar arteries.

An artery to the back of the hand (dorsalis manus), communicates with the interosseous arteries.

The deep palmar branch goes off just below the pisiform bone; it dips under the flexor tendons, and communicating with the radial artery, completes the deep palmar arch.

The convex part of the superficial arch then produces three large digital arteries, which, passing between the metacarpal bones, and arriving at the root of the fingers, divide each into two branches, which go along the side of the fingers to their very apex, where they communicate.

Observation. The arteries of the fore-arm are subject to great variations. The brachial sometimes divides before it arrives at the elbow, even as high as the axilla, in some subjects. Then the course of these arteries is natural in other respects. Sometimes, however, where this high division takes place, the ulnar artery, instead of going under the muscles, which have been mentioned, goes over them and just under the skin. Sometimes the radial, ulnar, and interosseous arteries proceed straight into the palm of the hand, and are distributed to the fingers without forming any arches at all.

The aorta having formed its arch, paves gradually behind the lungs to the left side of the bodies of the vertebrae. It descends in a straight course along the back of the posterior mediastinum until it arrives at, and paves through, the crura of the diaphragm; this portion of the vessel is termed the thoracic aorta.

Branches of the Thoracic Aorta.

The common bronchial artery comes off high up from the front of the aorta; it divides into two branches, one for either lung.

The right and left bronchial arteries arise lower down: and often there is a fourth or inferior bronchial artery.

These arteries are defined for the nourishment of the substance of the lungs: they supply also the bronchial glands, and the roots of the great vessels, which come off from the heart. They are remarkable on account of their communications with the pulmonary artery.

The cephalic arteries are about five or fix in number: they run upon the surface of the cephalogloss, and communicate with the coronary artery of the stomach.

The lower intercostal arteries are nine or ten in number, according to the number of ribs, which are unfurnished by the intercostal branch of the subclavian artery. They arise from the back of the aorta, and follow the curve of the lower or grooved edge of the ribs. The upper ones are the smallest, and ascend somewhat; the lower ones are nearly transverse in their course. The arteries of the right side are longer, as they have to pass over the bodies of the vertebrae. They all give off: 1. a branch which enters into the spinal marrow as the nerves pass out; 2. a larger branch, which goes to the muscles at the back of the spine; 3. an upper branch which, coming off at the angle of the rib, goes along the upper edge of the rib below. The continuation of the trunk communicates with the mammary and thoracic arteries above: with the epigastric and lumbar arteries below.

The aorta, having passed through the crura of the diaphragm, takes the name of the abdominal aorta. It is still situated on the left side of the bodies of the vertebrae; it is separated from the vena cava by the left lobe of the liver and the crus of the diaphragm. It approaches gradually to the middle of the vertebræ, and gets in company with the vena cava, a little above the kidneys. At the left lumbar vertebræ, or at the interface between the fourth and fifth, it divides into the two common iliac arteries.

Branches of the Abdominal Aorta.

The right and left phrenic arteries are the first branches of the abdominal aorta: sometimes they arise from the celiac artery; sometimes a single trunk, either from the aorta or from the celiac, produces both the right and left phrenic arteries: they cross over the crura of the diaphragm, and then bend round the central tendon, sending off branches to the floor of the diaphragm in all directions: they give branches to the renal capsule and fat of the kidney.

The celiac is a large short trunk, coming off from the front of the aorta, while it is still between the crura of the diaphragm. It is surrounded by the jejicer arch of the stomach; beneath it are the pancreas, and on the left side the lobus Spigelii. After a course of few lines, it divides into three branches: the coronary artery of the stomach, the hepatic, and the splenic arteries.

The coronary artery of the stomach is the central branch of the celiac; it mounts upwards towards the cephalogloss, sends
sends a large branch to the great extremity of the stomach, and then returns along the lesser arch; its branches are distributed over both surfaces of the stomach, and communicates in the neighbourhood of the pylorus, with the superior pyloric branch of the hepatic; sometimes the coronary artery is much larger than usual; then its trunk passes from the aortic to the left lobe of the liver.

The hepatic or right branch of the celiac comes off behind the pyloric extremity of the stomach; it ascends towards the right, is contained in the left side of Glisson's capsule, and divides under the neck of the gall-bladder into the right and left hepatic arteries, which are distributed to the right and left lobes of the liver; where the coronary celiac artery is continued to the liver, the hepatic artery only supplies the right lobe. The hepatic artery gives off the following branches. 1. The duodenal-gastric artery, which passes beside the duodenum, gives branches to the pylorus (pylorica inferior), duodenum (duodenales superiores), and pancreas (pancreatica transversa): it is continued under the name of the right gastric, or gastro-epiploic artery, along the greater curvature of the stomach; it gives branch, to both surfaces of the stomach, and communicates by the termination of its trunk with the left gastric artery. 2. The superior pyloric artery is reflected towards the lesser arch of the stomach, and communicates with the coronary celiac. 3. The celiac divides generally a branch of the right hepatic, goes along the left side of the gall-bladder, which it supplies.

The splenic artery is the largest branch of the celiac, in the adult. It purifies a tortuous course along the upper edge of the pancreas, then divides into six or eight branches, which enter the notch of the spleen. As the splenic artery passes along the pancreas, it sends off many short branches to the substance of that gland; also the posterior gastric arteries to the back of the great extremity of the stomach. The artery sends off, after its division, the vasa brevia, which are three or four branches to the great extremity of the stomach, and the left gastro-epiploic artery, which runs along the greater curvature of the stomach, and communicates with the right artery of the same name.

Obervation. Both the gastro-epiploic arteries send many small branches to the omentum.

The superior mesenteric artery is the largest branch of the abdominal aorta, and arises a few lines below the celiac: here it is situated between the pancreas, and the left turn of the duodenum, to both of which it gives branches; then it descends over the duodenum, and is received between the first layer of the mesentery; it bends from the left side of the spine towards the right groin, making a large arch, convex towards the left. From the left or convex side of this arch, are sent off from twelve to twenty arteries, each of which soon after divides into two branches: these communicating with each other form arches, from the convexity of which other branches come off, which divide and recommunicate in a familiar manner. This is repeated a third, and when the branches are long, a fourth, and even a fifth time, until the left branches go straight to the intestines, divide and surround them. From the opposite or concave side of the artery are sent only two branches. 1. The middle colic artery passes along the mesocolon to supply the ascending and transverse parts of the colon; the left branch of this has a very large communication with the left colic artery; the right branch communicates with the ileocolic artery. 2. The ileocolic artery goes to the conjunction of the ileum with the cæcum. It sends an ascending branch to communicate with the middle colic artery; and a descending branch, which communicates with the termination of the superior mesenteric trunk.

The renal or emulent artery arises from the side of the aorta, between the superior and inferior mesenteric arteries. The left renal artery passes over the vein near the kidney; the right renal artery goes under the vena cava, and is covered by its corresponding vein. The artery divides into three or four branches, which enter at the notch of the kidney. The renal artery gives branches to the renal capsule, to the fat of the kidney, and ureter.

The spermatic artery is a long flender vessel, arising from the front of the aorta. On the left side it frequently comes from the renal artery; it pursues a tortuous course, and gets into company with its vein upon the psoas muscle. In men, it goes through the abdominal ring at the back of the chord, and supplies the testes. It sends off branches to the fat of the kidney, and to the ureter.

The spermatic artery of females supplies along the ligament of the uterus to the ovary. Its posterior branches supply the ovary; its anterior ones pass on with the Fallopian tube to the uterus, where it communicates with the uterine arteries.

The inferior mesenteric artery comes off low down from the left side of the aorta. It divides a little on the left side of the two bodies of the vertebrae, and sends off the left colic artery. This supplies the descending colon, and by communicating with the middle cceliac artery forms the famous mesenteric arch. The continuation of the trunk, under the name of the internal hemorrhoidal artery, goes along the back of the rectum; its branches reach almost to the extremity of that intestine, and communicate with the middle and external hemorrhoidal arteries.

As the arteries of the renal capsule vary much in size and number, they may be divided into three classes: the upper capillary arteries are branches of the phrenic; the middle ones generally arise from the side of the aorta, between the celiac and mesenteric arteries; the lower ones are from the renal arteries.

The adipous arteries are those which supply the renal fat; they arise above from the capillary arteries, below from the renal and spermatic arteries, and from the aorta.

The ureteric are also derived from various sources: the upper ones are from the renal and spermatic arteries; the middle from the aorta or common iliac artery; and the lower ones from one of the veical arteries.

The lumbar arteries are five in number, arising from the back of the aorta, at the intervals of the vertebrae, as the intercostal arteries do in the chett. They supply the muscles in the circumference of the body; they give branches to the spinal marrow, and others which penetrate to the muscles of the back; the left lumbar artery communicates with the ilolumbar artery.

The common iliac artery of the right side passes over the lower part of the vena cava; on the left side, it is situated exteriorly with respect to its vein; it passes obliquely downwards and outwards, and divides over the sacro-iliac symphyse into the internal iliac, or hypogastric, and the external iliac arteries.

The middle facral artery usually arises from the point of bifurcation of the aorta; it descends along the middle of the facrum to the coccyx, and communicates on both sides with the lateral facral arteries.

The internal iliac artery descends immediately into the pelvis. In the adult it is of the same size as the external artery, but in the fetus it is four or five times larger; and after having descended into the pelvis, becomes attached to the side of the bladder, and rises again to reach the umbilicus, under the name of the hypogastric artery. At this period, the arteries of the pelvis are small branches coming
coming from the lower or convex part of the hypogastric. Where the artery approaches the bladder in the adult, it is converted into a fibrous substancé, which still remains per-
vious to a certain extent.

Branches of the Internal Iliac Artery.

The iliolumbar artery ascends between the psoas major and iliacus internus, toward the crest of the ilium. Its branches are distributed to the neighbouring muscles, and communicate with the lateral iliac artery.

The lateral femoral arteries vary in number from one to three, four, or even five. They descend on the side of the facrum, communicate with the middle femoral artery, and send branches through the femoral holes to the cavity of the thigh.

The vertical arteries are three or four in number, arising from that part of the hypogastric which still remains per-
vious, as it approaches the bladder. One or more of these, which goes to the bottom of the bladder, and gives branches to the vesical, pudendal, &c. In men, to the rectum and vagina in women, is distinguished by the name of the lower vesical artery.

The middle hemorrhoidal artery comes off between the pudendal and gluteal branches, passes along the front of the rectum, and communicates with the external arteries. It sends branches to the bottom of the bladder, &c. in men; and a large one (which sometimes comes off differently from the internal iliac) to the vagina in women.

The uterine artery arises off the common iliac artery, as soon as it passes along the side of the uterus, on which it communicates with the spermatic artery.

The obturator artery, which frequently arises from the epigastric, passes along the side of the pelvis, at the upper edge of the obturator internus, accompanied by the nerve and vein of the same name, and goes through the psoas, which is left for it at the upper part of the thigh bone.

Having quitted the pelvis, it divides into an external and an internal branch, which are distributed to the obturator muscles, to the capsule of the hip, and to the origin of the tri-

ces. They communicate with the internal circumflex branch of the profundæ femoris.

The gluteal or posterior iliac artery is the largest branch of the internal iliac. It arises from the back part of the trunk, bends downwards and backwards, and quits the pelvis at the upper margin of the psoas muscle. It feeds a large branch between the gluteus maximus and medius. Another branch, more deeply seated, goes under the gluteus medius, and sends an artery close to the dorsal of the ilium at the origin of the gluteus minimus.

The ileal artery goes out of the pelvis at the lower margin of the psoas muscle, together with the great iliac nerve; it is here covered by the glutæus maximus, and descends towards the thigh: it sends off a coccygeal branch, which turns back between the sacro-iliac ligaments towards the coccyx. The other branches of this ar-
tery are distributed to the glutæus maximus, and other mus-
cles at the back of the thigh, and are remarkable on account of their numerous communications with the circumferential branches of the profundæ.

The pudendal artery goes out of the pelvis in company with the iliatic: it is smaller, and situated further from the facrum: it merely passes over the great iliac-iliac ligament, and enters the pelvis again at the smaller iliatic hole. Then it goes along the inside of the tuber-

ous and ramus of the ilium. It sometimes sends off small branches before it quits the pelvis to the rectum, pudendal, &c. While it is passing over the sacro-iliac ligament, and the tuberousity of the ilium, it gives off branches

which communicate with the circumflex arteries; also the external hemorrhoidal arteries to the fat of the perineum, sphincter ani, &c. which communicate with the middle and in-
ternal hemorrhoidal arteries. At the ramus of the ilium the artery divides into two. The perineal artery, which ascends between the accelerator muscle and erector muscles, and supplies the muscles, skin, and fat of the perineum. The artery of the penis, which is the continuation of the trunk. At the symphysis of the pubis it divides into two. The dorsal artery of the penis, which runs along the back of that organ as far as the glans, the root of which it encircles. The deep-seated artery of the penis, which enters the corpus cavernosum of its own side, into the cells of which it opens, and gives branches to the fatty sub stance of the urethra. The vesical, which is analogous to the artery of the penis of males, is termed the chordee in females. Its distribution to the clitoris is the same as that of the above-mentioned ar-
tery to the penis.

Branch of the External Iliac Artery.

The epigastric artery arises from the inner side of the trunk, near Poupart's ligament: frequently indeed its origin is absolutely below the ligament. It is reflected upwards and downwards behind the spermatic chord, and enters the upper part of the abdominal ring, it gets behind the rectus muscle, and ascends to the navel. The epigastric artery generally feeds a pretty large branch down the spermatic chord, which communicates with the spermatic artery. The other branches of this artery are merely muscular ones: the trunk communicates at the upper part of the rectus abdomi-

nus with the internal mammary artery.

The circumflex artery of the ilium arises opposite to the epigastric: it turns back, and runs along the crista ili, be-
tween the attachments of the obturator internus and trans-
versus abdominis muscles, as far as the back of the bone, where it communicates with the iliacus and iliolumbar arter-
es. Its branches are distributed to the neighbouring muscles.

The femoral artery is surrounded below Poupart's ligament by the inguinal glands, and much fat. After a course of about an inch and a half or two inches, it divides into two branches of nearly equal magnitude. The branch which continues in the direction of the trunk retains the name of the femoral artery; while the other, which descends among the muscles of the thigh, is named the deep-seated artery of the thigh (arteria profunda femoris). The common trunk sends off some trivial branches to the integuments, lymphatic glands, and neighbouring muscles: two or three larger branches supply the skin and fat of the pudenda.

The profunda comes off from the back of the femoral artery: it passes backwards, and descends for a short space, then gets between the heads of the testaceus muscle, and sends its branches through that muscle.

Branches of the Profunda.

The external circumflex artery, which is the first branch of the profunda, goes under the factorius and rectus mus-

cles,
cles, towards the root of the great trochanter. It sends off in its course numerous branches to the muscles along which it passes. Some of its branches communicate with the internal circumflex and perforating arteries at the back of the thigh. A large branch descends along the inside of the vastus internus to the knee, and communicates with the superior articular, and with the great anastomotic branches.

The internal circumflex artery comes from the opposite part of the trunk. It goes backward to the trochanter minor, and turning round the bone, appears between the quadratus femoris and triceps musculi. Its branches are distributed to the muscles on all sides; they communicate with the obturator, lischatic, and gluteal arteries.

The two perforating branches of the profunda (the femoral is the continuation of the trunk) pierce the triceps musculi, to which they give branches, and are distributed to the flexors of the leg. They communicate above with the circumflex arteries, and below with the articular arteries. The inferior perforating branch gives off the great nutrient artery of the thigh-bone.

The femoral artery passes from the front of the thigh gradually towards the inside. It is at first covered by the lymphatic glands, then it goes under the vastus musculi, and arrives at the tendon of the triceps, through which it penetrates into the ham, and takes the name of the popliteal artery. During this course, the femoral artery sends off small branches to the glands, to the vastus, rectus, and other muscles. The great anastomosing branch comes off as the trunk enters the tendon of the triceps musculi; it plunges into the substance of the vastus internus, from which it emerges at the knee to communicate with the articular arteries, and also with the descending branch of the external circumflex. Two branches go through the tendon of the triceps to the muscles at the back of the thigh; they are called by Murray the superior and inferior perforating branches of the femoral. They communicate with the perforating branches of the profunda.

The popliteal artery passes from the tendon of the triceps through the middle of that space which is termed the ham, and arrives at the upper extremity of the small muscle, where it divides into the anterior and posterior tibial arteries.

In this course it lies between the flexor muscles, and almost close to the bone. It descends between the tendons and the heads of the gastrocnemius, in contact with the capsule of the knee. It gives off small muscular branches to the flexor muscles, and other larger ones to the gastrocnemius and soleus. The articular branches of the popliteal are five in number: three of them come off above the joint, and are therefore called the superior articular arteries, the middle of these three is distributed to the back of the capsule; the other two bend round the femur just above the external and internal condyles. The inferior articular arteries are two in number, one for the above, the other for the outside of the joint. The four last-mentioned branches arise in front of the knee, where they form a vascular net-work by their numerous communications with each other, and with the recurrent branch of the anterior tibial, the australic branch of the femoral, and the descending branch of the external circumflex.

The anterior tibial artery comes off at the lower margin of the popliteus muscle, and immediately penetrates the interosseous ligament. It descends in the front of this ligament between the tibialis anterior and the extensor pollicis longus, becoming more and more superficial as it approaches the ankle. It pales under the transverse ligament of the ankle in company with the extensor tendons, then goes between the extensor pollicis longus and the extensor digitorum pedis longus to the root of the first metatarsal bone, where it plunges into the sole of the foot, and terminates by a large communication with the external plantar artery.

Branches of the Anterior Tibial Artery.

The recurrent branch is given off immediately after the trunk has passed through the interosseous ligament. It goes through the tibialis anterior muscle to the front of the knees, where it communicates with the articular arteries.

Small muscular branches arise throughout the whole course of the artery along the leg.

The external and internal plantar arteries supply the ankle joint and neighbouring part of the tarsus. The external plantar artery communicates with both the anterior and posterior branches of the peroneal artery. The tarsal artery goes under the extensor digitorum brevis along the second phalanx of the tarsal bones. It gives small branches to the ankle-joint, exten for brevis, &c. It also sends off three arteries, which run along the intervals of the metatarsal bones to the roots of the toes, where they join the digital arteries at the point of bifurcation.

The metatarsal artery runs along the heads of the metatarsal bones, and varies in size according to the magnitude of the tarsal artery. Sometimes it is large, and produces all the branches which have been described as coming from the tarsal artery.

The artery of the back of the great toe comes off just before the anterior tibial descends into the sole of the foot; it runs between the first and second metatarsal bones, and is distributed to the back of the great toe and of the second toe.

The posterior tibial artery is situated under the flexor muscle, and between the flexor communis digitorum and the tibialis posterior. It descends to the lower extremity of the tibia in this situation; then becoming more superficial, it bends behind the inner ankle, and enters the sole of the foot between the abductor pollicis longus and the concave surface of the os calcis; here it divides into the external and internal plantar arteries.

Branches of the Posterior Tibial Artery.

Large muscular branches to the tibias.

The nutritional artery of the tibia.

The peroneal or fibular artery, which varies much in size, descends between the tibialis posterior and flexor longus pollicis, giving branches to those muscles in its passage to the bottom of the leg, where it divides into an anterior and a posterior branch. The posterior branch descends in the direction of the trunk to the outside of the os calcis, where it communicates with the external plantar and external plantar arteries. The anterior branch comes through the lower part of the interosseous ligament, and advancing to the ankle, communicates with the external plantar artery.

Branches throughout the course of this artery to the neighbouring muscles.

Two large branches to the bottom of the os calcis.

The external plantar artery is the largest branch of the posterior tibial; it runs along the inside of the abductor minimi digit. till it reaches the fifth metatarsal bone; there it bends inwards to the first metatarsal bone, where it insinuates with the tibialis antica, and forms the plantar arch. This artery sends off many branches to the adjacent muscles, and to the bones of the tarsus. The convexity of the arch gives off four arteries, which pass between the metatarsal bones to the roots of the toes, where each of them divides into two; these are distributed along the sides of the toes. The arch also sends off three or four branches, which penetrate to the back of the foot.

The internal plantar artery keeps along the inside of the foot in the direction of the abductor pollicis; it terminates by
ART

by communicating with those branches of the external planter which supply the great toe.

ARTERY, wounded. See ANEURISM.

ARTH, in Geography, a river of South Wales, which runs into the sea about ten miles south of Aberystwith in Cardiganshire.

ARTHEDON, in Ancient Geography, an island of Asia Minor, upon the borders of the Troade. Pliny.

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ARTHETEL, something cast into a court, in Wales, or its marches: whereby the court is letted or discontinued for the time. The calling of artel is prohibited by 26 Hen. VIII. cap. 6.

Artel is a British word, more correctly written Ardeleaw, or Arدلhil, and signifies to sweat; as if a man were taken with stolen goods in his hand, he was to be allowed a lawful artel, or voucher, to clear him of the felony. This was part of the law of Howell Dha, according to whose laws, every tenant, holding of any other than the prince, or the lord of the fee, paid a fine "pro defensione regis," which was called arsin ardel.

ARTHEMIS, in Zoology, a genus of worms in the Malacca tribe established by Polis in his work on the shells of the two Sicilies. See VERMES.

ARTHES, in Geography, a town of France in the department of the Lower Pyrenees, and chief place of a canton in the district of Orthes, five leagues north-west of Pam. The place contains 2078 acres and the canton 10,278 inhabitants: the territory includes 105 square miles and 21 villages.

ARTHTRICARIA, in the Materia Medica, medicines suited to cure the diseases of the joints, particularly the gout; but the term is so vague and so indeterminate a meaning as to be altogether improper.

ARTHritis, formed from ἄρθρον, articulus, joint, in Medicine, a disease better known under the name of the COUT.

ARTHROCAENAC, in Surgery, a disease of the joints, or the extremities of bones, more commonly named SPINA VENTOSA, which fee. When this disorder affects children, it is called PODEARTHROCAENAC. We do not recollect any author to have distinctly treated of this complaint before Razes the Arabian physician, who has entered at large into the consideration of diseased joints.

ARTHRODIA, formed from ἄρθρον, articulus, and διάγεις, recipi, I receive, in Anatomy, a species of articulation, admitting of a very small degree of motion; as each bone composing the joint must have nearly a plain surface. Such is the articulation of the humerus with the scapula. See Anatomy.

ARTHRODYNA, in Surgery, a chronic rheumatic affection of the joints. This name was first imposed by Dr. Cullen, in his Synopsis Nafologic Methodicae. See RHEUMATISM and WHITE SWELLING.

ARTHRODUOSIS, is a suppuration of the joint, or at least a strong tendency to form pus. In this case there is a deep-seated inflammation, obstinately painful, sometimes throbbing, and accompanied with febrile symptoms. The treatment is described under the articles, ABSCESS, SPINA VENTOSA, WHITE SWELLING, INFAMMATION, and RHEUMATISM.

ARTHROPSIS, formed from ἄρθρον, articulus, in Anatomy, a juncture of two bones designed for motion; called also articulation.

ARTHUR, in Biography and History, the most remarkable name among the Britons. As a hero and a consummate warrior, he appears illustrious in our history; but as a being of romance, his splendour has dazzled the world. It has been generally inferred that the great achievements of the hero created those illusory actions and scenes depicted in the Mabinogion, or Juvenile Tales; and some authors, with such phantoms playing before their eyes, have denied existence to such a person altogether. But that there was a prince of this name, who often led the Britons successfully to battle against the Saxons, in the commencement of the sixth century, there can be little doubt; for he is mentioned by contemporary writers, whose works are still extant; namely, Llywarch, Merin, and Talhelin; and he is likewise often recorded in the Triads, which are documents worthy of credit; but neither by these poets, nor in the Triads, is he in any respect exalted to that rank in which the world now beholds his name, or extolled above other princes who held similar stations in the country.

About the year 516, or 517, Arthur was elected by the states of Britain to exercise sovereign authority, as other princes had been chosen, in dangerous times; and he obtained that pre-eminence in consequence of his superior abilities and bravery, being until that time only a chieftain of the Silurian Britons. He continued to prevent a successful opposition to the increasing power of the Saxons, until a fatal diffusion broke out between him and Medrod; a radical evil among the Britons, in consequence of their being divided into many small states; and which, about the year 540, kindled into a civil war; and Medrod joined his power with the Saxons, which ultimately produced the battle of Camelon, equally fatal to the leaders on both sides, and which brought dilatious ruin on the Britons.

Such was the career of Arthur, as exhibited by the bards and the Triads. The hero under the same name in the dramatic tales called Mabinogion, is totally of different features, and in fact is a distinct personage altogether. The hero is then a mythological character of times so remote as to be far beyond the scope of history; his attributes in the dramatic tales before mentioned point him out as such. Memorials of this being, and of several others connected with him, have been traditionally preserved in various and very distant parts of the world; and if we mistake not, their memorials are written in the heavens, and some of the constellations bear their names. Arthur is the Great Bear, as the epithet literally implies: and perhaps this constellation being situated so near the north pole, and visibly describing a circle in a small space of the heavens, in the true origin of the famous round table.

By confounding the Arthur of history with that of mythology, the chroniclers of the middle ages have committed a monstrous anachronism; and thus have blended the real facts of the former with the allegorical attributes of the other; and this confusion is still increased by all the succeeding writers of romance.

There are some very extraordinary things related concerning the mythological Arthur, in the Mabinogion, and particularly in the story of the pursuit of Olwen; therein we recognize the Indian Men, exactly by name, and with similar attributes, acting as one of the agents of Arthur to recover Olwen, the representative of the fecundity of nature. To the above rational and credible account, for which the editor is indebted to an ingenious writer, it may not be improper to subjoin, for the gratification of the curious reader, some other particulars, transmitted by Geoffrey of Monmouth, and other historians, of more doubtful authenticity.

From them we learn, that Arthur was the son of Uther, the pendragon and dictator of the Britons, by an adulterous connection with Igrina, wife of Gorlois, Duke of Cornwall, favoured by the aid of Merlin's magical skill. Upon the death of Uther, in 516, Arthur, at the age of 15, or according
According to Buchanan, 18 years ascended the throne. With a competent army, which his extraordinary fame enabled him speedily to raise, he routed Colgrin, the Saxon duke, and all his forces, confining of Saxons, Scots, and Picts, who were committing horrid devastations in Britain. Having purged him to York, he was obliged, in consequence of the succour afforded to Colgrin by Cordic, king of the Saxons, to raise the siege and to march to London. Affiliated by a supply of troops, furnished by his nephew, Hoei, king of Armorica or Brittany, he marched to Lincoln, which was besieged by the Saxons, whom he defeated; and he then compelled the survivors to surrender, on condition of being allowed to leave the kingdom. These men, after having embarked, repented, and relented on the western coast; and proceeding to lay siege to Badon, or Bath, Arthur was obliged to decline his intended pursuit of the Scots and Picts, and to make forced marches for the relief of the city. After a very obstinate and severe engagement which lasted two days, Arthur, having performed extraordinary feats of valour, took their camp, and slew Colgrin, and another of the principal leaders. He then hastily returned to relieve his nephew Hoei, who was invested by the Scots and Picts at Dumfriestone in Scotland. Having succeeded in this enterprise, he directed his course to York, where he is said to have established the Christian worship on the ruins of the Pagan, and to have married a lady called Guanhumara, who, under the name of Guenever, became the subject of various metrical romances. Fabulous hitherto reports, that he invaded and subdued Ireland, Iceland, Gotland, and the Orkneys; and having finished these exploits, governed his kingdom for 12 years with undisputed tranquillity, and very extraordinary splendour. At this time he instituted his famous order of knights of the round table. Having also, as fable relates, conquered Norway and Denmark, invaded France, and taken Paris, and in nine years made himself master of the whole kingdom, the provinces of which he distributed among his domelities, he returned, and held a grand assembly of his tributary kings and nobles at Caerleon in Monmouthshire, where he was solemnly crowned. Whilst he was afterwards purifying his conquests, and marching for Rome, his nephew, Modred, who in his absence had prevailed on his queen, Guanhumara, to marry him, set up the standard of revolt, and called in to his assistance the Saxons and other barzabans. Arthur hastily returned, and three battles were fought between him and Modred; in the last of which, Arthur was mortally wounded, received so many wounds, that, retiring to the Isle of Avalon, he died, 42 Edw. 3. 4, and was buried in that place. "Every nation," says Gibbon (Hist. vol. vi. p. 392), "embraced and adorned the popular romance of Arthur and the knights of the round table; their names were celebrated in Greece and Italy."—At length the light of science and reason was rekindled; the talisman was broken; the visionary fabric melted into air; and by a natural, though unjust revile of the public opinion, the severity of the present age is inclined to question the existence of Arthur." Mr. Whittaker (Hist. Manchester, vol. ii. p. 31 71.) has framed an interesting, and even probable narrative of the wars of Arthur; though it is impossible to allow the reality of the round table, or the Arthurian romance, and to have fought under the auspices of Ambrosius, the Pendragon, who sent him to the relief of the northern Britons, oppressed by the Saxons. After great successes in these parts, he fought his twelfth battle in the south of England, after he was elected to the pen- dragonship, against Cordic the Saxon. Mr. W. believes in the reality of his institution of a military order, the origin of all others of a like kind on the continent of Europe. He speaks in high terms of the glory of his reign, at length fatally terminated by the civil wars, which put an end to the hero's life. Bing. Brit.

Arthur Kull, of Newark Bay, in Geography, lies on the coast of New Jersey, in America, and is formed by the union of Passaic and Hackinack rivers.

ARTIACA, in Ancient Geography, a town of Gaul, in the road from Milan to Gerolasmann, by the Cottian Alps.

ARTICENA, a country of Alba, which made part of the kingdom of Parthia. Ptolemy.

Artichokes, in Botany. See Cynara.

Artichokes, Jerusalem. See Helianthus.

Article, Article, a little part or division of a book, writing, or the like.

Article is also applied to the several clauses or conditions of a contract, treaty of peace, or the like.

In this sense we say, articles of marriage, articles of capitulation, preliminary articles, &c.

Articles of the clergy, Articles clerici, are certain statutes touching persons and cauces ecclesiastical, made under Edward II. and III.

The statute made in the reign of Edw. II. 42 Edw. 3. 34, was made for terminating the disputes between the temporal and spiritual courts, about the limits of their respective jurisdiction. As this statute was procured by the clergy at a time when their alliance was much needed, it was very favourable to their shameful and exorbitant claims of exemption from civil authority. By the last chapter it is granted, that when clergymen confine before temporal judges their heinous offences, as theft, robbery, and murder, they cannot be judged or condemned by those temporal judges upon their own confession, without violating the privilege of the church; and that the privilege of the church being demanded in due form by the ordinary shall not be denied. This statute was actually plighted, and admitted in favour of a bishop of Hereford, A.D. 1324, under accusation of high treason. The statute de clero, 25 Edw. III. ii. 3 c. 4, provided, that clerks convicted for treasons or felonies touching other persons than the king himself, or his royal majesty, should have the privilege of holy church.

The article of faith is by some defined a point of Christian doctrine, which we are obliged to believe, as having been revealed by God himself, and allowed and established as such by the church.

The thirty-nine articles of the church of England were founded, for the most part, upon a body of articles compiled and published in the reign of Edward VI.

The articles of king Edward were 42 in number, and framed by archbishop Cranmer and bishop Ridley; and after having been submitted to the correction and amendment of the other bishops and learned divines, they were reviewed by the archbishop, and then presented to the council, where they received the royal sanction. These articles, though not brought into parliament, nor agreed upon in convocation, as the title seems to express, and as they ought to have been, were announced as "Articles agreed upon by the bishops, and other learned men in the convocation held at London in the year 1532, for the avoiding diversity of opinions, and establishing one true religion." In the reign of queen Elizabeth, they were reviewed by the convocation, and the 42 articles were reduced to the present 39; the following articles were omitted: viz. Art. 39: "The resurrection of the dead is not passed already." Art. 40: "The souls of men deceived do neither perish with their bodies, nor sleep idly." Art. 41: "Of the Miller-
ART

Millenarians." Art. 42. "All men not to be faved at last." Some of the other articles underwent a new division, two being joined into one, and in other parts one is divided into two; but without any remarkable variation of doctrine. It has been a subject of dispute, whether the first clause of the 20th article, viz., "The church has, and ever has, a rule of faith, and authority in controversies of faith," was a part of the article which paffed the synod, and was afterwards confirmed by parliament in 1571. It is certain it did not make a part of king Edward's articles, nor is it in the original MS. of the articles subscribed by both houses of convocation with their own hands, and prefered in Bonnet college library. The dispute, however, is of little consequence to the present subfebrigers, as this clause made a part of the article confirmed by parliament in 1572. These articles, having paffed the convocation, Jan. 31, 1562, were subfcribed immediately by molt of the members of both houses of convocation; but they did not pafs into a law, and become a part of the eftabliments, till nine years after this time. In the year 1571, an act was paffed confirming all the doftinial articles agreed upon in the synod of 1562; and enjoining fubfebrition on all perfons ordained to be deacons or priests, and on all who held any ecleflial livings, as well as licenced lecfters and curates.

23 Eliz. c. 12. It has been faid (Neal's His. Puritans, vol. i. p. 179, 4to.), that this act eftablished only the doctrinal articles; ftoffe, as they are expreffed, "which only concern the confeflion of the true faith, and the doctrine of the sacraments;" and, therefore, that the articles of the church, which relate to its discipline, were not designed to be the terms of minifterial conformity. These articles were ratified by parliament at the reformation of Charles II., in 1662; and fubfebrition to them enjoined on the heads of colleges, chancellorls, officials, and commiffaries, and also on schoolmasters, 13 and 14 Car. II. c. 4.

By 1 W. & M. 1. c. 18, commonly called the toleration act, diftinguifhing teachers are to fubfecribe all these articles except the 34th, 35th, and 36th, and part of the 20th; and in the cafe of anabaptifts, except also part of the 27th; or, if they crimpele fubfebring the fame, they fhall make and fubfecribe the declaration prefcribed by lat. 19 Geo. III. c. 44, profefling themselves to be Christianfs and profontants, and that they believe the Scriptures to contain the revealed will of God, and to be the rule of doctrine and practice; otherwife they are exempted from the benefits of the act of toleration. Diftinguifhing schoolmasters are executed from fubfebrition to the articles by the fame act. See Toleration.

Concerning these articles, very different opinions have been entertained by thofe who fubfecribe them; and they have also differed in their lemtiments and views with regard to the nature and extent of fubfebrition. Some have interpreted them more laxly, and others more rigidly; and they have not been agreed as to the limits or latitude with which they may be fubfebrifed. For the reafons that have been urged in favour of fubfebrition, and against it, and the manner in which it has been interpreted and understood, fee Subscription.

Articles, Lambeth, were nine articles on the subject of predileftation, perseverance, and the limitation of saving graces, drawn up by archbishop Whitgift and other learned divines, subfcribed by them, and enjoined on the students of the university of Cambridge, in confequence of a complait occafioned by a debate in that university, which commenced with a lelfon of Mr. Farret, who attacked the believers of predileftation with great fervor. The prime, in his letter to the university, represents them not as new decrees, but as an explication of certain points, cor responding to the doctrine profefled by the church of England, and already established by the laws of the land." But as they had not the queen's favon, who, however, is said to have been fully perfuaded of their truth, he defired that they might not become a "public act," but used pri vately and with difcretion.

Articles, Statute of the 55. or bloody statute, was an act for abolifhing diversity of opinion in certain articles concerning the Christian religion; 31 Hen. VIII. c. 14. By this law, the doctrine of the real presence, the communion in one kind, the perpetual obligation of vows of fidelity, the utility of private mats, the eceliacy of the clergy, and the necessity of auricular confeflion, were eftablimed. The denial of the fift article subjefted the perfon to death by fire, and to the fame forfeitures as in cases of treason; and admitted not the privilege of obferving; a severity unknown to the in quifition itself. The denial of any other of the five articles, even though recomned, was punifhible by the forfeitures of goods and chattels, and imepinment during the king's pleaure; an otllinate adherence to error, or a relapse, was judged to be felony, and punifhable with death. The mon tage of priests was subjefted to the fame punishment; their commerce with women was, on the firit offence, forfeiture and impenfion, on the second, death. The abjuring from confeflion, and from receiving the eucharift at the accustomed times, subjefled the perfon to fine and impenfion during the king's pleaure; and if the criminal per fifted after conviction, he was punifhed by death and forfeitures, as in cafes of felony. The rigour of these articles was somewhat abated by the 35th Hen. VIII. c. 5, in confequence of the interference of Cranmer. By this statute persons were not to be convicted but upon the oaths of two men; the prosecution was required to be within a year; and a perfon who pleaded against them, was to be informed within 40 days. Nevertheless several were burnt at this time for denying the doctrine of transubftantiation. Upon the acefion of Edw. VI. the statute of the five articles was repealed.

Articles of War, in Military Language, denote certain regulations for the better government of the army in the kingdoms of Great Britain and Ireland, dominions beyond the seas, and foreign parts dependent upon Great Britain. These may be altered and enlarged at the king's pleaure. In certain cafes they extend to thofe that are not military per fons; as when, by proclamation, any place is put under martial law, or when people follow any camp or army for the fale of merchandise, or fea in any menial capacity. It is ordained, that the articles of war fhall be read in the circle of each regiment belonging to the British army every month, or more frequently if the commanding officer thinks proper. A recruit or foldier is not liable to be tried by a military tribunal, unless it can be proved that the articles of war have been duly read to him.

Articles of the Navy, are certain expré rules and orders directing the method of ordering feamen in the royal fleet, and keeping up a regular discipline; first enacted by the authority of parliament soon after the reformation, lat. 13 Car. II. fl. i. c. 9, but since nevew modelled and altered by lat. 32 Geo. II. c. 23, amended by 19 Geo. III. c. 17. In these articles of the navy almost every possible offence is fet down, and the punishment thereof annexed; in which respect the feamen have much the advantage over their brethren in the land service; whole articles of war are not enacted by parliament, but framed from time to time at the pleasure of the crown. Judge Blackstone fuggests, that this distinction proceeded from the perpetual establishment.
of the navy, which rendered a permanent law for their regulation expedient, and the temporary duration of the army, which inhibited only from year to year, and might therefore with less danger be subjected to discretionary government. He adds, "whatever was apprehended at the formation of the Mutiny Act, the regular renewal of our standing force at the entrance of every year, has made this distinction idle. For if from experience we may judge of future events, the army is now lugubriously engraved into the British Constitution, with this singularly fortunate circumstance, that any branch of the legislature may annually put an end to its legal existence, by refusing to concur in its continuance."

Dr. Comm. vol. i. p. 329.

Articles, Lords of, in Scots History, a committee of ancient institution in the Scottish parliament, existing as far back as records enable us to trace the constitution of parliaments in Scotland. It was their business to prepare, and to diggel all matters which were to be laid before the parliament; every motion for a new law was first made there, and approved or rejected by them at pleasure; what they approved of was formed into a bill, and presented to parliament; what they rejected could not be introduced into the house. The lords of articles, then, not only directed the whole proceedings of parliament, but policed a negative before debate. The committee was chosen and constituted in such a manner as put this valuable privilege entirely in the king's hands. It is extremely probable, that the king once had the sole right of nominating the lords of articles. They were afterwards elected by the parliament, and confided of an equal number out of each estate; and most commonly of 8 temporal and 8 spiritual lords, of 8 representatives of boroughs, and of the 8 great officers of the crown. Capable either of influencing their election, or of gaining them when elected, the king commonly found them no less obsequious to his will, than his own privy council; and by means of his authority with them, he could put a negative upon his parliament before debate as well as after it.

James VI. in order the more effectually to preserve his influence over the lords of articles, obtained an act appointing four persons to be named out of each estate, who should meet twenty days before the commencement of parliament, to receive all supplications, &c. and rejecting what they thought frivolous, should engrave in a book what they thought worthy of the attention of the lords of articles. This select body would of course be appointed by the king. In 1633, when Charles I. was beginning to introduce those innovations which gave so much offence to the nation, he dreaded the opposition of his parliament, and in order to prevent it, used an act for securing in favour of the crown the lords of articles. The temporal peers were appointed to choose 8 bishops, and the bishops 8 peers; these 16 met together, and elected 8 knights of the shire, and 8 burgesses, and to these the crown officers were added as usual. In this way all the lords of articles would be the tools and creatures of the king. This practice, so inconsistent with liberty, was abolished during the civil war, and the statute of James VI. was repealed. After the reformation parliaments became more t зрь than ever; and what was only a temporary device in the reign of Charles I. was soon converted into a standing law. Upon the accession of king William III. this practice was abolished, with many other oppressive and despotic powers, which had rendered our nobles abuse flaves to the crown, while they were allowed to be tyrants over the people. Robertson's Hist. of Scotland, vol. i. p. 83.

Article, articulus, in Anatomy, denotes a joint or juncture of two or more bones of the body.

**ART**

**Article of Death.** articulus mortis, the last pang or agony of a dying person. The pope usually fetchs his benediction to the cardinals, &c. *in articulo mortis.*

**Article,** in Arithmetic, signifies the number 10, or any number justly divisible into ten parts; as 20, 30, 40, &c.

—if these are sometimes called decades, and sometimes round numbers.

**Article,** in Grammar, denotes a particle used in most languages for the declining of nouns, and denoting the several cases and genders thereof.

The use of articles arises chiefly hence, that in languages which have no different terminations to express the different cases and circumstances of nouns, there is something required to supply that office.

The Latins have no articles; but the Greeks, and most of the modern languages, have had recourse to them for fixing and ascertaining the vague signification of common and apppellative names.

The Greeks have their ον, the eastern tongues their be emphaticum, from which, perhaps, the Greek article was derived, unless we derive the Greek 0, το, from the relative ηι, or both, by a kind of contraction very common in words much used, from the demonstrative αυτος. The Spaniards and the Italians have their il, lo, and la, which appear to be the Latin ille. The French their le, la, and les, feemingly derived from either the Spanish or Italian. The Germans their der, das, dat, The English have also two articles, a and the; which being prefixed to substantives, apply their general signification to some particular things. See letter A.

Some grammarians make the article a distinct part of speech; others will have it a pronoun; and others a noun adjective. See *Speech,* and *Pronoun.*

Articles, in the distribution of the ingenious Mr. Harris, belong to the species of words which he denominates deitative; because, being associated with a noun, they serve to define, determine, or ascertain any particular object, so as to distinguish it from others of the class to which it belongs, and, of course, to denote its individuality. Although there be a near relation between pronouns and articles, and it may be sometimes doubted concerning particular words to which class they ought to be referred, yet they may be commonly distinguished by this rule; the genuine pronoun always stands by itself, affixing the power of a noun, and suppling its place; whereas the genuine article never stands by itself, but appears at all times associated to something else, requiring a noun for its support, as much as attributes or adjectives. Mr. Harris distributes articles into those strictly and properly so called, and the pronominal articles, such as this, that, any, &c. The reason and use of the former he illustrates in the following manner. When a certain object occurs, with which as an individual we are unacquainted, we refer it to its proper species, and call it dog, horse, man, or the like. If none of these names suit it, we refer it to the genus, and call it animal. But the object which we are contemplating, is perhaps neither a species nor a genus, but an individual. Of what kind? known or unknown? seen now for the first time, or seen before, and now remembered? In this case we shall discover the use of the two articles a and the. A respects our primary perception, and denotes individuals as unknown. When an object passes by which I never saw before, I say, "There goes a beaguer with a long beard." When the same man returns at some future time, I say: "There goes the beaguer with the long beard." The article only is changed, the rest remains unaltered. The individual once vague, is now recognized as something known, and that merely by the efficacy of this
Articles of great service in a language, as they contribute to the more neat and precise expressing of several properties and relations, which must otherwise be lost. Without articles, or some equivalent invention, men could not employ nouns to any of the purposes of life, or indeed communicate their thoughts at all. And hence one great disadvantage of the Latin above other languages which have articles, is, that the article being either expressed, or left out, makes an alteration in the sense, which the Latin cannot distinguish. Thus, when the devil said to our Saviour, "If thou art the Son of God, cast me into the devil's company," it may either be understood, if thou art a Son of God, or, if thou be, the Son of God. — Scaliger, from the want of articles in the Latin, has concluded them useles, and bestowed upon them approbrious language, calling the article, "osiosem logocarissimae gentis instrumentum," and the able Girard has degraded them to the humble flation of "avant-coureurs," merely to announce the approach or entrance of a noun. Mr. Horne Tooke, "Diversions of Purley," has vindicated the honour of the article, and endeavoured to restore it to its primitive dignity. For this purpose he recurs to the reafonings of Mr. Locke, on the use and importance of general terms; and he observes, that it is the business of the article to reduce the generality of terms, and, upon occasion, to enable us to employ general terms for particulars. If in some combination with a general term, it is a subtilitate, yet it is a necessary subtilitate, which (he adds) is more than can be said of abbreviations that have been advanced into distinct parts of speech, for they are not essential to the communication of our thoughts. The Italians even prefix articles to proper names, which do not naturally need any, because they of themselves signify things individually. — Thus they say, il Artifio, il Tasso, il Petrarca. — Even the French join the article to the proper names of kingdoms, provinces, &c. as la Suede, la Normandie. — And we likewise annex it to the names of certain mountains and rivers; as the Rhine, the Danube, the Alps, &c.

F. S. Buffier distinguishes a third kind of articles in French, which he calls intermedii or partitives, serving to denote part of the thing expressed by the substantives they are added to: as, "des navires anciens," "certain men have suppressed," &c.; I want "de la lumiere," "some light," &c.

The use and distinction of the definite and indefinite articles le or la, and de or dis, make one of the greatest difficulties in the French tongue, as being utterly arbitrary, and only to be acquired by practice. — We may add, that in the English, though the articles be so few, yet they are of such frequent use, that they easily discover any stranger from a natural Englishman.

ARTICULARIS, in Medicine, an epithet applied to a dicale which more immediately inflicts the articular, or joints. The morbus articularis is the same with the Greek ἀρτιχαρίς, and our gnait.

ARTICULATE Sounds are those which express the letters, syllables, &c. of any alphabetical language. Brutes cannot form articulate sounds, or they cannot articulate the sounds of their voice; excepting some few birds, as the parrot, phe, raven, hareling, &c.

ARTICULATED Libel, libellus articulatus, that wherein the parts of a fact are set forth to the judge in short distinct articles. This amounts to much the same with what is otherwise called libellus pastoralis.

ARTICULATED Leaf. See Leaf.

ARTICULATED Radius, in Natural History. See Radius Articulatus.

ARTICULATION, στρωματις, in Anatomy, the junction or connection of two bones. Articulation is technically divided into diarthrosis, or moveable articulation; synarthrosis,
Elocution; and in this sense, a good articulation consists in giving every letter in a syllable its due proportion of sound, and in making such a distinction between the syllables of which words are composed, that the ear shall, without difficulty, acknowledge their number, and perceive at once to which syllable each letter belongs. Where these points are not observed, the articulation is proportionably defective. Exactness in forming the words rightly, corresponds to propriety in spelling; and the articulation should be so clear and distinct, that the hearer may with ease keep pace with the speaker. Among the Greeks and Romans, who paid particular attention to speaking, and regularly taught it, the smallest error in pronunciation was equally disgraceful in them, as false speaking is with us. A good articulation is the foundation of a good delivery, in the same manner as the sounding of the simple notes in music with exactness, is the foundation of good fingering. As for the grofter faults of articulation, such as fluttering, hesitation, liping, and inability to pronounce certain letters, they can never be cured by mere precept, but require the constant aid of a person skilful in the causes of those faults, who by teaching each individual how to use the organs of speech rightly, and by showing him the proper position of the tongue, lips, &c. may gradually bring him to a just articulation. Demolitions, it is said, when he first spoke in public, could not pronounce the first letter of his art, "Rhetoric;" but by indurateable pains he overcame the difficulty, and supplied this deficiency in his eloquence, even after he had arrived at the age of manhood. The first and most essential point in articulation is distinctness, and its opposite is the greatest fault. The chief source of indistinctness is too great precipitancy of speech. To this hasty delivery, which drops some letters, and pronounces others too faintly; which runs syllables into each other, and clutters words together, is owing that thick, mumbling, clattering utterance, of which examples are too frequent. Demolitions had this fault; and this, it is not improbable, was the impediment or defect of speech, which he remedied by exercising himself in declaiming with pebbles in his mouth. For curing any imperfections in speech arising originally from too quick an utterance, the most effectual method will be to employ an hour every morning in reading aloud, in a manner much slower than is necessary; let a friend or some perfon attend, whose business it shall be to remind the reader, if he should quicken his pace and recur to his old habit of rapid utterance. Those words should be marked which are passed over hastily, and they should be repeatedly pronounced every morning slowly and distinctly. As in our language, words of more syllables than one have one syllable accented, and peculiarly distinguished from the rest, either by a smart percussion of the voice, or by dwelling longer upon it, the other syllables are often negligently articulated. In order to bring thofe, whose utterance is so rapid, to a due medium, they should accustom themselves to pronounce the unaccented syllables more fully, and to dwell longer upon them. See S. Sheridan's Lectures on Elocution, p. 19—29.

Articulation, in reference to Grammar, is that part of it which treats first of sounds and letters, then of their combinations, for the composing of syllables and words. Hence he who pronounces his words clearly and distinctly, is said to pronounce them articulate.

Articulation, in Vocal Music. This word, which belongs to every kind of elocution, as well as music, is too familiar to be called technical. Yet, as it is extremely important, and much neglected, it shall furnish an article.

Mr. Fra-
The Roman artificers had their peculiar temples, where they assembled, and chose their own patron, to defend their causes: they were exempted from all personal services. Tertullian places Peter the Apostle thirty-two species of artificers, and Constantine thirty-five, who enjoyed this privilege. The artificers were incorporated into divers colleges or companies, each of which had its tutelar gods, to whom they offered their worship; and several of these, when they quitted their profession, hung up their tools, a votive offering to their gods. Artificers were held a degree below merchants, and argentarii, or money-changers, and their employment more forlorn. Some deny, that in the earliest ages of the Roman state, artificers were ranked in the number of citizens; others, who affect their citizenship, allow that they were held in contempt, as being unfit for war, and so poor that they could scarce pay any taxes. For which reason they were not entered among the citizens, in the censor’s books; the dignity of the census being only to see what number of persons were yearly fit to bear arms, and to pay taxes towards the support of the state. It may be added that much of the burdens of artificers was done by slaves and foreigners, who left little for the Romans to mind but their husbandry and war. Dion. Hal. lib. ii. By means of the arts, the minds of men are engaged in inventions beneficial to the community; and thus prove the grand preferential against the barbarism and brutality which ever attend on an indolent and inactive stupidity.

By the English laws, a stranger being an artificer in London, &c. shall not keep above two stranger servitors; but he may have as many English servants and apprentices as he can get. 21 Hen. VIII. c. 15. And as to artificers in wool, iron, steel, brass, or other metal, &c. perfons contracting with them to go out of the kingdom into any foreign country, are to be imprisoned three months, and fined in a sum not exceeding one hundred pounds. And such as going abroad, and not returning on warning given by our ambassadors, &c. shall be disabled from holding lands by deverit or devise, from receiving any legacy, &c. and be deemed aliens. Stat. 5 Geo. I. c. 27. By 23 Geo. II. c. 13. § 1. penalty of 500l. and of imprisonment for twelve months, for the first offence; and for the second, of 1000l. and of imprisonment for two years, is also inflicted on persons seducing artificers to go abroad. By 14 Geo. III. c. 71. 17 Geo. III. c. 5. and 21 Geo. III. c. 57. heavy penalties are inflicted on masters of ships affiling in such seduction. See Manufacturers.

Ramazini has a treatise on the diseases of artificers. Artificer by fire, a denomination sometimes given to chemists and workers in metal. ARTIFICIAL, something made by art; not produced naturally, or in the common course of things. Artificer is also frequently used for aforament. Thus we have artificial amoniacal, artificial borax, &c. Artificial fireworks are compositions of inflammable materials; chiefly used on solemn occasions, by way of rejoicing.

Artificial Graffes, in Agriculture, are such grasses as are introduced into field husbandry, and cultivated either for the purpose of being made into hay, or for being fed off by cattle. Clover, lucerne, fawnfoin, trefoil, rye-graft, and some others are of this nature. See these different heads.

The cultivation of artificial grases has been practiced in some districts of the kingdom for more than a century, while in others it has only been attended to within these few years, and there are still other that have but yet begun to introduce these kinds of grases. Wherever they have, however, been properly cultivated, so various and so manifold have been found
found the advantages arising from them, that they form a very
lucrative branch of husbandry, and are consequently grown in
abundance in many parts of the kingdom. Those which, ac-
gording to the author of the Synopsis of Husbandry, are
most usually propagated and found to bring the most con-
durable profit to the farmer, are fainty-fon, or cinquefoil,
clover, trefoil, hop-clover or non-fuch, and lucerne. One
or other of these different species of grasses may indeed be
beneficially cultivated on almost every soil; as where the
povery of the ground will not admit of sowing either lu-
cerne or clover, fainty-fon or trefoil, from their requiring a
les depth of mould, may turn out a weighty crop. Saint-
fom, clover, and trefoil, are indeed now so universally raised
from seed of English growth, that they have become in a
manner naturalized to the soil, there being scarcely any
country in Europe where larger crops are grown than in this.
Lucerne, though it be sometimes referred for seed here, is
most successfully raised from seeds of foreign growth. In
respect to burnet, spurry, and timothy grasses, which are by
some confidered as artificial grases, although their virtues
have been highly celebrated by many, they have, perhaps,
but seldom, it is observed, been found to answer in the cul-
tivation in any degree equal to the fangone commendations
bestowed on them.

It is judiciously remarked by Mr. Kent, in the Agricultu-
ral Survey of Norfolk, that artificial grasses should always
be chosen agreably to the soil. Saint-loin should, says he,
bet introduced where there is a chalky, marshy, or even a
gritty bottom. White clover should be the principal grass,
where land is designated to be laid for a continne. Trefoil
and burnet upon high and poor uplands, designed for sheep-
waks. Perennial darnel, or what the farmers call rye-
grafs, is, he thinks, proper upon light arable land, for
though it is an exhauder, it serves better than any other to
brace the surface. A few acres of lucerne he likewise recom-
ends to every farmer who has a piece of loamy tillage, and
near his house.

And in the survey of the County of Somberit it is
remarked, that on the stone-bright and free-stone, or soils
faint-fon takes the lead; and that though the feed is very
expensive, the quantity and quality of its produce, together
with its durability, make an ample return of profit, particu-
larly if sown when the land is clean. Next to faint-fon, rye-
grafs, marl-grafts, and white Dutch clover, are in defered
repute, when the land is intended to remain some years in
grafts; but when it is intended to be ploughed again in the
course of a year or two, broad clover is preferred to all other
artificial grases. It is remarked, however, in the able Survey of
Worthington, that there few of the artificial grasses are
ever grown alone, except red clover, when intended to con-
tinue only one year, and even a small portion of rye-
grases, as from one to three gallons per acre, are generally
town with it; and the writers foppled, with much propri-
ety, as it not only comes early in the spring, but thickens
the crop and facilitates making the clover into hay. When
the land is intended to continue for three or more years in
grafts, they are generally mixed in the proportion of eight
or ten pounds of red clover, four pounds of white clover,
and half a bushel of rye-grafts seed per acre; to the above
quantities are sometimes, it is observed, added three or
four pounds of rib-grafts and hopmedick, as the soil fuits. See
Grass.

Artificial Lighting. See Electricity, and Light-
ing.

Artificial Lines on a sector or scale, are certain lines
so contrived, as to repreffent the logarithmic lines and
tangents; which, by the help of the line of numbers, will
solve all questions in trigonometry, navigation, &c. pretty
exactly.

Artificial Magnets. See Magnets.

Artificial Music, that which is composed according to
the rules of art. There is no natural music but the warbling
of birds, which is confined to the melody of the avairy,
of which the tones are too high, and the intervals too mi-
ute for our appreciation. Rigorously speaking, all music is
a work of art, particularly instrumental, in which the instru-
ment itself is an artful contrivance for imitating vocal tones,
and the hand of the performer must be guided by art. But
the artifaces of composition and performance are innumera-
able. In composition, fugues, canons, double counterpoint, in-
genious and elaborate accompaniments, are included in artifical
music; and in the performance upon instruments, the arti-
aces of bowing on the violin, fingering on keyed instruments,
double tonguing on the German flute, &c. are only known
and taught by great masters. The generating musical tones
from glades and other substances, not included in the three
expedients for producing sounds by instruments, which the
ancients as well as the moderns have confided to three seve-
rable species, as strings, pipes, and percussion, is double en-
tiled to the epithet artificial. The harmonies of a fingle
string on the Ayolian harp, have, perhaps, a better claim to
the title of natural music, than any other sounds produced
without human assistance.

Artificial Pastures, in Agriculture, such pasture grounds
as have been cultivated and tawn down with plants of the
artificial grases kind, or such others as are capable of af-
ording a large proportion of green food for the feeding of
beasts and other animals. See Pasture.

Artigis, in Ancient Geography, a town of Spain,
in the county of the Turduli, supposed to be the present
Albama, between Grerado and the sea.

Artigni, Anthony Gachet, in Biography, a writer of lit-
erary history, was born at Vienna, and became
confer of the archiepiscopal church of that city. His work,
titled, "Memoires d'Histoire de Critique et de la Litter-
ature," published in seven volumes 12mo. at Paris in 1749,
manipulated considerable talents for literary research and criti-

Artik-abad, in Geography, a town or district of
African Turkey, in the government of Siwas, between the
town of Siwas and that of Tocat or Tokai; abounding
with grain and fruit.

Artillery is originally a French word signifying
archery. In a general sense, it denotes the offensive appa-
rate of war, particularly of the missile kind; and in mo-
dern acceptation, is more immediately applied to fire-arms
mounted on carriages, and ready for action, with their
balls, bombs, grenades, &c. In a more extensive meaning,
the term includes the powder, matches, utensils of ord-
mance, the machines which facilitate their motion and trans-
port them, the vehicles on which their traverse mires,
every thing necessary to them, and all that enters into
the form of a train of artillery. The same word, fll
farther extended in its meaning, likewise comprehends the
men destined for the service of the artillery, the people who
provide the artillery with materials and implements when
engaged, the cannoniers, the bombardiers, the officers of
every rank, and engineers of every kind. By artillery is like-
wise understood the science which the officers of artillery
ought to poiffes. See Engineering.

In the most ancient times, when war was made with
quicknefs and impetuoufity, the use of artillery was un-
known. Something like military engines feem hinted at in
the book of Deuteronomy (chap. xx. v. 20.); but the ear-
ch
left precise mention of artillery is in the second book of Chronicles (chap. xxvi. v. 15.), where we are told, that Uzziah, who began his reign 809 years before the Chaldaean war, "made in Jerusalem engines invented by cunning men, to be upon the towers and upon the bulwarks, to stout arrows and great stones withal." This also is particularly mentioned by Josephus, who represents Uzziah's care of Jerusalem as toward the end of his reign.

The Greeks, who were defrass of appropriating to themselves every improvement of science that gathered from the East, would fain have been believed the inventors of artillery. But so far from being in possession of artillery, they had not in their early times, if we may judge from Homer's writings, one military engine that was calculated to shake a wall. The earliest influence in prose history is probably to be fought for in the siege of Mitya, about 370 years before Christ, where Dionysius, having battered the fortifications with his rams, advanced to the walls, towers rolled upon wheels, whence he galled the beleaguered with continual volleys of arrows and stones thrown from his catapults. (Anc. Univ. Hist. vol. vi. 401.) The most memorable instance that occurs is the siege of Rhodes by Demetrius Phoecetes, where even Grecian ingenuity was exhausted in the invention and improvement of artillery. (Diod. Siculus, l. xxi.) Another instance of notoriety occurs when Hannibal beleaguered Saguntum, 219 years before the Chaldaean war; and the Saguntines hindered his soldiers from using the battering-ram, by an incessant hurling of darts, stones, and other missile weapons. See the account in Livy (l. xxi. c. 7. edit. Freindii), who has also supplied us (l. xxvi. c. 46, 47.) with a curious inventory of the warlike engines which Scipio, eight years afterwards, found among the stores of Carthagenia. There were no less than an hundred and twenty catapults of the larger size, two hundred and eighty-one of the smaller; of the greater balistae twenty-three, of the lesser fifty-two; besides an innumerable quantity of scorpions of different sizes, arms, and missile weapons. Two years, however, previous to this, Marcellus had laid siege to Syracuse, a city proverbially fatal to the arms that attacked it. Archimedes was at that time resident in Syracuse; and at the earnest solicitation of Hiero, king of Sicily, exerted the powers of his mind in the invention of artillery and other warlike engines. Marcellus had brought with him an amazing engine called lambaca, upon eight galleries; which the mathematician destroyed by discharging little flint stones of enormous weight upon it, while it was at a considerable distance from the walls. The chief instructions he used were balistae, a sort of crown lowered by a lever, which hoisting the ships of the Romans by the prow, plunged them to the bottom of the sea; grapples; and scorpius. Archimedes, however, left no account of these military engines in writing; because he considered all attention to mechanics as mean and forlorn, placing his whole delight in those intellectual speculations which, without any relation to the necessities of life, have an intrinsic excellence arising from truth and demonstration only; and reckoning such inventions but among the amusements of geometry. See the life of Marcellus in Plutarch.

To multiply the enumeration of ancient sieges where artillery was used, would not only be tedious but endless. Every siege, it is probable, gave rise to some invention or improvement. Tacitus indeed mentions an extraordinary instance (Hist. 1. iii. c. 23. 29.) of an engine with which the fifteenth legion fought against the troops of Vespasian, at Cremona. It was a balista of an enormous size, which the Vitellians played off with dreadful execution; and discharged maffy flones of weight to crush whole ranks at once. Inevitable ruin, we are told, must have followed, if two folders had not signalled themselves by a brave exploit. Covering themselves with the shields of the enemy, which they found among the slain, they advanced undiscovered to the battering-engine, and cut the ropes and springs. At last, after vigorous assailnt from Antonius, the Vitellians being no longer able to sustain the shock, and engaged at their disapposition, in a fit of despair, rolled down their battering-engine on the heads of the besiegers. Numbers were crushed by the fall of such a prodigious mass. It happened, however, that the machine drew after it a neighbouring tower, the parapet and part of the wall affording the besiegers an easier access to the city. The continued use of these enormous engines must be remembered by every reader of history; as well as that the Romans had regular batteries both of balistae and catapults.

The credit of introducing artillery into our own country must undoubtedly be given to the Normans, whom William of Malmsbury describes (l. iii. p. 57. col. 1.) as having a peculiar delight in war, and assuring us, that they excelled in all the arts of attacking their enemies, when their forces were sufficient. The Normans first introduced among their calls the key, placed upon a mount, whence they aimed the surrounding enemy with their darts, stones, and other offensive weapons. (Strutt's Manners and Customs of the English, vol. i. p. 93.) Their method of attacking castles seems generally to have been by mere force; blockade was little practised; and the iron ram, which the Romans found so serviceable, was rendered in a great measure useless by the deep ditches which surrounded their fortifications. The principal machines which the Normans employed, were of course of the projectile kind; and they were not only used in regular sieges, but occasionally fo contrived as to be used on flipp-board. See Matt. Paris, p. 1097.

Machines for throwing stones occur fo early as in the battle of Hastings (Will. Pechavi, p. 201.) and Robert de Brune's, in his wars against the Saracens, informs us, that when Richard the Firil let out against the Holy Land, he had in his barges and galleys mills turned by the wind which by force of the fails threw fire and stones.

The benefit which the English manners derived from the crusades, is a topic on which we shall have other opportunities of enlarging; but the accession to the knowledge of our ancestors in the art of war were singularly conspicuous. From the Saracens they obtained a sort of wild-fire of fo subtile a composition, that there was no method of extinguishing it but by smothering it with heaps of dust or vinegar. It was by this device that the Black Prince set fire to Remonentoe; and it was often thrown in pots from the catapulta.

The Greek and Roman writers afford us many instances of the superior force which the catapults and balistae of the ancients could occasionally display; nor are parallel instances wanting in the annals of Britain. Camden informs us, that with the mangonels, trebuchets, and bricades, our forefathers used to cast forth mill-stones; and Helinphild (p. 539.) relates, that when Edward the Firil besieged Stretford castle, he cauht some engines of wood to be raised against it, which shot off stones of two and three hundred weight.

The catalogue of projectile machines in the seventh and twelfth centuries, exclusive of the balista, catapulta, onager, and scorpiion, were the mangonel, the trebuchet, the perraty, the robinet, the matagueison, the briquelette, the bugle or bible, the espingral, the matafunda, the ribadequin, engine a verge, and the war-wolf (Grose Mist. Hist. vol. i. p. 381.)
whose form, construction, and particular history, will be described under their respective articles. Singular, however, as it may seem, not only the form of these curious instruments, but even the method of using them, is entirely lost. And so defective have our historians been in this particular, that after all the strict examinations that have been made, little more of some of them can be collected than their names.

The connection between the modern and the old artillery need hardly be preceded by recapitulating the discovery of gunpowder. For some time after that singular composition was applied to military purposes, the machines and pieces of ordnance were very ponderous and unwieldy, and of course unfit for expeditions service. Military people at that time possessed but a small share of learning of any kind, and almost none at all of a mechanical or mathematical nature. What they did in their profession was entirely the effect of practice. The form of their artillery, as well as of the warlike engines and instruments for conducting it, was only such as the most obvious hints suggested, or the rudest and most uncultivated invention dictated. Their first pieces were not only clumsy and unmanageable, but as they succeeded to the machines of the ancients, they were employed like them in throwing flames of a prodigious weight, and therefore were necessarily of an huge and enormous bore, confining usually of pieces of iron fitted together lengthways, and hooped with iron rings. Some of them were so large that they could not be fired above four or five times a day. Such were those with Mahomet II. battered the walls of Constantinople in 1453, being some of them of the calibre of no less than twelve hundred pounds; and Guiccianini, in the first book of his History, informs us, that a large portion of time interfered between the different chargings and dischargings of one of these pieces, that the besieged had sufficient time to repair at their leisure the breaches made in their walls by the shock of such enormous stones. (See Glennie's Hist. of Gunery, p. 1.)

After such a relation we cannot be surprized to find that not only the moveable towers, but catapults of various descriptions, were retained in use. The extreme awkwardness visible in the construction of cannon, and the great cost of gunpowder, added to the difficulty of procuring it, account for the preference which was still given to the old engines for discharging stones. Henry V. in the fourth year of his reign, employed the tripet, which threw that cannon had not then superseded the old artillery. (Strutt's Manners and Customs, vol. ii. p. 52.)

Under Henry III. of France, the use and practice of artillery was not advanced beyond its infancy. D'Estrees, who occupied the point of matter-general of the ordnance, in 1558, at the siege of Calais by Francis duke of Guise, and who eminently conducted in its capture, was the first person among the French who made any considerable progress in the construction of batteries. Anterior to D'Estrees, continual accidents took place from the burbling of cannon; and it was customary to cool them with vinegar, in order to prevent misfortunes. Armies were then but slenderly provided with artillery, which was considered as more requisite for sieges, than indispensible for the operations of the field. (See Wraxall's Hist. of France, vol. ii. p. 249, 250.) In England, however, the science of artillery had occupied attention at a more early period; and lord Herbert observes, that in 1544, king Henry VIII. had himself invented small pieces of artillery to defend his waggons.

The length and diameter of cannon were by degrees much diminished, and of course their weight; and practice and experience in time discovered how much might be reduced with propriety from their magnitude, without hurting the grand effects which it was necessary on some occasions they should produce. See Cannon, Gunery, and Projectiles.

Dr. Smith observes (Wealth of Nations, vol. iii. p. 79), that the great change introduced into the art of war by the invention of fire-arms, has enhanced still farther both the expense of exercising and disciplining any particular number of soldiers in time of peace, and that of employing them in time of war. Both their arms and their ammunition have become more expensive. A small but a more expensive machine than a javelin or a bow and arrows; a cannon or a mortar, than a balista or a catapult. The powder which is spent in a moderate review is lost irrecoverably, and occasions a very considerable expense. The javelins and arrows which were thrown or shot in an ancient one, could safely be picked up again, and were besides of very little value. The cannon and the mortar are not only much dearer, but much heavier machines than the balista or catapults, and require a greater expense, not only to prepare them for the field, but to carry them to it. As the superiority of the modern artillery over that of the ancients, is very great, it has become much more difficult, and consequently much more expensive to fortify a town so as to resist even for a few weeks the attack of that inferior artillery. In modern times, many different causes contribute to render the defence of society more expensive. The unavoidable effects of the natural progress of improvement have, in this respect, been a good deal enhanced by a great revolution in the art of war, to which a mere accident, the invention of gunpowder, seems to have given occasion.

Artillery-Park, the place in the rear of both lines in the army for encamping the artillery, which is drawn up in lines, of which one is formed by the guns; the ammunition waggons make two or three lines, sixty paces behind the guns, and thirty distant from one another; the pontoon and tumbrils make the last line. The whole is surrounded with a rope, which forms the park; the gunners and maroilles encamp on the flanks; and the bombardiers, pontoon-men, and artificers, in the rear. Of late, when an army has been upon the point of engaging, or in expectation of an action, the artillery has been encamped in two parks, upon both flanks.

Artillery, Train, or Train of, a certain number of pieces of ordnance mounted on carriages, with all their furniture, fit for marching.

Artillery Company, the, had its origin about 1585, when London being wearied with continual matters, a number of its gallant citizens who had served abroad with credit, voluntarily exercised themselves, and trained others to the ready use of war. The ground they used was at the north-west extremity of the city, nigh Bishopsgate, and had before been occupied by the "fraternity of artillery," or gunners of the Tower. Within two years there were near three hundred merchants and others sufficiently skilled to train common soldiers; and in 1588, some of them had commissions in the camp at Tilbury; but their association soon after fell to decay. (Ellis's History of Shoreditch, p. 341.) From the company's register, the only book they faxed in the civil wars, it appears that the association was revived in 1611, by warrant from the privy council; and the volunteers soon amounted to fix thousand. Three years after this they made a general muster, when according to contemporary authority, the men were better armed than disciplined. (See Nicoll's London Artillery, p. 104.) In 1622 they erected an armoury, towards
towards which the chamber of London gave above 300 l.; it was furnished with five hundred sets of arms of extraordinary beauty, which were all lost in the civil wars. Their captain, during a part of those affrighted times, was a Mr. Manby, who irrecoverably detained, for his own purposes, the arms, plate, money, books, and other goods of the company. The protector was in vain solicited to enforce their being restored. (Elkin's Hist. of Shored. p. 349.) In 1660 they quitted their old field of discipline, and entered upon a plot of ground in Bunhill-fields, leased to them by the city.

This company, at present, forms a regular battalion of infantry, consisting of a grenadier, light infantry, and bat divisions; together with the maroon division for the use of two field pieces, presented in the year 1783, by the city. There is also kept up a division of archers; archery being the art cultivated by the company in days when the bow was an instrument of war. The command of the battalion is vested in officers who are annually elected. This municipal corps is authorized and privileged by many royal patents and warrants; and particularly by one of his present majesty, under the royal sign manual, wherein his royal highness the prince of Wales is declared captain-general. It consists of gentlemen of character and property, bound by a solemn declaration and obligation of attachment and fidelity to the king and constitution, and of readiness to join in supporting the civil authority, and defending the metropolis. It is regulated by a court of affidavits, consisting of a precentor, vice-president, treasurer, the field officers; the lord mayor, aldermen, and sheriffs for the time being, and twenty-four elective members. (See the company's address to the inhabitants of London.)

Artillery is also used for what we otherwise call pyrotechnia, or the art of fire-works, with the instruments and apparatus belonging to it.

Artificers, in Geography, one of the Pelew Islands in the Pacific ocean.

Artisen, in Ancient Geography, a place of Asia Minor, in Ionia.

Artisan. See Artist, and also Artificers, and Manufacturers.

Artisiga, in Ancient Geography, a village of Africa, in Mauritania-Casariensi, situated on the seacoast north-west of the mouth of the river Malva, about 27 miles west of Siga.

Artiscus, in Medicine, from aeio, bread, denotes a trochee, but more particularly that prepared of viper's delth, mixed up with bread, to be used in the composition of Venice treacle. These are more particularly called artifci theurici, or theriacal troches. They were formerly in great vogue, and brought with much parade from Venice; but Zweifel discovered their vanity; since which time viper's powder has been generally sublimated for them, in the preparation of the treacle.

Artison, in Natural History, a common name among the French for various kinds of insects that injure furniture, skins, fluffs, &c. such as the Dermeltes, Mitres, &c.

Artist, in a general sense, a person skilled in some art; or, according to Mr. Harris's definition, a person polishing an habitual power of becoming the cause of some effect, according to a system of various and well-approved precepts. In this sense, we say, an excellent, a curious artist. The pre-eminence is disputed between ancient and modern artists, especially as to what relates to sculpture, painting, and the like. At Vicenza, we are told of a privilege granted to artists, like that of clergy in England; in virtue of this, criminals adjudged to death save their lives, if they can prove themselves the most excellent and consummate workmen in any useful art. This benefit is allowed them in favorem artis, for the foul offence, except for some particular crimes, of which coinage is one. The exception is just, since here the greater the artist, the more dangerous the perfon. Evelyn's Disc. of Medals, ch. vii. p. 237, &c.

Artists are persons who practise those arts which must necessarily be combined with a considerable degree of science, distinguishing them from such as are proper artisans or mechanics. Artists are particularly those who study and effect what are termed the polite arts, i.e., painting, sculpture, and architecture, to which may be added engraving. An account of the most eminent artists, ancient and modern, will be found in this work alphabetically arranged, to which our readers are referred. It appears that all civilized nations in every age have produced artists, and that with a degree of excellence generally answerable to their civilization and opulence. In every nation where the arts have flourished, the artists have made but rude efforts, and by degrees they have been nurtured up to excellence, except in such insular cases where they have been transplanted, as from Greece to Rome. It is universally acknowledged respecting statuary and architecture, that ancient Greece has produced the best artists in the world; their works have escaped the ravages of time and are the lasting monuments of their fame, and are still considered as the models of perfection; there is however an uncertainty whether their painters were equally skilful with their statuaries. With some reason, many judicious persons have supposed they were not, while others contend, that so much excellence produced in one branch, must have contemporary artists who would excel in the other also. While we cannot doubt of the genius of the Greek artists, and of their ability to produce works of excellence, yet it may not be allowed that this argument will be found to be so conclusive as it may at first appear, since Chinese and Indian models are found in a more perfect state than either their drawings or paintings. Sir Joshua Reynolds has given a hint upon this subject in his notes to Mr. Mason's translation of Du Fresnoy, which may be consulted upon one side of the question; and Mr. Webb, on the other, will not fail to interest any reader who may be inclined to believe in favour of ancient painters. When the Goths overran Italy, the arts were destroyed; and, with Greek architecture, painting, and sculpture, lay in one common grave forgotten, until they revived under some artists in the twelfth and thirteenth centuries, who ought not to be named as artists, but for the succeeding effects to which their efforts prepared the way, and in a short time after produced Michael Angelo, Raphael, Corregio, Titian, Algarde, Bernini, &c. painters, sculptors, and architects, to whose works the living artists are almost as much indebted as these illustrious characters were to the ancient monuments they dug from the ruins of old Rome. While painters continued to pursue their wretchedly dry and barbarously Gothic method of design, prior to these enlightened artists, even then, the bronze gates of the baptistry of the church at Florence were produced; upon a figh of which, M. Angelo cried out with emotion when he saw them, that they deserved to be the gates of paradise! Calls of these gates may be seen in the Royal Academy in London. This we notice to justify a remark which we have made, that painting does not always accompany with equal steps the efforts of sculpture.

An Englishman will observe with pleasure the progress which has lately been made, and is still making under the protection of our gracious sovereign, in this once barren land, by artists in painting, sculpture, and architecture.
ART

ARTIFIC, artifi, in an academical sense, denotes a philosopher or proficient in the faculty of arts. See Arts.

Artifex is more peculiarly understood of a chemist or alchymist. In which sense it is that Paracelsus and other adepts use the word.

ARTIZOZ, from Διά, short, and ζως, life, is used by some ancient physicians for an infant short-lived, by reason of a difficult birth, whereby he was long detained in the passage from the womb.

ARTOARIA, in Ancient Geography, a town of India on this side of the Ganges. Ptolem. Artocarpus, a town of vindelicia, mentioned by Ptolemy, and supposed by some to be Altzburgh in Bavaria on the Danube, below Ingoldstadt; but by Cluverius, to be Laban on the Saltzburgh, below Lauffen, in the archibishopric of Saltzburgh.


Eff. Gen. Char. Male, amnent, calyx none. Cor. two-petalled. Female, Cal. and Cor. none; style one; berries one-seeded, connected, and forming a roundish mucrinated fruit.


= Fructu appense, fruit without seeds. = Fructu feminino, with seeds in the fruit.

Leaves grafted. Forlir, whole description of this tree appears to be more complete than that of any other species. It is the thickness of a man and upwards of forty feet high. The shoots are upright, the wood soft, smooth, and yellowish, the inner bark white, composed of a net of tilius fibers, the outer bark smooth, but full of chinks, pale ash-colour, with small tuberces thinly scattered over it. Wherever the tree is wounded, it pours out a glutinous milky liquor. The branches form an ample almost globular head; the lower ones, which are the longest, spring from the trunk ten or twelve feet above the ground, spreading almost horizontally, scattered, and in a form of whorl; twigs ascending, bearing flowers and fruit at their ends. Leaves alternate, petioled, oval, deeply divided above the middle into seven or nine lancolate acute lobes, with rounded inlines; they are otherwise quite entire, smooth on both sides, even, spreading, bright green, palm beneath, membraneous, a foot and a half in length, eleven inches wide, veined, having a thick nerve to each lobe, diverging from the common rachis. The younger leaves, like all the more tender parts of the tree, are glutinous to the touch; petioles roundish, even, ascending, two inches in length; lippes in pairs, involving the younger leaves, lanceolate, acuminate, concave, entire, smooth within, hairy on the outside, decumbent, three inches long; peduncles at the ends of the twigs, and in the axils of the upper leaves, solitary, round, upright, having a few hairs, and two inches in length. The male flowers are among the upper leaves; and the female flowers at the ends of the twigs. The male amnent is club-shaped, flabby, upright, a span long, covered with immemorial small, soft little flowers. The proper perianth is very small, two-valved; valves equal, oblong, blunt, concave, closely adhering, yellow, or yellow-brown, These have no stamens. The female flowers have twelve stamens, ovate-lanceolate, compressed, thread-like, spreading, upright, bent at the tip, flat, a span in length, at first closed, then deciduous, placed at the end of the peduncle; fls globular, covered with many conuate germs, these are obconical, immersed in the receptacle, somewhat convex at the top; styles feebly any; fls projecting points, withering in some varieties these are biled, according to Thunberg. The fruit is a globular berry, smoothish, marked with hexagons on the surface, pale green, often nine inches in length, filled with a white, farinaceous, somewhat fibrous pulp, which, when the fruit is ripe, becomes juicy and yellow; it is fattened to a club-shaped, flabby receptacle, which is longitudinally fibrous, and a hand in length.

In Captain Cook's voyage it is observed, that the breadfruit tree is about the size of a middling oak; its leaves are frequently a foot and a half long, oblong, deeply incised like those of the fig-tree, which they resemble in consistence and colour, and are very edible when young. The tree is the size and shape of a child's head, and the surface is reticulated not much unlike a truffle; it is covered with a thin skin, and has a core about as big as the handle of a small knife; the edible part lies between the skin and core; it is as white as sawdust, and of the consistence of new bread. It must be roasted before it is eaten, being first divided into three or four parts; its taste is insipid, with a slight sweetness, somewhat resembling that of the crumb of wheaten bread mixed with Jerusalem artichoke. The fruit not being in season all the year, there is a method of supplying this defect, by reducing it to four parts called mabie; and besides this, cocoa-nuts, bananas, plantains, and a great variety of other fruits, come in aid of it.

This tree not only supplies food, but also clothing, for the bark is stripped off the suckers, and formed into a kind of cloth. To procure the fruit for food, coots the Otaheitean trouble or labour; but they are easily procured, as it should not indeed shoot up (approximately, yet, as Captain Cook observes, "if a man plant ten trees in his life-time, he will as completely fill his duty to his own and future generations, as the native of our less temperate climate can do by ploughing in the cold winter, and reaping in the summer's heat, as often as these seasons return; even after he has procured bread for his present household, he should convert a surplus into money, and lay it up for his children. But where the trees are once introduced in a favourable foil and climate, so far from being obliged to renew them by planting, it seems probable that the inhabitants will rather be under the necessity of preventing their progres; for young trees spring abundantly from the roots of the old ones, which run along near the surface. Accordingly they never plant the bread-fruit tree at Otaheite." The breadfruit is distinguished into that which is diffusible of seeds, and that in which seeds are found. The natives of Otaheite reckon at least eight varieties of trees which produce the former. The most common of these is named aru or ceroo, bearing a globular, smooth, even fruit. The maira has an oval, smooth fruit, with the leaves more deeply cut. The petea has a fruit oblong and rough, with a feyly appearance. The tatoria has an oval fruit, with mammillary germs, muri- cated by the permanent style. Probably, by extending the culture
cultural to distant countries, the varieties may be still farther increased. The parts of fruitation in those trees which bear fruit without stones, are said to be defective, as the amount never expands, and the styles are also deficient. In the variety \( \beta \), the fruit contains a considerable number of seeds, almost as large as chestnuts, oblong, somewhat angular, produced into a point at each end. They are farinaceous like the chestnut, and are eaten in some places by the savage inhabitants, either boiled, or roasted in embers. It will easily be supposed that this fruit, abounding in pulp, and being both more fibrous and less juicy than that which has no seeds, must be much inferior as an article of food; and, accordingly, before the discovery of the South Sea islands, the bread-fruit had not acquired that degree of reputation which it is now found to deserve. It has been long known in many parts of the East Indies, but not being wanted there for food, and consequently not having received any degree of cultivation, it has continued nearly in its natural state, without receiving that improvement from the care of men, which probably necessity first urged them to exercise. Accordingly, Captain Cook remarked the great inferiority of the fruit which he found at Batavia, to the cocoa of the South Sea islands.

This most useful tree is distributed very extensively over the East Indian continent and islands, as well as the inhabitable islands of the South Seas. It was found by Dampier in the Ladrones islands: it is a native of Ambon, Banda, and others of the Molucca islands: of Java and others of the Maldives islands: of Timor, Bule, and Madura, of Prince's island, &c. M. Sonnerat conveyed some of the trees from the island of Luzon to the isle of France. M. Poivre naturalized them both there and in the isle of Bourbon: and they are cultivated both in Malabar and Coromandel. In the South Seas both varieties are still found in the Marian islands, in the Nue Britton, and Friendly islands; but most abundantly in the Society, Marquesas, and Sandwich islands. In Otaheite however, and some others, the evident superiority of the seedless variety for food, has caused the other to be neglected, and it is consequently a most worn out. We are informed by captain King, that in the Sandwich islands these trees are planted and flourished with great luxuriance on rising grounds; that they are not indeed in fine abundance, but that they produce double the quantity of fruit which they do on the rich plains of Otaheite; that the trees are nearly of the same height, but that the branches begin to strike out from the trunk much lower, and with greater luxuriance; and that the climate of these islands differs very little from that of the West Indian islands, which lie in the same latitude.—This reflection probably first suggested the idea of conveying this valuable tree to our islands in the West Indies. For this purpose, his majesty's ship the Bounty failed for the South Seas, on the 23d of December 1787, under the command of lieutenant William Bligh. But a fatal mutiny prevented the accomplishment of this benevolent design. His majesty, however, not discouraged by the unfortunate event of this voyage, and fully impressed with the importance of securing so useful an article of food as the bread-fruit to our West Indian islands, determined, in the year 1791, to employ another ship for a second expedition on this service, and in order to secure the success of the voyage as much as possible, it was thought proper that two vessels should proceed together on this important business. Accordingly, a ship of four hundred tons, named the Providence, was engaged for the purpose, and the command of her given to captain Bligh; and a small tender called the Affiant, commanded by lieutenant Nathaniel Portlock. Sir Joseph Banks, as in the former voyage, directed the equipment of the ship for this particular purpose. Two skilful gardeners were appointed to superintend the trees and plants, from their transplantation at Otaheite, to their delivery at Jamaica, and captain Bligh set sail on the second of August 1791. He arrived at Teneriffe on the twenty-eighth, at St. Jago on the thirteenth of September, and at the Cape of Good Hope on the twentieth of November. He failed from thence on the nineteenth of December, arrived at Adventure's Bay on the ninth of February 1793, and at Otaheite on the eighth or ninth of July. The business of procuring and embarking the bread-fruit trees, &c. took up three months and nine days; though the natives of Otaheite gave all possible affability to Captain Bligh and the gardeners. They failed on the eighteenth or nineteenth of July; arrived at Coupang in Timor on the second of October; at St. Helena on the seventeenth of December, and at St. Vincent's on the twenty-second of January 1794. Here they stayed seven days, to leave a part of their cargo, and on the fifth of February they arrived at Jamaica, and delivered the remainder. The number of plants taken on board at Otaheite, was 465, in 1281 pots, tubs, and cases; and of these 1751 were bread-fruit trees. When they arrived at Coupang, 252 plants were dead, but the rest were in good order. Here they procured ninety-two not of the fruits of that country. They arrived at St. Helena with 870 live bread-fruit trees, besides other plants. Here they left some of them, with different fruits of Otaheite and Timor, besides mountain rice and other seeds; and from hence the East Indies may be supplied with them. On their arrival at St. Vincent's, they had 551 cases, containing six hundred and seventy-eight bread-fruit-trees, besides a great number of other fruits and plants to the number of 1445. Near half this cargo was deposited here under the care of Mr. Alexander Anderson, the superintendent of his majesty's botanical garden, for the use of the Windward Islands; and the remainder, intended for the Leeward Islands, was conveyed to Jamaica, and distributed as the governor and council of Jamaica pleased to direct. The exact number of bread-fruit-trees brought to Jamaica was 425, out of which five only were reserved for the botanical garden at Kew. Though the principal object of this voyage was to procure the bread-fruit trees, it was not confined to this only, for the design was to furnish the West Indian islands with the most valuable productions of the South Seas and the East Indies. Accordingly, the gardeners were instructed to procure plants of sweet plantain called \( \text{meda} \), the Otaheitean apple or \( \text{oova} \), the root called \( \text{pab} \), of which the islanders make a kind of pudding, and a species of yam much larger and better than any in the West Indies. They were also to obtain at Timor and other places in the East Indies such plants and fruits as are used for food or otherwise by the natives, as the \( \text{lajji} \), \( \text{mangelam} \), durian, \( \text{jambo} \), \( \text{nanea} \), \( \text{tehampadda} \), blimming, \( \text{jaloblan} \), \( \text{bathvar} \), \( \text{fale} \), \( \text{bleek} \), long pepper, &c. together with some bulks of dry or mountain rice, which is cultivated without being overflown with water; and they were to make themselves acquainted with the mode of managing it in order to communicate the same to the inhabitants of the West Indies. Captain Bligh had the satisfaction, before he quitted Jamaica, of seeing the trees which he had brought with so much success, in a most flourishing state; inferring that no doubt remained of their growing well and speedily producing fruit; an opinion which subsequent reports have confirmed. But though the fruit has been produced in great abundance, it is said not yet to have arrived at that high state of perfection in which it is described to be at Otaheite. Thunberg sent seeds of the East Indian bread-fruit tree from Batavia to
to the botanic garden at Amsterdam, in 1775. In 1777, he sent some small living plants; and the year following, he brought with him to Europe a great number of plants, both of this and the following species. But the trueMED fort, from the South Seas, was first introduced into the islands of St. Vincent and Jamaica, and into the botanic garden at Kew, by Captain Bighi, in 1793.

The bread-fruit, when perfectly ripe, is pulpy, sweetish, putrefactive, and in this state is thought to be too laxative; but when green it is farinaceous, and esteemed a very wholesome food, either baked under the coals, or roasted over them. The taffe is not unlike that of wheaten bread, but with some resemblance to that of Jerusalem artichokes or potatoes. It was mentioned before that a fort of cloth was made of the inner bark; to this we may add, that the wood is used in building boats and houses; the male catkins serve for tinder; the leaves for wrapping their food in, and for wiping their hands instead of towels; and the juice for making bird line, and as a cement for filling up the cracks of their vessels for holding water. Three trees are tapped to yield sufficient nourishment for one person. In Malabar the fruit of the bread-fruit is called feron, in Java fousa, in Ambinna fana or fom, in Macassar bakar, in Ternate goma, in Ternan rima; the Dutch call it jerkfruit, the Germans brodbaum, the French rima ou fruit à pain.

2. L. interjectifolia, Indian jaca tree; "leaves entire;" foidiacum macroporum, Thunb. Phil. Trans. v. 69. p. 254. Sittochum eufilium, Gaurt. fuct. t. 345. Sarcocarpus nana, Rumph. Amb. t. 1. p. 30–31. Tjaseca-maram, f. Jacca, Rheed. Mal. 3. t. 26, 27, 28. The East Indian Jacca, or jock-tree, is about the same size as the foregoing, or perhaps larger. Branches alternate, spreading; the twigs hirtute with long fliif hairs; leaves alternate, pelted, ovate-oblong, blunt, obscurely serrate, undivided, armed, bright-green, and very smooth on the upper surface, paler beneath, and hirtute with very fliif hairs, spreading, a fpan in length. The younger leaves are evidently toothed, but the tooth disappear. The foot flak is somewhat triangular, smooth, an inch in length; flipples as in the foregoing; flowers male and female distinct on the fame ftree or branch; peduncle either simple or branched, pubifitous an inch thick, and a fop long; pedicle's three, five, or more, the length and thicknefs of a finger. The fruit weighs thirty pounds and upwards; it has within it frequently from two to three hundred seeds, three or four times as big as almonds; they are ovate-oblong, blunt at one end, fparm at the other, and a little flattened on the fides. These two fpecies of aracarpus cannot be diftinguifhed with certainty either by the form of the leaves, or the fition of the fruit; for the leaves in this are sometimes lobed as on that; and the fition of the fruit varies with the age of this tree, being firt borne on the branches and then on the trunk, and finally on the roots. The Jacca tree is a native of Malabar and the other parts of the East India. The fruit is ripe in December, and is then eaten, but is efteemed difficult of digestion; the marpe fruit is also used pickled, or cut into pieces and boiled, or fried in palm-oil. The nuts are eaten roasted, and the skin which immediately covers them, is used instead of the areca nut in chewing betel. The wood of the tree serves for building. No lefs than thirty varieties of the fruit are enumerated in Malabar. It was introduced into the royal botanic garden at Kew, in 1778, by Sir Edward Hughes knight of the bath. Propagation and Culture. Thofe varieties which bear seeds may be propagated by them, fown in a pot of rich earth, and plunged in the bark-bed. Thofe which have no feed in the fruit may be increafed by fuckers, in which they abound very much, or by layers. In hot climates they fucceed bett in a rich foil; for though they will grow in an indifferent one, yet they by no means arrive at that magnitude, nor is the fruit fo well flavoured as when they are planted in a good one. In the East Indies they thrift a fruit of the Jacca into the ground whole, and when the numerous seeds germinate and grow up, they tie the ftrems altogether with withes, and by degrees they form one ftem, which will bear fruit in fix or seven years if not placed in too wet a situation. See Martyn’s Miller’s Dict.

ARDOIS, in Geography, a province of France before the revolution, is one of the moft fertile and moft productive of grain and fruit in the whole kingdom. It was formerly one of the seventeen provinces of the Netherlands; but since the revolution it is principally included in the department of pas de Calais, or trait of Calais. The chief city is Arras.

This province is about twenty-three leagues long, and twelve broad; and is bounded on the west and south by Picardy, on the north-east by Flanders, and on the east by Havannah and Cambresis. The name of Artois is derived from the Atrebatii, who occupied this part of Gallia Belgica in the time of Caesar. From the dominion of the Romans it fell to that of the French kings, who possessed it in 863; in 1233 it was ceded to a Comité by St. Louis, and given to his younger brother Robert I. It was surrendere by Charles VIII. the fon and successor of Louis XI. to Maximilian of Austria, by the treaty of Senlis, in 1493. The books of Anhria and of Spain posseffed it in feuclifion till the year 1643, when Louis the XIII. obtained it by conquest from Philip IV. king of Spain; and from his time it has been subject to France. The peace of the Pyrenees, in 1659, secured it to him, with the exception of the towns of Aire and St. Omer, which, together with their respective territories, were referred to Spain; but afterwards ceded to Louis XIV. in 1678, by the treaty of Nimeguen, confirmed by subsequent treaties, and particularly by that of Utrecht in 1713. Its commerce confines principally in grain, flas, hops, wool, and linen cloth.

ARTOLICA, in Ancient Geography, a town of the Sabellini, in Gallia Cispadana, at the foot of the Alps, now called la Taille by the inhabitants, a hamlet of Savoy, in the duchy of Aouit, at the foot of mount St. Bernard the Lefs.

ARTOMELI, from αρτως, bread, and μέλι, honey, in Ancient Pharmacy, a kind of cataplasm prepared of bread and honey, applied chiefly to the preeordia.

ARTON, in Geography, a town of France, in the department of the Lower Loire, and chief place of a canton in the district of Parthenay, seventeen miles south-west of Nantes.

ARTONNE, a town of France, in the department of Puy de Dome, and chief place of a canton in the district of Riom, five leagues north of Clermont, and two and a half north of Riom.

ARTOTYRITES, or ARTOTYRITE, in Ecceiological History, a branch of the ancient Montanism, who first appeared in the second century, chiefly in Galatia. They use bread and cheese in the Eucharist, or perhaps bread baked with cheese. Their reason was, that the first men offered to God not only the fruits of the earth but of their flocks too.

Hence, according to St. Augustine, came their name, which is composed of αρτως, bread, and μελις, cheese.

The Artotyrites admitted women to the priesthood and episcopacy; and Epiphanius says, that it was common to fee seven girls enter at once into their church, in white robes with torches in their hand, where they bewailed with tears the miseries of human life.

ARTO,
ARTRO, in Geography, a river of North Wales, which runs into the sea near Llandder in Merionethshire.

ARUTUNI, Gio. Maria, of Bologna, in Biography, though he is ranked only among the minor writers on music, yet if his merit and importance are estimated by the celebrity and size of his volumes, certainly deferved the attention of students and collectors of musical tracts. In his "Arte del Contrapunto ridotta in tavole," published at Venice, 1586, he has admirably analysed and compred the voluminuous and diffused works of Zarlino and other anterior writers on musical composition, into a compendium, in a manner almost as clear and geometrical as that in which M. d'Alembert has abridged the theoretical works of Rameau. In 1589, Artuñi, who, like most of the musical writers of Italy, was an ecclesiastic, published a second part of his "Arte del Contrapunto," which is a useful and excellent supplement to his former compendium. And in 1600 and 1605, this intelligent writer published at Venice the first and second part of another work, "Delle imperfetioni della moderna musica." Here the author gives a curious account of the flatte of instrumental music in his time; and in describing a grand concert that was made by the means of a convent at Ferrara, in 1598, on occasion of a double wedding between Philip III. king of Spain with Margaret of Austria, and the archduke Albert with the infant Isabella, the king's sister, he enumerates the several instruments that were employed, and points out their excellencies and defects. Among these, though the violin is just mentioned, yet nothing is laid of its properties, while the cornet, trumpet, viol, double-harp, lute, flute, and harpichord, are honoured with particular remarks, both on their construction and use: but among these, the cornet, which has been supplanted in the favour of the public by the hautbois, seems to have lost the highest in the author's estimation. The elder Doni, in his dialogue written about fifty years before, mentions the cornet more frequently than any other instrument: "Il divino Antonio, da cornetto perfezionato—et M. Battaila dal Fondo, con il suo cornetto anchora; che lo fua miracoloso:" 

I have not been able, says Dr. Burney, to discover what instrument is to be understood in this dialogue, when Girolamo Parabosco says, "Io finonerò il trombone," and when it is said, "M. Gio Vaniacapo Buzzino fuanando di violone il fopranco, corre egli fa miracolosamente." I am utterly unable to guess what instrument is meant, unless we call violone, by a typographical error, has been printed for violino. But to return to Artuñi's remarks upon instruments; his hero on the cornet was Girolamo da Udine. In speaking of defects in the intonations of different instruments, I expected the violin would be celebrated for its superior perfection in that particular; but by the author's silence on that subject, I am convinced that it was either then or little used in concert, or was very ill played. Burney's Hist. Mus. vol. iii. p. 174.

ARTYMNESUS, in Ancient Geography, a town of Asia, in Lydia, where the Xanthians are said to have established a colony.

ARTZ, in Geography, a district of the island of Zealand, belonging to Denmark, in the prefecture of Kielhoduburg, which includes nine churches.

ARZTBACH, a river of Germany, which runs into the Ems, four miles south of Reiffeling, in the district of Storia.

ARZTBURG, a town of Germany, in the archduchy of Austria, near the Ems, twelve miles south-east of Steyr.

ARZTFELDT, a town of France, in the department of the Forts, and chief-place of a canton in the district of Bittbourg. The place contains 503, and the canton 6053 inhabitants; the territory comprehends 3224 kilometres and 12 communes.

Vol. III.

ARU, or Arroe, a small island in the Indian sea, between the island of Sumatra and the peninsula of Malacca.

ARVA, in Ichthyology, a name by which the Russians distinguish a species of mackerel found in the seas about Kamtchatka; the natives call it kara.

ARUA, in Ancient Geography, a town of Spain, in the district of Huelva, now Aleas, a citadel of Andalusia on the Betsis or Quadalequiver, seven leagues above Seville.

ARVA, in Geography, a town and castle of Hungary, the capital of a county which extends to Poland, between the frontiers of Siléfia and mount Crapack, fourteen miles north of Rosenberg.—Alfo, a river of Hungary, which runs into the Waag, eleven miles north of Arva.

ARVAD, in Ancient Geography. See Arad.

ARVALES FRATRES, in Roman Antiquity, were priests in ancient Rome, who afflicted in the sacrifices of the An- barvaluus, offered every year to Ceres and Bacchus for the prosperity of the principal fruits of the earth, viz. the corn and wine.

They were instituted by Romulus, and were twelve in number; all of them persons of the first distinction; the founder himself having been of the body. They constituted a college called collegium fratrum arvalium.

The mark of their dignity was a garland, composed of ears of corn tied with a white ribband; this, Pliny says, was the first crown given at Rome.

According to Fulgentius, Acca Laurentia, Romulus's nurse, was the first founder of this order of priests: she, it seems, had twelve sons, who used to walk before her in procession to the sacrifice; one of whom dying, Romulus, in favour of his nurse, promised to take his place; and hence, says he, came this sacrifice, the number twelve, and the name of brother.—Pliny (lib. xvii. cap. 2.) seems to indicate the same thing, when he mentions that Romulus instituted priests of the fields, after the example of Acca Laurentia, his nurse.

ARUANUS, in Conchology, a species of the Muric genus, that inhabits New Guinea. It is a coarse and heavy shell, usually of a black or bluish colour, and encircled with rings; the aperture is angulated; the tail rather long; and more pointed. The specific character is thus defined: tall patulous; spire crowned with spines. Off. This is the buccinum aruanum of Rumphius.

ARVARI, in Ancient Geography, an ancient people of India, on this side of the Ganges.

ARVAS, a town of Asia in Hircania. Q. Curtius.

ARUBA, in Geography, one of the Little Antilles islands in the West Indies, subject to the Dutch; it lies near the coast of Terra Fima, fourteen leagues west of Curacao, is uninhabited, and produces little else besides corn and wood. N. lat. 12° 30'. W. long. 67° 35'.

ARUBA, a town of Peru, in the province of Mecran, near a cape of the same name in the Indian ocean, thirty leagues east of Mecran.

ARUBIUM, or ARUBIUN, a town of Lower Media, on the Danube.

ARUBO, a river on the coast of Guinea, west of Illequino gulf.

ARUBOTH, or ARABOTH, in Ancient Geography, a town or country of Palestine, in the tribe of Judea.

ARUCCI NOVUM, a town situated on the confines of Lusitania and Batica, place of the Antonian thirty miles from Pax Julia; now Moura, a small town of Portugal, near the confines of the Ardila and Guadalequiver.

ARUCCI Vetus, a small town of the Turdetani, in Batica; now Arco, a hamlet of Andalusia, on the confines of Portugal and Estremadura, on the river Gama, seven
seven leagues to the east of Aruci Novum. A mountain in its vicinity called Arucianus derives its name from it; now la Sierra d'Arceche.

ARUCIA, a town of Illyris, in the interior parts of Liburnia. Ptolemy, According to some, it is now Braga; but according to others, Otricaria, a citadel of Moralia. ARUDIS, a town of Asia, in Syria, situate on the east side of Samothrace. Ptolemy.

ARUDE, in Geography, a town of France, in the department of the Lower Pyrenees, and chief place of a canton in the district of Obron, 11 miles south of Pau. The place contains 1756 and the canton 10,656 inhabitants; the territory includes 266 kilometres and 12 communes.

ARVE, a sonorous and violent river of Savoy, which rises from the Alps, in the county of Faugny, and runs into the Rhone near Geneva.

ARVEDORUM MONTE in Ancient Geography, mountains of India, on this side of the Ganges. Ptolemy.

ARVENSIS, in Entomology, a species of Curculio described by Mill. Zool. Dan. It is grey, with three lines on the thorax; wing-cases rufous, and faintly suffixed. ARVENSIS, a species of Cicada found in Denmark. It is yellow; front, abdomen beneath and sides black. Mill. Gmel. &c.

ARVENSIS, a species of Phalera (Vestal. Linn.) The wings are brown, with a transverse yellow spot in the middle; margin brown. Gmel. Fab. &c.—Vestal brunnea of Wien. Schmetter. This insect is of the middle size, and the under side is brown; the larva is naked, brown and spotted with white; the lateral line is blunt; head black, with two white lines.

ARVENSIS, a species of Vespa that inhabits Europe. It has four yellow bands on the abdomen, the third of which is interrupted. Linn. Fa. Su. Scheff. &c.

ARVERNI, in Ancient Geography, a denomination given to one of the most powerful nations of Gaul, whose country, according to Strabo, was situated between the ocean, the Pyrenees, and the Rhine. They claimed affinity with the Romans, as the descendants of Antenor; to this purpose Lucan says of them,

"Arvernique aut lato se dierce frates
Sanguine ab Iliaco populi."

And Pliny says, that after their conquest by the Romans, their ancient liberty was preferred to them on account of their bravery. When Cæsar took possession of Gaul, it was divided into two factions, the Arverni, and the Éduini; and it is said, that the complaints preferred at Rome by the Éduini against the Arverni, were one of the causes which brought the arms of the Romans into Gaul, under the command of Fabius Maximus and Domitius Ahemenobus. According to Steph. Byz. they were one of the most war-like nations among the Celts. Their country was composed in Aquitania Prima, and their capital was "Augustomunum," now Clermont, in Auvergne. N. lat. 45° 42'. E. long. 3° 28'.

ARVERON, in Geography, a river which rises in a glacier of Montanvert, in the Alps, and runs into the Arve.

ARVICO, a town of Italy, in the kingdom of Naples, on the east coast of Calabria Ultra, four miles south of Stilo.

ARVICOLA, in Entomology, a species of Scarabaeus (Melolontha Fab.) found in Rilla, and greatly resembling S. horticola. The field of the head is reflected; body black and immaculate. Gmel. &c.—Osy. It is hairy; and the thorax is tazed with blue.

ARVIEUX, Laurent P't, in Biography, was born of a family of rank at Marcielles, in 1635, and accompanied a relation to Syracuse in 1653. In this place, and in other parts of Syria and Palestine, he refused 12 years, perfecting himself in the eastern languages, and extending his acquaintance with the history, manners, and politics of the Levant. Returning to France in 1665, he was denounced as an envoy to Turin in 1668, for the purpose of negotiating a treaty. Whilst he was successfully conducting this business, he procured the liberation of 380 French slaves who, upon being refused to their country offered him a purse of 600 pistoles, which he declined accepting. At Constantinople, whither he was sent in 1672, he obtained everything he asked; and surprized the Turks by holding all his conferences without an interpreter. He was afterwards, viz. in 1675, sent to Algiers, and obtained the freedom of 242 French slaves. In 1679, he was preferred to the consulate at Aleppo, where he performed various services, which recommended him so much to Pope Innocent XI. that he sent him a brief for the bishopric of Babylon, empowering him to appoint another person if he himself chose to decline it. Accordingly he nominated father Pidon to the office. In 1686, he returned to Marcielles, and principally devoted himself to literary pursuits. He wrote several memoirs on Modern History, and the affairs of the Levant; and he employed the last years of his life in the study of the scriptures in their original languages, aided by the assistance and patronage of the learned and pious. He died in 1702, aged 67. In 1717, M. de la Rocque printed, in 12mo., a MS. which he had left unfinished, containing an account of a journey to the grand emir of the Arabs, with a description of the manners and customs of that people; and in 1734 there appeared, "Memoires de l'chevalier D'Arvieux," with an account of all his travels, &c. in 6 vols. 12mo. collected and arranged by father Labat, a Dominican. Moseri. Gen. Bio. r.

ARVILL, in Ancient Geography, a people of Gallia Lycennis, mentioned by Ptolemy, who are supposed, by M. d'Anville, to have occupied that part of Gaul which corresponds to part of Maine. Some vestiges of their ancient capital have been discovered in La Cise, on the river Erve, which runs into the Sarte.

ARVILLE-Suppères, an entertainment made at funerals in the northern parts of England; and arvel-bread is the bread delivered to the poor on such occasions. Arvil has also been held for the funeral rites themselves.

ARVIRAGUS, in Biography, a British king, flourished, according to Geoffrey of Monmouth, and other native writers, in the time of the emperor Claudius. Geoffrey's account of his reign is generally deemed fabulous; however, he says, that he was the son of Romæus; that upon the death of his father and brother, he headed the Britons, and gained a victory over Claudius; that upon Claudius's return to Rome, he became a powerful prince, and assumed independent authority; that upon the arrival of Vespasian, he made a compromise with him, and retained his dominions; and that, having governed the kingdom in peace, his life was protracted to a good old age; that he was loved and feared even by the Romans; and that he was buried at Gloucester, in a temple he had built and dedicated to the honour of the emperor Claudius. An old tradition reports, that, in the time of this king, Joseph of Arimathea came over to Britain, and planted the gospel in this country. Bio. Brit.

simple, a little shorter than the spathé, coloured, banded at the bottom with ferrum, and shrivelling above them; perianth proper none. Cor. none; nectaries: thick at the base, ending in threads or tendrils, in two rows, issuing from the middle of the spadix. Stam. filamento none; each anther fertile, four-connate. Female flowers on the lower part of the spadix; close to each other, Col. spathé and spadix common to them with the males; perianth proper none. Cor. none. Fil. germ each obovate; style none; stigma beard-like. Pdr. berry globular, one-celled. Seeds several, roundish.

Eff. Gen. Char. spathe one-leaved, cowled; spadix naked above, female below, flaminous in the middle. Species:

* Without fruits; leaves compound.

1. *A. crinum*, hairy sheathed arum; "leaves pedate, with the lateral segments involute; spathé hairy within; spadix fomentaceous above;" root leaves cut into seven parts, which are lanceolate, nerved, middle part largest; the first leaves are pagitate, or five-awned, various; petals round, sheathing at bottom, scape very short, round; spathé as in the common arum; spadix subcylindrical, a little shorter than the spathé; club many times longer than the other parts, having remote violet-coloured bristles scattered over it. The flower smells strong like carrion, by which flies are enticed to enter, but when they would retreat, the revoluted hairs prevent them, and they are there devoured to death. It is a native of Minorca, and introduced in 1777, by Mr. Malcolm. It flowers in March. 2. *A. dracunculus*, long-sheathed arum or common dragon, "leaves pedate, leaflets lanceolate, entire; lamina ovate, longer than the spadix;" this has a large tuberous fibrous root, which in the spring puts up a straight stalk about three feet high, spotted like the belly of a horse; at the top it spreads out into leaves, which are cut into several narrow segments almost to the bottom; at the top of the stalk the flower is produced, which is in shape like the common arum, having a very long spathé, of a dark purple colour, flanging erect, with a large spadix of the same colour, so that when it is in flower, it makes no unpleasing appearance, but the flower has so strong a scent of carrion, that few persons can endure it. It is a native of the southern parts of Europe, flowering in June and July. Cultivated by Gerard in 1596. 3. *A. dracunculum*, short-sheathed arum, or green dragon, "leaves pedate, leaflets lanceolate, entire, longer than the spathé, which is shorter than the spadix;" it rises about eight or nine inches high; leaves petioled, upright, smaller than those of the common dragon; leaflets broad, lanceolate, commonly in threes; spadix awl-shaped, slender, longer than both spathé and leaves. It flowers with us in June, and grows in moist places in Virginia and New Jersey, also in Japan and China. Cultivated by Miller in 1759. 4. *A. senegala*, purple-flowered arum, "leaves pedate, leaflets suboval, entire, lamina lanceolate, longer than the spadix;" the native country of this species is not known. It flowers in March, and was introduced by Mr. Malcolm in 1774. 5. *A. feroxphyllum*, five-leaved arum; "leaves quintate;" it grows about a foot high, fimbriate, upright; leaflets lanceolate, entire, smooth. A native of the East Indies and China. 6. *A. trilobatum*, three-leaved green-fibrous arum; "leaves terete, lamina lanceolate, terminate, the length of the spadix; it is fimbriate, with the scape arising from the petiole; some scapes are male, others female, from the same root; the male spathé is erect, the female has the lip inflected. The Brazilian plant has the side leaflets lobed outwards. The Virginian plant has them only gibbous, but the situation of the flower is the same in both. This plant according to Linné differs in China from the foregoing, in having the leaflets denticulate, not pedate. It flowers in June and July, and appears from Evelyn's kalendar to have been cultivated here, in 1654. 7. *A. arborescens*, three-leaved purple-flowered arum. *A. trilobatum*, 8. *A. thrysiflorum*, 89. *Lin. Spec. "Leaves terete, lamina ovate, shorter by half than the spadix." A native of Virginia, and cultivated by Miller in 1759. Its flowers in June and July. 8. *A. terricum*, "leaves terete, receptacle longer than the spathé." Found in Japan by Thunberg, flowering in May and June.

** Without fruits; leaves simple.

9. *A. coloratus*, Egyptian arum, Cateto. con. 2. t. 45. "Leaves pedate, ovate, repand, semibarbatus at the base; it has a thick large oblong root, rounded at the base; leaves thick, smooth, un-coloured, in form and size resembling those of the water lily; petals thick, upright, roundish, white, spreading out at the bottom; scape short, with a tubulose reflex flat spathé. A native of the Levant, Egypt, Sicily, &c. This plant is esteemed a wholesome food. 10. *A. biococcus*, two-coloured arum, "leaves pedate, fimbriate, coloured on the disk, spathé contracted in the middle, fimbriate at the base, lamina roundish, acuminate; upright, somewhat convolute." This is cultivated in Madeira, and was introduced here in 1773, by Moll. Kennedy and Lee. It flowers in June and July. 11. *A. euculatum*, eculeate arum, or Indian kale. Shakes. Jan. 1. t. 1756. "Leaves pedate, ovate, entire, emarginate at the base; it has large, tuberous, tubulous, brown, with small tubers growing at the side of it. The plant is about three feet in height; leaves smooth, of a bright green, semibarbatus at the base, and roundish; petals round, dilated at the base, embracing the inner ones; spathe spreading, straight, not cowled, longer than the spadix. The Jamaica plant seems to be smaller than that of the east; for Shaw says that it only rises a foot from the ground. He says, that island this species is planted very carefully in moist plantations; that the roots are eaten, but that the leaves are most valued, which are boiled and used as coleworts. It would seem indeed that the *A. euculatum* is a plant highly useful and very generally cultivated in warm climates, and by none more than by the natives of the South Sea Islands. The acrimony of the root in its recent state is fo great, that when eaten raw, it will excoriate the mouth, but on being baked, this acrimony quality is wholly diffusible. 12. *A. macrocarpus*, long-rooted arum. Flor. Austr. 8. t. 429. "Leaves pedate, cordate, repand, two-parted at the base; it has this very large root, or rather tuberous trunk, the thickness and length of the human arm; leaves very large and wide, fimbriated on both sides, furnished with strong prominent nerves; their very long hollowed petioles form at bottom, where they embrace each other closely; stem three feet long, and as thick as a man's arm. The flower is white and very sweet; all the florets are hermaphrodite. This species, which is distinguished by its great size, is a native of China, and Cochinchina, the East Indies, Ceylon, and the islands of the Southern Ocean, and is eaten by the natives like the foregoing. 13. *A. pergeratum*, "Leaves cordate, obtuse, mucronate; angles rounded." A native of America. Mr. Miller says that he has received three sorts of arum from the West Indies, by the title of Edder, but he supposes this to be most commonly cultivated there for its roots. 14. *A. divortium*, "Leaves cordate-bifid, dissimilis." Rhed. Mal. 11. 39. t. 20. Spathe revolutus; spadix fimbriate, longer than the spathé. A native of Malabar and Ceylon. 15. *A. trilobatum*, three-leaved arum. Mill. fig. t. 52. f. 2. "Leaves fimbriate-trilobate; flower fertile." Miller describes this plant as follow: root tuberous; leaves remaining most part of the year; spathe five inches long, inclining downwards, having a long point twisted like a screw, inside.
A R U M.

fide deep purple, outside green; spadix long, slender, purple; extending out of the spathhe, turning upwards; the flower is fded like a carnation. It was brought from Ceylon in 1752, and flowered in the Chelsea garden. It flowers here in May and June. 16. A. fagittatum, arrow-leaved arum. Jacq. Hort. 2. 157. Ceci also Brown Jam. and Sloane's Hort. 2. 106. 8. 3. Lour. Coch. 574. "Leaves fagittate triangular; the angles divaricate, acute;" upright, four feet high; leaves large, dusky green, bifid at the base, divaricate, all the angles acute; footstalks round, spotted with red and black; spathe long, cowled, longer than the spadix, which is club-shaped. A native of the Spanish West Indies, Chindia, and Cochinchina. Cultivated by Miller in 1731. In Jamaica it is called smaller Indian kale, and cultivated there by several persons for the same purposes as the A. efculentum. 17. A. maculatum, common arum, Curt. Lond. 2. 63. Woolv. 3. 25. Smith Flor. Brit. Hudf. Wither. Lightf. A common arum without spots. 8 Common spotted arum. 7 Italian arum. "Leaves habitate, entire; spadix club-shaped." It has a tuberous whitish root about the size of a large nutmeg, growing twinerly, fending forth on every side a great number of fingle filices, propagating itself by lateral tubercles; leaves radical, from two to four, fliming, veiny, frequently marked with dark purple, or black spots, sometimes broken with white, fanding on fleething triangular footstalks; fpathe ufually green, and often fotted like the leaves; fpathe varies from a yellowish green, to a fine purple; berries fcarlet, in a naked clufher, containing one or two feeds. It is common in most parts of Europe, and is the only species of the genus indigenous in Britain. It is ufually fuded under heedges, flowering in May, and ripening its berries in the autum. 18. A. virginicum, Virginian arum. "Leaves habflate-cordate, acute; angles obtufe." It grows wild in wet places in Virginia, Carolina, Pennsylvania, &c. The favages boil the fpathe with the berries, and devour it as a great dainty. 19. A. probofideum, Apenine arum, arilium, Tournef. Bocc. Muff. 2. 61. t. 50. "Leaves hablate, fpathe decinate, filiform-fimbolute." A native of the Apenines. Spathe shaped like a monk's cowl; leaves on very short footstalks. 20. A. ariforum, broad-leaved hooped arum, or friar's cowl. Hort. Cliff. 435. t. 79. "Leaves cordate oblong, aperture of the spathe ovate; spathe entire and bent forwards above, below not convolute;" about a foot and a half high; leaves sharphift; spathe shorter than the leaves; spadix curved; berries red, one-fedded. A native of the South of Europe. Dr. Smith obferves, that the Italians call this plant il fume, from the flickering reffemblance of its flower, when reverfed, to a lamp with itswick. Cultivated by Gerard in 1596. 21. A. fiiatum, painted arum. "Leaves cordate, painted with coloured veins;" root-leaves three or four, petioled, painted on the upper surface with white veins; fpathe fcelar, radical, inflated at the base, green, except at the top, where it is purplish; fpathe with an ovate-oblong, dark purple club; germshubglobule, green; anders immediately above them; upper filaments remote. See Supp. Plant. 410. 22. A. ovatum, Rumph. Amb. 5. 312. t. 108. "Leaves ovate-oblong; spathe feabrolous." A native of the East Indies. 23. A. tenfifolium, grafs-leaved arum, or narrow-leaved friar's cowl. "Leaves lanceolate; fpathe brillifh-shaped, decinate." This species ufually has five or fix fhiming leaves resembfmg thofe of narrow-leaved plantain; fpathe long, foid tef, reflex, white; fpathe seven inches long, purple or green-hifted, pointed. It grows wild about Rome, Montpellier, also in Dalmatia and the Levant. We learn from Lobel that it was cultivated here in 1570. 24. A. canefifolium, Supp. Plant. 470. "Leaves lanceolate, veinefhs;" leaves few, two feet long, resembfng thofe of canna; feave very fhort; fpathe rather obtufe, red without, white within. In the fpadix there is no space between the lamens and piffils. A native of Surinam, on trees, paftifhal.

*** Cauliflora.***

25. A. arborifem, tree-arum, Plum. Amer. 44. t. 51. 55. & 62. "Straight; leaves fagittate." A native of South America. 26. A. fignum, dumb caule arum, Jacq. Amer. 239. t. 151. pict. t. 229. Miller's fig. 295. See Sloane and Brown's Jam. "Nearly upright; leaves lanceolate ovate." It rifes to the height of fix or seven feet, with a green-jointed flalk, as large as a walking-cane. Leaves placed irregularly at the top of the flalks in a clufher; they are oblong, of a light green colour, and sometimes punched with holes, as in the deaconium pertum. On the side of the flalks, between the leaves, the flowers appear with a long fpathe of a pale green colour, marked with white spots. The female flowers and lamens are ranged only on one side of the fpathe, a circumstance which distinguishes it from all its conge- ners. It is a native of the Sugar Islands, and the warmer parts of America. Cultivated in 1759, by Miller. The whole plant abounds with an acute juice, so that if applied to the tongue, this organ swells to much as to lofe the power of articulation, and hence the name of dum-cane. In this way it is said to have been used as a punishment for negroes. The juice is sometimes employed to affift the lime in promoting the granulation of fugar. 27. A. hederaeacm, ivory-leaved arum, Jacq. Amer. t. 152. pict. 230. "Radicant; leaves cordate, oblong, acuminate; petioles round." A native of the West Indies. 28. A. tubulatum, tongue-leaved arum, Brown Jam. 333. n. 12. Sloane's Jam. 1. 75. t. 27. f. 2, 3. "Creeping; leaves coruate lanceolate; their footstalks edged with membranes." It readily climbs trees, and becomes more succulent and luxuriant towards the top. A native of the West Indies. 29. A. auritum, ear-leaved arum, Brown Jam. 331. n. 2. Sloan. t. 169. "Radicant; leaves terete; fhole on the fide one-lobed." A climbing plant, fending out roots from the ftems and branches; leaves large heart-shaped, having three lobes or ears; flowers inclosed in a large fpathe. A native of the West Indies. Found on all the hills of Jamaica, climbing the trees, and is the only species of the genus with compound leaves in that ifland. Cultivated by Miller in 1748. 30. A. indicum, Indian arum, Lorr. Coch. 536. Rumph. Amb. 5. t. 106. "Nearly upright; leaves ovate; bifid at the base, rounded; fpathe axillary;" ftem five feet high, as thick as a man's arm; leaves very large, with many tranfvere parallel ribs, on fimbolute, erec, flem- clapping footstalks; fpathe axillary, small, acute, rightfht, convolute; fpathe tapering, erec; berries pale, small. A native of the East Indies. Cultivated in Cochinchina, where the flalk is boiled and eaten. 31. A. cuculatum, cowled arum, Lorr. Cochinch. 356. "Upright; leaves petiuate, cordate, with the ears cowled;" ftem two feet high, leaves acuminate, on round footstalks; fpathe short, almoft wholly covered with fores. A native of the fuburbs of Canton. 32. A. fipite, fiprum arum, Retz. Obs. 1. 30. n. 104. "Stemlefs; leaves lanceolate; fpathe fcelar fheifie;" leaves acute, naked, with the footstalks dilated at the base, membraneous, veined. A native of Tranquebar in the East Indies, discovered by Koenig. This fpecies ought to have been placed in the second division. It may here be obferved, that in the arum, every piffil and every anther is to be confidered as a diftinct floret, consequently it ought to be removed to the clafs monoea; and this has been done by Screber and Withering. Thunberg and Swartz place it in the clafs polypodium. We fee no advantage however in removing it from the clafs gymnadenia, where it was left by the great author of the sexual fystem.

Medical
ARU

**Medicinal qualities.** Common arum is the only species of this genus included in the Materia Medica; and its use is confined to the root, which in a recent state is inedible and extremely aconiacious, infomuch that when cut into slices and applied to the skin, it has been found to blister the part; and upon being chewed, it excites an intolerable sensation of burning and prickling in the tongue, which continues for several hours. This acrimony, however, is gradually lost by drying, and may be, to completely dissipated by the application of heat, as to leave the root a bland carminative aliment. Its medicinal efficacy, therefore, resides wholly in the active volatile matter. It is a very powerful stimulant, and by promoting the secretions, may be properly employed in cachetic and chlorotic cases, in rheumatic affections, and in various complaints of phlegmatic, torpid consti- tutions; but more especially in a weakened or relaxed state of the stomach, abounding with vifid inmucus. If the root is given in powder, great care should be taken that it be young and newly dried, when it may be used in the dose of a scruple or more twice a day; but in rheumatic and paralytic affections, requiring the full effects of this medicine, the root should be given in its recent state; and to cover the inportant puipuency it discovers on the tongue, Dr. Lewis advises us to administer it in the form of emulsion with gum arabic and spermacaet, increasing the dose from ten grains to upwards of a scruple, three or four times a day; in this way, he says, it generally occasioned a perspiration of light sweat; the stomach, and afterwards in the more remote parts, manifetely promoted perspiration, and frequently produced a plentiful sweat. As several obstinate rheumatic pains were removed by this medicine, it is recommended to further trial. See Wood. Med. Bot. p. 75.

**Propagation and Culture.** Species 2. is very hardy and will grow in any soil or situation; autumn is the proper time for transplanting it. 3. should have a moist, sandy situation; it is with difficulty preferred in gardens. 6, 7, 8, are propagated by offsets; they will live in the open air, if planted in a sheltered situation, or if the ground be covered with tan. 9, 10, 11, 12, 13, 14, and 16, are to be propagated by offsets planted in pots, and plucked into a hot-bed, and after having acquired sufficient strength, kept upon shelves in a dry flor. 15, requires the tan-bed or bark-flor. Common arum ought to be transplanted soon after the seeds are ripe. 19, 20, 21. These multiply by offsets, and should have a sandy situation. 25, 26, 27, 28, 29, are propagated by cutting off the flanks, into lengths of three or four joints, which must be laid to dry fix weeks or more; for if the wound part be not perfectly healed over before the cuttings are planted, they will rot and decay; they should be put in small pots filled with light sandy earth, and plunged into a moderate hot-bed of tan, being careful that they have little wet till they have made good roots, when some of them may be placed in a dry flor, and others plunged in the tan-bed, in the bark flor, where they will produce more flowers. They are tender plants, and must be constantly kept in the flor. See Martyn's Miller's Dict.

**ARUM Ethiopianum.** See CALLA.

**ARUM Scandens.** See Dracaenum.

**ARUMATIA, in Entomology, a name given by Mark-gra ve, in his Natural History of Brasil, to the species of Mantid called Gipas by Linnaeus.**

**ARUN, in Ancient Geog'raphy, a village of Paleflne, in the neighbourhood of Samaria.**

**ARUN, in Geography, a river of England, which runs into the sea at Little Hampton in Suffors, famous for its red mullets.**

*ARUNCI. See ARUNCI.*

**ARUNCI, in Entomology, a species of Cicada, described by Scopoli. This insect is entirely of a ferruginous colour, with brown eyes.**

**ARUNCO, in Zoology, a species of Rana toad, that is larger than the common frog, but nearly of the same colour. It inhabits Chili; and is described by Molina. All kinds of this kind are palmated, and the body warty. Dr. Shaw specifically describes it thus: R. corpore verrucose pedibus omnibus palmatis. Gmelin seems to think the palmed feet are a sufficient criterion by which it may be distinguished, "pedibus omnibus palmatis." Gmelin.**

**ARUNCUS, in Botany. See SPIREA.**

**ARUNDA, in Ancient Geography, a town of Spain, in Baecca, seated on the Annas or Guadiana; now said to be Roadas, in the province of Granada, on the confines of Andalusia. N. lat. 30° 26'. W. long. 6° 40'.**

**ARUNDEL, Thomas, in Biography, archbishop of Canterbury in the reigns of Richard II., Henry IV., and Henry V., was the second son of Robert Fitz-Alan, earl of Arundel and Warren; and at the age of twenty-one years, in 1374, promoted from the archdeaconry of Tamton to the see of Ely, and enthroned with the ulual solemnities in 1376. While he held this see he almost rebuilt the episcopal palace in Holborn, and, beside other donations, presented it with a table of massive gold, enriched with precious flowers, which he had bought of Prince Edward for three hundred marks. Upon his translation to the arch- bishopric of York, in 1388, he expended a large sum in building an archiepiscopal palace, and in furnishing the church with several pieces of silver-gilt plate, and other ornaments. After his advancement to the see of Canterbury, in 1396, he was a great benefactor to that church; for he built the southern tower and great part of the nave, and gave it a ring of five bells, called "Arundel's ring," several rich veiments, a mitre enchaufed with jewels, a silver girt croiser, a golden chalice for the high altar, and another to be used only on St. Thomas a Beckett's day. He held the office of lord high chancellor of England, with some interruptions, from the year 1386 to 1399; and in 1393, he removed the courts of justice from London to York; partly with a view of mortifying the pride and influence of the inhabitants of London, and principally for the purpose of en- riching those of the latter city, over the diocese of which he presided: but after the experience of one or two terms, the courts returned to their first and more convenient station. Soon after his accession to the metropolitan see, he revived an old institution, by which the inhabitants of the several parishes of London were obliged to pay their rector one halfpenny in the pound out of the rest of their houses.

The interference of archbishop Arundel in the civil affairs of the kingdom terminated in his impeachment and exile. Having taken an active part in the first attempt that was made to deliver the nation from the oppression of Richard II., by obtaining a commission to the duke of Gloucester, his brother the earl of Arundel, and others, in which com- mission he himself was included, for governing the kingdom, he was impeached by the commons, sentenced to be banished, and ordered to leave the kingdom within forty days, on pain of death. Pope Boniface IX. feizing this opportunity of tetifying his displeasure against the king and parliament of England, gave Arundel a cordial reception at Rome, nominated him archbishop of St. Andrews, and promised him other preferments. The king's remonstrance, however, prevailed with his holiness to withhold the grant of the further favours which he had intended to confer on the exiled prelate. The dissatisfaction of the people of England with the
the government of Richard II., increasing, archbishop Arundel had an opportunity of returning to his country, and regaining his dignities. Whiles he was in Brittany, in his way home, he was employed to fetch Henry duke of Lancaster, who had been banished by Richard, to return from France, and assume the crown: and having obtined the duke's scruples, the accession of Henry IV. was accompanied with the restoration of Arundel to the metropolitan see; and he had the pleasure of placing the crown on the head of his new master. At an early period of this reign, a deign was formed of feizing the revenues of the church, in order to supply the exigencies of the public service. In a parliament held at Coventry in 1424 or 1425, and called "Parliamentum Indoctum," this measure was proposed for execution. Arundel was present, remonstrated against the proposal, and urged that the clergy were at least as serviceable to the king by their prayers, as the laity by their arms; and that the kingdom could not expect to prosper as long as the prayers of the church were destitute. His spirited exertions prevented, for the present, the further prosecution of this violent measure. The archbishop having thus restored the temporalities of the church from depredation, manifested equal zeal in preserving inviolate its internal constitution. He exerted himself for restraining the progress of those new opinions, with regard both to doctrine and worship, which were disseminated by the Lollards or Wickliffites; and as the sway of Oxford was beginning to be infected with these opinions, he appointed visitors to examine and to report the state of that seminary. He proceeded, in consequence of the information he received from the inquisitorial committee, delegated and authorized by his authority, to persecute, with as much severity as any other thing nothing but the ignorance and bigotry of the times can in any degree justify, those who were found chargeable with this new heresy. Upon the authority of the act for burning heretics, which passed in the reign of Henry IV., and which remained for a long time a support to our statute books, a Lollard was condemned to the flames in 1410; and in the beginning of the reign of Henry V. Sir John Oldcastle, lord Cobham, a principal patron of the Lollards, was indicted by the priory, convicted of heresy, and sentenced to the flames. He had some time before attempted to procure an order from the pope to dig up the bones of Wickliffe, which was refused; and he actually procured a fysiological constitution, which prohibited the translation of the scriptures into the vulgar tongue. It is said that whilst the archbishop was pronouncing sentence of excommunication and condemnation on lord Cobham, he was seized with an inflammation in his throat, which prevented his taking any further part, and soon terminated in his death, Feb. 28th, 1413. The death of the prelate, as to the time and manner of it, was attributed by the Lollards to the immediate interposition of God; but however superstitious such judgments may be deemed in the present enlightened age, the intolerance and cruelty of the archbishop will be universally condemned, and they will entitle him reproach on his name and character as long as any records of him remain. Boc. Brit.

Arundel, in Geography, a corporation and borough town of England, in the county of Sussex, seated on the river Arun, where its name. It sends two members to parliament; the corporation consists of a mayor and twelve burgesses; it has two markets weekly, on Wednesday and Saturday; and is distant from London sixty-one miles. It has a harbour which admits vessels of one hundred tons burthen, and which was repaired in 1733. The caffle, which stands on the north-east part of the town, was erected by the empress Matilda on William the Albane, as a recompence for his defence of it against King Stephen. It descended to the Norfolk family in 1579, and the present duke has expended large sums in repairing and adorning it. To this place belongs the peculiar privilege of conferring the title of earl on itsCollector without any patent or creation from the crown; and Arundel is the premier caledon in England. N. lat. 50° 45', W. long. 2° 27'.

Arundel, a township, in York county and district of Maine, situate between cape Porpoise and Biddeford on the north-east, on the river Saco, twenty-one miles north-east from York, and ninety-six north-east from Boston. It contains 1438 inhabitants.

Arundelian Marbles, Marmora Arundelliana, or Oxford Marbles, called also Parian Chronicles, are supposed to be ancient marbles, wherein is inscribed a chronicle of the city of Athens, engraved in capital letters in the island of Paros, one of the Cyclades, 264 years before Jesus Christ. They take their name from Thomas earl of Arundel, who procured them out of the East, or from Henry his grandson, who presented them to the university of Oxford.

These marbles, and other ancient relics, were purchased in Asia Minor, Greece, and the islands of the Archipelago, by Mr. William Petty, who was employed, in the year 1624, by Thomas earl of Arundel, in making such collection for him in the East. They were brought into England about the year 1627, and placed in the gardens belonging to Arundel house in London. Soon after their arrival, they excited very general curiosity among inquisitive and learned persons; and Sir Robert Cotton engaged Mr. Selden to explain the Greek inscriptions. Accordingly Selden and two of his friends, Patrick Young, or Patricks, John, and Richard James, immediately undertook the business; and in the following year Selden published a small volume in 4to, under the title of "Marmora Arundelliana," containing about thirty-nine of the inscriptions, with annotations. During the civil wars, Arundel house was often defaced by its illustrious proprietors, and some of the marbles were defaced or broken, and others stolen or used for the ordinary purposes of architecture. The chronological marble, in particular, was broken and defaced; and the upper part, containing thirty-one epochs, is said to have been used in repairing a chimney in Arundel house. In the year 1667, the honourable Henry Howard, afterwards duke of Norfolk, the grandson of the first collector, preserved these curious remains of antiquity to the university of Oxford; and as Mr. Selden's work was become scarce, bishop Fell engaged Dr. Prideaux, dean of Norwich, to publish a new edition of the inscription, which was printed at Oxford in 1676, with additional notes and translations, under the title of "Marmora Oxoniensia, or Arundelianis, Seldenianus, et alia confissa." In 1731, Mr. Matraire favoured the public with a more comprehensive view of these marbles than either of his predecessors; and in 1763, Dr. Chandler published a new and improved copy of them, in which he corrected the mistakes of the former editors, and supplied the lacuna in some of the inscriptions, particularly those of the Parian chronicle, by many ingenious conjectures.

These marbles, in their perfect state, contained a chronological detail of the principal events of Greece during a period of 1318 years, extending from the commencement of the reign of Cecrops in the year before Christ 1522, to the close of the archonate of Diognetus in the year before Christ 264. But the chronicle of the last 90 years is lost, so that the part now remaining terminates with the archonship of Dicthius, 354 years before Christ; and in this fragment the inscription
inscription is very much corroded and effaced, and the sentence can only be discovered by very learned and indistinct antiquaries, or supplied by their conjectures. For a translation from the Greek of this ancient remain, see Tab. 1. Playfair's Chronology, p. 297. Almost every event in this table between the destruction of Troy and the annual migration of Athens, is dated twenty-six years earlier than in the canons of Eusebius, and those of other approved chronologers; so that this number of years must be subtracted from the dates in the tables, during the time mentioned, in order to accommodate them to those of Eratosthenes, Dion, Halicarnassus, Eusebius, and other ancient writers.

These valuable remains of antiquity have been applied to the elucidation of many parts of ancient history that had been long involved in obscurity. However their inconsistency with other authentic historical accounts has depreciated their importance and use; and Sir Isaac Newton, as well as some other modern philosophers, have paid little or no regard to them. Their authenticity has indeed of late been the subject of particular discussion between Mr. Robertson, who, in his "Parian Chronicle," Svo. 1788, questioned it; and Mr. Hawlett, in his "Vindication of the Authenticity of the Parian Chronicle," Svo. 1789, defended it. See an account of the arguments on both sides, under the article Parian Chronicle.

ARUNDINACEA, in Conchology, a species of SABELLA found in rivers in some parts of Europe. It is fusiform, open at both ends, and composed of fragments of the bark of reeds placed on each other. Gmelin, &c.

ARUNDINACEAS, in Ornithology, a species of TURDUS that inhabits reedy marshes of Europe, and is called La Rouferole, or Roucherolle, by Buffon, Buffon, and other French writers. Ray and Willughby named it Junco, or greater reed sparrow; and Dr. Latham, the reed thrush.

This bird is rather larger than the common lark; the colour is ferruginous brown; white, with a tawny band beneath; quills-leathers brown, reddish at the end. Gmelin, &c. Of this species Gmelin enumerates three varieties; viz. g. Turdus arundinaceus supra fagittis nigris variis; var. varied above with black arrow-shaped spots. 2. Turdus arundinaceus minimus, supra ex integentibus virens, testacea abbas ferrugineus; var. small, above yellowish-green, wing ferrugineous. In the southern parts of Russia, and in Poland, this species, it is said, is very common. It makes its nest on the molly billocks among reeds and rushes, or according to Cramer suspends the nest between two or three reeds which are fastened together to support it. The female lays five or six eggs; and the male, it is likewise observed, is perpetually piping while the female is sitting; and hence it has acquired the name of water nightingale.

ARUNDINETI, in Entomology, a species of TIPULA deburred by Linnaeus and Fabricius. It is whitish; antennæ villosæ; eyes black. A native of Europe, and inhabits reedy marshes.

ARUNDINIS, a species of PHALANA (NOBEL, Linn.) that lives on the flanks of reeds. It is an European kind; the wings are cinereous with black dots, and marginal lunulae of the same colour; and the wings beneath marked with a central brown spot. Fabricius, &c.

ARUNDINIS, a species of APHIS, that lives on the leaves of arundo egyptiaca. The body is green; head and thorax brown, and covered with white dots. Fabricius, Gmelin, &c.

ARUNDO, in Botany, Reed (supposed to be derived from area, because it soon becomes dry). Linn. g. 93. Schroeder, 124. Julii. 32. Clas, triandra digynia. Nat. Ord. Gramineae or grasses. Gen. Char. Cal. glume one, or many-flowered, two-valved, erect; valves oblong, acuminate, awnless; one shorter. Cor. two-valved; valves the length of the calyx, oblong, acuminate; from the base arises a lance, almost the length of the flower; nectary, two-valved, very small. Stam. filaments three, capillary; anthers forked at both ends. Pyr. germ oblong; styles two, capillary, reflex, villosæ; stigma capitate. Pfr. none: corolla adheres to the seed without gaping; seed oblong, oblong, acuminate at both ends, furnished with long down (pappus) at the base. Eff. Gen. Char. Cal. two-valved; flowers congested, surrounded with wool.

Species, 1. A. bambus; bambu or bamboo-cane; A. Lambri, Lambri. Cochinich. 56. A. arbor. Bauh. Pin. 18. wafurisia, Bihla. Rumph. Amb. I. 6. c. 4. Ily. Rheed. Mal. i. 5. t. 16. Bambus arundinacea, Retzm. Obi. 5. 25. n. 58. "Calyces many flowered, (one-flowered, Linn.) spikes in threes, (unequal in number, Retz.) sepals," Lin. flowers fix-flaened; panicle diffused, with imbricate spikelets, branches of the culm spiny; calyces one-flowered. Loureiro. Panicle branched, divaricate, hard; spikes heaped alternately, unequal in number, sepalrio. Reitz. The bamboo has a woody hollow round bright culm, forty feet high and upwards, simple and thinning; the internodes a foot in length and in circumference; hearts thick, hairy, rough, convolute, deciduous; branches alternate, slender, ferial, spiny, reching, springing from the base to the top; the lower ones being usually cut off; leaves small, entire, lanceolate, roundish at the base, flat, round, on alternate round petioles. For the parts of inflorescence we refer to the specific characters. It grows almost every where within the tropical regions. Over a great part of Asia it is very common; in China, Cochinchina, Tonquin, Cambodia, Japan, Ceylon, the peninsula of India, and the islands. The bamboo-cane has been long since introduced into the West Indies, and foundries also in South Carolina. Mr. Miller cultivated it here in 1730, and if our flowers were high enough, these plants would probably rise to the height of forty feet, as a strong shoot from the root has been found to attain to half this height in five weeks.

There is perhaps no plant used for such a variety of purposes as bamboo. In the East Indies, great use is made of it in building, and the households of the lower classes of people are almost entirely composed of it. Bridges are also made of it, masts for their boats, boxes, cups, ladders, mats, &c. Paper is also made of it by boiling and steeping it in water, and thus forming it into a paste. It is the common fence for gardens and stoves, and is frequently used as pipes for conveying water. The leaves are generally put round the tea which is sent in chests to Europe from China. A substance called Talaflor or Talaclir, which is a concretion of the liquor in the cavities of the cane, and extracted at certain seasons, is said to be indelible by fire, to refit the action of the strongest acids, and by fusion with alkalies to form a transparent permanent glass which may be decomposed by acids, &c. The taphisler is much esteemed as a medicine by the orientals, and indeed several parts of the bamboo, according to Loureiro, poffes medicinal virtues. A. arborea, A. orientalis, of Miller, seem to be only varieties of A. bambus, and we learn from Loureiro and others, that there are still more varieties, if not found to be distinct species. 2. A. donax, cultivated reed. A. servius. Bauh. Pin. 17 Rain Hist. 1275. Mor. Hist i. 8. 1. 87. Calyces five-flowered, panicle diffused, culm hardly; culm from fisc
to twenty feet in height, hard, almost woody, jointed or
knotted, with divergents. Above each joint a leaf embrac-
ing the culm, with a yellow sheath, two feet long, and
three inches broad. The top of the culm ends in a point, the
leaves rolling in the form of a cone; panicle a foot and a
half long, erect, many flowered. Number of flowers in the
calyx variable, often two, but more commonly three. It
is a native of the south of Europe, Siberia, Egypt, Cochini-
china, &c. It was cultivated in 1648, in the Oxford botan-
ic garden, and flowers here in July and August. The
canes are brought to us from Spain and Portugal, for the
use of weavers, and for making fishing rods, &c. There is
a variety of A. donax, with stripped leaves, noticed by Miller
and others. 3. A. phragmitis, common reed. Smith Flor.
“Calyxes five flowered, panicle loose?” root perennial,
creeping; culms annual, erect, simple, six feet high, round,
jointed, leafy, smooth, white within; leaves lanceolate,
acute, spreading, striated, rough at the edges, under-
nearth very smooth and glaucous; sheaths cylindric, striated,
smooth; ripples very short, hairy on both sides; panicule
erect, dilated, much branched; glumes of the calyx very
unequal, lanceolate, acute, the larger three-nerved; florets
from four to six, surrounded at the base with a silky wool;
interior glume dilated, half the length of the exterior; seed
covered with the indurated corolla. A variety of this
species with variegated leaves is noticed by Relhan. It is
common in ditches, flooding waters, and on sides of rivers,
flowering from July till September. The common reed is
used for screens in gardens, also as a foundation for planter
in ceilings, and for various other purposes. 4. A. epigeros,
A. calamagrostis, Hudf. 54. Reih. 52. Liichtf. 166. calam-
agrostis lanceolata, With. 122. gramen arundinaceum paniculat
mollis pudicae major, Rauli Syn. 401. “Calyxes one-flowered,
longer than the corolla, panicule erect, leaves lanceolate;”
root creeping; culm nearly as high as the preceding, but
weaker, and often branched at the base; leaves lanceolate,
acute, leafy, underneath glaucous and rough at the edges;
sheaths smooth, striated; ripples lanceolate, many
lengths divided, naked on both sides; panicule erect,
spreading; flowers in clusters all on the same side, nodding;
glumes of the calyx nearly equal, lanceolate, acute, nervous;
rough on the keeled part; floret solitary, much shorter
than the calyx, white, membranaceous, inflated in a
woolly substance longer than the petals, often cloven at the
apex; near the base, and from the back arises an arm,
which is jointed, and nearly the length of the wool.
we are told by Dr. Smith, that the wool and arm here
noticed, were, from an error, not represented in the figure
referred to in Eng. Bot. It grows in shaded ditches and
wet meadows: and flowers in July. 5. A. calamagrostis,
Brit. 146. 186. A. epigeros, Hudf. 54. Tehl. 51. Cala-

epigeros, Rauli Syn. 401. “Calyxes one-flowered, longer
than the corolla; panicule erect, dilated; flowers scattered,
erect; leaves linear.” Smith. Root perennial, fibrous,
scarcey creeping; culm erect, three or four feet high, round,
very smooth, leafy, much flatter than the preceding, and
sometimes branched; leaves linear, acute, narrow, somewhat
involute, pale green underneath, rough above, sometimes
hairy; sheaths long, close, striated, almost smooth; ripples
lanceolate, often lacerated, decurrent, smooth on both sides;
panicule very branching, diluted; flowers scattered, erect;
glumes of the calyx of a chefнут or purple colour, nearly
equal, lanceolate, acute, keeled, rough on the back, scarcey
nervose; florets solitary, much shorter than the calyx, white,
torn at the apex, included in wool longer than the petals, a
small arm at the apex, between the divisions of the larger petal.
It grows in groves, hedges, and wet situations, flowering in
July. 6. A. arenaria, sea-reed. Marram. Sea-matweed,
Dickf. H. S. Fafes. 12. 5. Flor. Dan. 1. 917. Calamagro-
listis arenaria, With. 123. “Calyxes one-flowered, longer
than the corolla; panicule spicatid; flowers erect, awnless;
leaves rolled inwards, pungent.” Root perennial, creeping,
jointed, spreading itself to a great extent; culm about three
feet high, stiff, round, smooth, articulated, leafy; leaves erecto-
patent, rigid, turning inwards, sharply pointed, glaucous,
smoth on the under side, on the upper furrowed; sheaths
nervose, smooth; panicule erect, spike-like, with short erect
branch; flowers lanceolate, acute, compressed, keeled, ob-
scurely three-nerved; florets solitary, rather shorter than the
calyx; glumes lanceolate, unequal, nervose, with a rough
keel, the outer broadly, eroded at the apex, and embracing
the other; wool about one-third the length of the floret.
Common on the sea-cords, growing in the sand. By means
of its extensive creeping roots, it is of great use in giving
stability to driving sands which gather about it in hills or
banks. It is planted about Wells in Norfolk, to aid in
repelling the sea; a purpose for which it seems peculiarly
well adapted. 7. A. colorata, Canary reed-grasfs. Soland.
variagata. With. 124. Gramen arundinaceum acerfoli
glumæ noturns. Rauli Syn. 400. 8. G. arundinaceum acerfol
grumæ Jericinum. Rauli Syn. 400. 7. Phalaris arundini-
acea; 8. pica. Sp. Pl. 85. “Calyxes one-flowered, equal
to the corolla; panicule erect, glomerate; flowers inclining
to the same side, awnless; leaves flat.” Root perennial,
creeping, scaly, or turfry; culm erect, three to five feet high,
round, leafy, striated, smooth, furnished with many joints;
leaves spreading, lanceolate, striated, with a smooth margin
on both sides, on the variety 8, glaucous, in 7, variegated;
sheaths nervose, somewhat inflated, smooth; filippe short,
obtuse; panicule erect, branched, in lobes, branches angular,
rough; flowers rolled together, inclining to one side, varie-
gated with white and purple; glumes of the calyx equal,
compressed, keeled, three-nerved; florets solitary, the length
of the calyx, lanceolate, rather compressed, awnless, furnished
with two nectarious pencil-shaped substances at the base;
glumes or valves hairy, equal in length, but the exterior
broader than the other. It grows in fleshy waters, and
on the banks of rivers. The variety 7, cultivated in gardens,
and called riband-grasfs, was also found wild near Cambridge
by Mr. Relhan. The following are new species. 8. A.
panicule loose, from erect, spreading; awn of the outer petal
reflex, and very long.” A native of New Zealand. 9. A.
Amb. 1. 6. c. 7. t. 4. “Flowers fix-flamine, panicule;
spiked; spikeslets clustered; lower branches of the culm very
spiky; calyxes one-flowered.” It grows to the height of
thirty feet, and to the thicknees of a man’s arm. A native
of Cochinchina, growing on mountains and dry desert places.
Amb. 1. 6. c. 7. t. 4. “Flowers fix-flamed, panicule erect,
contracted; spikes long, imbricate; culm very even, unarm-
ced; calyxes one-flowered.” This is rather a higher and thicker
plant than the A. agrestis. It is cultivated in Cochinchina,
and being cut into long pieces, it is used for weaving into
hats, coffers, ballcets, and a variety of utensils, which are
very elegant. 11. A. multiplex, Lor. Cochinch. 58. Arun-
dabor,
ARUSPICES, an order of priests among the Ancient Romans, who foretold things to come, chiefly by inspecting the entrails of beasts which were killed in sacrifice. They also took their observations from the victims before they were cut up, from the flame that used to rise while they were burning; and from the flour, bran, frankincense, wine, or water, used in the sacrifice. The word seems more properly written haruspices; as being derived from harsus, which signifies the entrails of victims; and asperiores, to view or confederate others derive aruspices, ab arvis aucta veris, from their looking on the altar. These diviners were all at first taken from Etruria, where their art was in great repute; but afterwards the Senate ordered twelve of the sons of the chief men of Rome to be sent into that country to acquaint themselves with the rites and ceremonies of the Etruscan religion, of which this science was the chief part; the ceremony, however, of consulting the entrails of victims was practised among the Greeks before it was introduced into Etruria. An instance of it occurs at the battle of Platea; and it was recurred to on other occasions among the Aetati. But the Etruscans were perhaps the first who reduced it to an art, and established the rites by which it was conducted. The doctrine or discipline of the aruspices formed into a precise art, called aruspicitia. Cato, who was an aruspex, used to say, he wondered how one aruspex could look at another without laughing in his face; by which we learn what opinion he had of the fidelity of the aruspex. Confiantine paffed several laws against the aruspices; and though he allowed the Pagans to consult them, he forbade their entering the houses of private persons, upon pain of being burnt alive, and such as received them were to forfeit their estates, and be banished for life. His intention was to prevent all private sacrifices and consultations, and by one law he obliged those who consulted the aruspices to send their answers to his secretary.

ARUSPICI liber, a kind of facetted writings among the ancient Hetrurians, wherein the laws and discipline of the aruspices were described. They were also called rituales, sometimes fidigramatis libri, as directing how to take indications from thunder, lightning, &c.

ARVUM, in Ancient Agriculture, properly denoted ground ploughed, but not sown. Though the word is also sometimes extended to all arable or corn land, in contradistinction from pasture.

ARWACAS Bay, in Geography, lies on the east coast of
of South America, and bears the river Amona to the west. It has a good road for large ships, well sheltered from south and westerly winds, but exposed to the north.

ARWANGEN, a town and castle of Switzerland, in the canton of Berne, seated on the Ar, 12 miles east of Soleure.

ARX, in the Ancient Military Art, a town, fort, or citadel, for the defence of a place. The arx, in ancient Rome, was a distinct edifice from the Capitol Mount, stronger and better fortified than the rest, with towers and pinnated walls; in which was also the temple of Jupiter Capitolinus. Struv. Synt. Ant. Rom. c. ix. p. 522.

Arx also denoted a conterminous place on the Palatine Mount, where the augurs publicly performed their office. Some will have the arx to have been the augural temple; but Varro expressly distinguishes between the two.

Arx was particularly used for a public place in Rome, set apart for the operations of the augurs. In this sense, arx amounts to the same with what is otherwise called auguraculum, and auguratorium, and in the camp augurale. Out of this arx it was that the fretula, or heralds, gathered the facts used in the ceremony of making leagues and treaties. Liv. ii. c. 24.

ARX Britannica, in Ancient Geography, a citadel of Batavia, near the old mouth of the Middle Rhine. Its foundation is seen at low water, and after a strong south-westerly wind. Some suppose it to be the pharus or very high tower of Caligula, as Suetonius calls it; a monument of his pretended conquest of Britain; others imagine that it was built by Dufus, with an altar, erected by Claudius, on his expedition into Britain. But the usual passage was from Gefforacum, and Suetonius says expressly, that Claudius paused over from thence. Its ancient name is no where expressed; it is now called ch'tiues to Britten or Brittenburg, i.e. Arx Britannica; but it does not appear from what authority. Cellarius.

ARXAMA, a town of Afia, in the interior part of Mesopotamia. Ptolemy.

ARXAN, a town of Afia, in Armenia Major, near the river Nymphias.

ARXATA, a town of Armenia Major, on the confines of Astatus. Strabo.

ARXAN, a town of Thrace.

ARXIANUS, a plain of Afia, near the river Lerma.

ARY, a town of Greece, in the country of the Locris Epicsynedii. Diod. Sic.


ARYCANDUS, a river of Afia, in Lycia, that discharged itself into the Limyra. Pliny.

ARYS, in Geography, a people of South America, in Brazil, in the neighbourhood of Capitania, or the government of Porto Seguro. Jackson.

ARYMAGDUS, or ORYMAGDUS, in Ancient Geography, a river of Afia, in Cilicia. Ptolemy.

ARYMPHÆL, a people who inhabited the territory adjoining to the Palus Maeotis and Tanais. They were clothed like the Scythians, spoke a peculiar language, and lived in the woods. They were honored as a sacred people, and their country served as an asylum. They are mentioned by Herodotus and Mela.

ARYS, in Geography, a town of Italy, belonging to the republic of Venice, in the province of Friuli, ten miles W. S. W. of Palma la Nuova.

ARYTÆNOIDEUS CARTILAGO, in Anatomy, a cartilage situated at the back part of the larynx. There are two cartilages which bear this name.

ARYTÆNOIDEUS MUSCULUS, is subservient to the motions of the above mentioned cartilages. For an account of both these articles, see LARYNX.

ARYTHMUS or ARYTHMUS, formed from the privative a, and ő, is a moduls or measure, in M. and in Quintus, it is used by some for a linking or failure of the pulse, so that it can no longer be felt; but it more properly denotes an irregularity, or want of due order and proportion of the pulse.

ARYZAC, in Geography, a town of France, in the department of the Lower Pyrénées, and chief place of a canton in the district of Orthes, five leagues north of Pau. The place contains 1014, and the canton 10,531 inhabitants; the territory includes 175 kilometres and 29 communes.

ARYZACELI, or ARZACHEL, in Biographia, a Spanish mathematician, lived in the tenth or eleventh century, and wrote a book on Astronomy, intitled "Observationes de Obliquitate Zodiaca." Vouhis.

ARYZAMAS, in Geography. See ARZAMAS.

ARYZANO, a town of France, in the department of Finisterre, and the chief place of a canton in the district of Quimperle, five miles E.N.E. from Quimperle. The place contains 130, and the canton 5,658 inhabitants; the territory comprehends 124 square kilometres, and 3 communes.

ARYZBERG, a town of Germany, in the circle of Freisa, and principality of Bareuth, seven miles east of Wonnefeld.

ARYZENGAN, or ARZENGAN, a town of Afiatic Turkey, in the province of Aladula, eighty miles south-east of Erzerum. It was taken in 1742 by the Mogul Tartars.

ARYZEN, a town of Africa, on the coast of Barbary, in the Mediterranean, on the cape of Cabo Ferrat or Ferrol, and extends to the north-east as far as Cape Dyrre or Ivory. The town is at the south-west, in the bottom of the bay, and before it is good anchorage. It stands on the cape side of the river which here falls into the bay.

ARYZENA, or ARZENAYA, a river of European Turkey, in Albania, discharges itself into the gulph of Venice, between Durazzo and Parga.

ARYZE, in Ancient Geography, a town of the island of Cyprus, formerly a considerable city, and seat of a Greek bishop, but since the reduction of the island by the Turks, reduced to a village.

ARYZER, a town of Afia, situated towards the middle of the northern part of the lake Arsifa.

ARYZEV, in Geography, a sea-port of Africa, in the western province or province of Timflan, twelve miles S.E. of Cape Ferrat. It is called by the Moors, the port of the "Beni Zean," after the name of the neighbouring Kabyles, who were formerly a considerable community. Ptolemy places his "Deorum portus" betwixt Quiza and Arefania, which, says Dr. Shaw, can be no other than this, provided Geeza or Warran is the ancient Quiza; as Arzew is, without doubt, the ancient Arifemia. Arzew is at the distance of three Roman miles from this port, as Pliny places his Arefania. The country behind it is a rich champagne ground, but towards the sea there are steep rocks and precipices, which must have served for its defence in that direction. The water now used by the inhabitants lies lower than the sea, and of course is brackish. But for obtaining a supply of fresh water, the whole city was formerly built upon cisterns, of which several still remain, and serve for dwellings to the inhabitants. Several ancient ruins of capitals, bases, and shafts of pillars, with sepulchral inscriptions, are scattered over this place. Five miles from the sea-coast are the fall-pits of Arzew, which supply the neighbouring communities
with spirit. This commodity, as the pits are exhaustible, would be a very valuable branch of trade under any other government than that of the Turks. Shaw's Travels, p. 14.

ARZILLA, a sea port town of Africa, on the coast of the Atlantic, in the empire of Morocco, built by the Romans at the mouth of a river, site of five leagues from Tangiers, and now inhabited by Moors and Jews, who carry on no trade. It was formerly a Roman colony, afterwards fell under the Government of the Goths, and was next taken by the Mahometans. It was taken and burned by the English; after which it remained waste and uninhabited for thirty years, but was rebuilt by the caliphs of Cordova. In the year 1470, it was taken by Alphonso king of Portugal, called the African; and abandoned by the Portuguese about the end of the sixteenth century. N. lat. 35° 30'. W. long. 5° 30'.


ARZUS, in Ancient Geography, a river of Thrace, which ran into the Propontis at the latitude of about 42°.—Alfo, a town of Thrace, called also Arcam and Affius, situate between Oprimna and Sabzupara, eighteen miles from the former, and twenty miles from the latter.

AS, among Antiquaries, sometimes signifies a particular weight; in which feine the Roman as is the fame with the Roman libra, or pound. See Libra.

The word is by some derived from as, which, in the Doric dialect, is used for a, one, q. d. an entire thing; though others will have this name named as, quali as, because made of brass. —Budæus has written nine books De affer, & ejus partibus; "Of the as, and its parts."

The as had several divisions. See the table under As, an integer. See also Weight.

As was also the name of a Roman coin, which was made of different materials and different weights, in different ages of the commonwealth.

Under Numa Pompeius, according to Eusebius in his "Chronicon," the Roman money was either of wood, leathcr, or thulls. In the time of Servius Tullius, who reigned in Rome about 578 years before Christ, it was copper or brass, and was called as libra, libelles, or pondo, because actually weighing a pound, or twelve ounces. Mr. Pinkerton is of opinion, that we may value the as librae of ancient Rome at about eight-pence English. This was called æs græcum; and these affer were weighed, and not counted. The coinage of Tullius seems to have been confined to the as, or piece of brass, with the impression of Janus on the one side, and the prow of a ship on the other, because Janus arrived in Italy by sea. Varro, however, informs us, that the first coins of Tullius had the figure of a bull, or of other cattle upon them, like the Etruscan coins, of which they were imitations; and hence it is said they were called jecucia. These affer with the figure of Janus and the prow of a ship upon them, may be supposed, according to Mr. Pinkerton, first to have appeared about 400 years before Christ; but in a short time, various subdivisions of the as were coined. The femis, or half, is commonly stamped with the head of Jupiter laureate; the triens, or third, with four cyphers, as being originally of four ounces weight, has the head of Minerva; the quadrans, or quarter, marked with three cyphers, has the head of Hercules wrapt in a lion's skin; the sextans, or sixth, with two cyphers, is marked with the head of Mercury with a cap and wings; and the uncia, having one cypher, is marked with the head of Rome. All these coins appear to have been cast in moulds, by a considerable number at a time; afterwards the smaller divisions were struck, instead of being cast; but the larger continued to be cast until the as fell to two ounces. At this time, however, it was called libra, and accounted a pound of copper; though larger denominations of it were coined, such as the biennis or double affer, the triennis and quadrans of three and four affer, and even as far as decennis or ten affer, marked X. The smaller parts of the affer, however, were probably owing to their small value; though some are still found, such as the femis, triens, quadrans, sextans, and uncia, coined in the times of Nero and Domitian. Some coins occur which exceed the as librae in weight; and these are supposed to be prior to the time of Servius Tullius. The Romans reckoned by affer before they coined silver, in the 485th year of the city, or 269 before Christ, and afterwards they kept their accounts in featers.

Phyn says, that when the first Punic war had exhausted the treasury, they reduced the as to two ounces. They thus gained fifteen parts, and were enabled to pay their debts. Mr. Pinkerton is of opinion, that Phiny, in affecting that the as continued a pound weight till the end of the first Punic war, is mistaken. Coins, that refute this assertion, are still found; and he thinks it probable that the as decreed gradually and slowly in weight, as from a pound to an ounce, then to ten, nine, &c.; but neither the as nor its parts were ever correctly fixed. In the second Punic war, when the Romans were much pressed by Hannibal, about the year of Rome 358, or 216 before Christ; Fabius Maximus being dictator; the affer were further reduced to an ounce each; and the silver denarius was made to pass for sixteen affer, the quinarius for eight, and the fetherc for four; and the republic gained upon the copper money one half. This took place about thirty-six years after the former reduction. The as libralis, with the face of Janus upon it, is the form most commonly occurring before it was reduced to two ounces. Mr. Pinkerton supposes, that this continued for at least a century and a half after the coinage of Tullius, till about 300 before Christ, in the year of Rome 454, between which and the 502d year of Rome, a gradual diminution of the as to two ounces must have taken place. The following table exhibits, according to Mr. Pinkerton, the dates of the Roman coinage. The libralis coined by Tullius with the figures of oxen, &c. about 167 years after the building of Rome, according to Sir Isaac Newton, or about the year before Christ 460, or 587 according to Blair.

| Aser libralis, with Janus and the prow of a ship | 400 |
| As of 10 ounces | 300 |
| 8 | 290 |
| 6 | 280 |
| 4 | 270 |
| 3 | 260 |
| 2, according to Phyn | 250 |
| 1, according to the fame | 214 |

Lastly, by the Papian law, the as was reduced to half an ounce; and it is generally thought that it rested here all the time of the commonwealth, and event till Vespasian's reign. This law was called the Papian as, because the law just mentioned was paifed in the year of Rome 563; or, according to the Varronian computation, 151 before Christ, by C. Papirius Carbo, then tribune of the people. Thus, there were four different affer in the time of the commonwealth. The figure stamped on the as was at first a head, ox, or fow; and from the time of the kings, a Janus with two faces on one fide, and the roftrum or prow of a ship on the reverse.

The triens and quadrans of copper had the figure of a small vessel called ralis on the reverse. Thus Phyn: Neda aris (i.e. affer), fui ex altera parte Janus geminus, ex altero roftrum navis: in triangulo & quadrante rotas. Hist. Nat.lib. xxxiii. cap. 3. Hence these pieces were sometimes called raliti.

After the Romans began to have an intercourse with Greece, various elegant figures appear upon the parts of the
ASA, though not on the as itself till after the time of Sylia. Towards the latter end of the republic, dupondii, or double asa, were coined, together with the sesterii aurei, which supplied the place of the quadrans; when the denarius began to be reckoned at sixteen asses; probably at the time when the latter was reduced to half an ounce. M. Paullus, in his "Metrology," estimates the value of the as, from the foundation of Rome till the year 537, at 20 foils, or a livre; though it was sometimes 20 foils: from the year of Rome 537 to the year 544, at 3 French foils, its weight being two Roman ounces of copper; from 544 to 586, at 1 foils, its weight being one Roman ounce: from 586 to the reign of Claudius or of Nero, 1 foil 10 deniers: from the reign of Claudius or of Nero to that of Constantine, about 1 foil. See Coins, and Coinage.

As was also of d to denote any integer, or whole—Whence the English word acre.

Thus, as signifies the whole inheritance; whence hares or oxen, the heir to the whole estate.

Sophists, or Roman acre of land, being reckoned the integer, was called as, and divided, like it, into twelve

The as, and its parts or divisions, stand thus:

<table>
<thead>
<tr>
<th>Numeral</th>
<th>Name</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Asa</td>
<td>20 foils</td>
</tr>
<tr>
<td>1/2</td>
<td>Semis</td>
<td>10 foils</td>
</tr>
<tr>
<td>1/4</td>
<td>Denarius</td>
<td>5 foils</td>
</tr>
<tr>
<td>1/8</td>
<td>Sextans</td>
<td>3 foils</td>
</tr>
<tr>
<td>1/16</td>
<td>Quinarius</td>
<td>2 foils</td>
</tr>
<tr>
<td>1/32</td>
<td>Uncia</td>
<td>1 foil 10</td>
</tr>
</tbody>
</table>

As, or As, in Mythology, a name given to a deity of the inhabitants of the north. Speculations suggested, that when the Atonites were driven from their country by Pompey, they retired into the northern regions; but as they were a delicate and polished people, they defied the barbarous names of the north, and they were regarded among the rude inhabitants of these countries as superior to mortals, or as a species of divinities. Acquainted therefore to express any thing that was sublime and excellent by the terms Asa and As, they applied these appellations to their gods.

ASA, in Scripture Biography, a king of Judah, was the son of Abijam and succeeded him A. M. 3049, B. C. 955. He was zealous in the establishment and maintenance of true religion, and active in demolishing altars created to idols, and in restraining and punishing such as were addicted to the infamous practices connected with idolatry, and restoring the worship of Jehovah. He obtained a decisive victory over Zerah, king of Ethiopia, in the plain of Zephathah or Zephaiah near Mahelah. In his contest with Ithaa, king of Israel, he called in the affinities of Beninadad, king of Syria, for which he was reproached by the prophet Hanani, whom he severely punished. He died A. M. 3090. B. C. 913, after having held the sceptre of Judah nearly forty-one years. 1 Kings xv. 8, &c. 2 Chron. xiii.—xvi.

ASA, in Geography, a river of Germany in the archdechy of Austria, which runs into the Danube two miles north of Erfeding.

ASA, among Naturalists. The writers of the later ages have formed this word asa from the lificador of the ancients, and attributed it to a gum very different from that anciently known by the name they have thus corrupted. The asa of the ancients was an odorous and fragrant gum; and the asa of the after ages had little title to this epithet, that they distinguished it by one, expressing its being of an offensive or flinking smell. The Arabian writers, according to this distinction, describe two kinds of asa, the one flinking, the other aromatic; and the modern Greeks appropriated the name asa, or lafar, to the flinking gum the Lattins called by that name, but added a distinctive epithet to express its smell, and called it farsafyrorum.

ASA Dutia, in the Materia Medica, a name by which some authors have called the benjamin of Benzon of the shops. Dale.

ASA Petida, or ASA Petida. See Ferula.

ASA BORUM PROMONTORIUM, in Ancient Geography, a promontory of Arabia, in the latitudes of the Persian gulf.

ASD, a town of Persia, in the province of Farisian, forty-seven leagues north-west of Schirin.

ASAD-ABAD, a large and populous town of Persia, in the province of Itrc-Ageni, on the frontiers of Kurlutan, twenty-two leagues N. E. of Amadan.

ASEI, in Ancient Geography, a people of Asia, in Sarmatia. Ptolomy.

ASAM, or ASAIN, in Geography, a country of Asia, situate to the north-east of Bengal, and bounded on the north by Tibet, on the west by Hindolfan, on the south by Meckley, and on the east by part of the Birmah empire, or Ava. Its districts commence, where the river of Bengal end, in N. lat. 26°, and E. long. 91°. This country is divided into two parts by the river Brahmaputra, or Burrampoot, which flows from Kista. The northern part is called Utarein, and the southern Dachinbala; the former begins Gevahnuty, the boundary of the Mogul possessions, and terminates in mountains inhabited by a tribe called Meeri Mechina; and the latter extends from the village Sides to the hills of Siringar. Asam is of an oblong figure; its length about 200 standard 50s, and its breadth from the northern to the southern mountains about eight days' journey. Several rivers flow from the southern mountains of Asam, and fall into the Burrampoot; and the chief of these is the Dhone. Between these rivers is an island well inhabited, and in an excellent state of tillage, containing a spacious and pleasant country that extends about fifty 50s. The cultivated tract is bounded by a thick forest, which harbours elephants, and where those animals may be caught, as well as in four or five other forests of Asam. These animals are so numerous, that five or six hundred may be procured in a year. Sazer's Dhone, on the side of Gherong, which is the capital of the country, is a wide, agreeable, and level country, the face of which is marked with population and tillage, and presents everywhere delightful prospects of ploughed fields, harvests, gardens, and groves. This island lies in the part called Daghinal. As the country is overflowed in the rainy season, a high and broad causeway has been raised for the convenience of travellers from Salagoreh to Gherong; each side of which is planted with bamboos, the branches of which meet and are intertwined, and thus afford a pleasant shade. Amongst the fruits which this country produces are mangoes, plantains, jackes, oranges, citrons, limes, pears, and pomegranates, a species of anleh, which has such an excellent flavour, that every person who tastes it prefers it to the plum. There are also cocoa-nut trees, pepper-vines, areca-trees, and the faah, or mulbatherm, in great plenty. The sugarcane excels in softness and sweetness, and is of three colours, red, black, and white. There are ginger which is free from fibres, and betel vines. Such are the fertility and fertility of the soil, that any seed that is sown, or slips that are planted, always thrive. The principal crop of the country consists in rice and mah, which is a species of grain: wheat and barley are never sown. The filks are excellent, and resemble...
resemble those of China; but they manufacture few more than are required for use. They embroider with flowers, and weave velvet and silk stuffs, a kind of silk, of which they make tents and coverings, or the walls that surround their houses are defended and fear; but it is found at the bottom of some of the hills, of a bitter and purging quality; a better fort, extracted from the plantain-tree, is more common. The mountains, inhabited by a tribe called "Nanacs," produce plenty of excellent lignum aloes, which the natives annually import into Afam, and barter for salt and grain. These people are naked, and feed on dogs, cats, fakes, mice, rats, ants, and locusts. The hills of Camrun, Sida, and Laufitergh, supply a fine species of lignum aloes, which flows in water. Several of the mountains contain marble.

The country of Utiracal on the northern side of the Bur- rumpooter, is in the highest state of cultivation, and produces plenty of pepper and areca nuts; it even furnishes Dac-

nineluc in population and tillage. The breadth from the banks of the river to the foot of the mountains, where the climate is cold, and in which there is snow, is various; but it is no where less than fifteen, nor greater than forty

cous. The inhabitants of the mountains are strong, have a robust and respectable appearance, and are of the middling size. Their complexions, like those of the natives of all cold climates, are red and white; and they have also trees and fruits peculiar to frigid regions; several of the hills in the country of Dereng, on the side of Gwahutty, supply milk, kitten or mountain cows, beef and pork, which are two kinds of blanket, and two species of horses called geot and tanys. Gold and silver are procured here, as also in the whole country of Afam, by washing the sand of the rivers. This, indeed, is one of the sources of revenue. It is supposed that 12,000, and some say 10,000 inhabitants, are employed in this occupation; and each of them pays a fixed revenue of a ton of gold to the rajah; a ton containing eighty reti weights, and eight retis being equal in weight to twenty-four barley ears, or seven carats among jewelers. The people of Afam (says the writer whose account is here cited) are a bafe and unprincipled nation, and have no fixed religion. They follow no rule but that of their own inclinations, and make the approbation of their own vicious minds the test of the propriety of their actions. They do not adopt any mode of worship practiced either by Mahometans or Heathens; nor do they concern with any of the known sects which prevail amongst mankind: unlike the pagans of Hindoostan, they do not reject victuals which have been drest by muflimans, and they abstain from no flesh except human. They even eat animals that have died a natural death. It is not their custom to veil their women. The men have often four or five wives each, and publicly buy, sell, and change them. They have their heads, beards, and whiskers, and reproach and admonish every person who neglects this ceremony. It has been af-

fected that their language has not the least affinity with that of Bengal; but others say, that young Brahmins often come from Afam to Nadiya for instruction, and that their vulgar dialect is understood by the Bengal teachers. Their strength and courage are apparent in their looks; but their ferocious manners and brutal tempers are also betrayed by their phylognomy. They are superior to most nations in corporal force and hardly exertions. They are enterprising, savage, fond of war, vindictive, treacherous, and deceitful. The virtues of compassion, kindness, friendship, sincerity, truth, honour, good faith, and purity of morals, have been left out of their composition. Their drefs consists of a cloth tied round their heads, another round their loins, and a sheet thrown upon their shoulders; but it is not customary to wear turbans, robes, drawers, or shoes. There are no buildings of brick or stone, or with walls of earth, except the gates of the city of Ghengong, and some of their ido-

litrous temples. The habitations of the rich and poor are contructed of wood, bamboo, and straw. The rajah and his courtiers travel in flatly litters; but this is not the case with the junior and respectable persons among his subjects who are carried in lower vehicles, called daddies. Afam produces neither horses, camels, nor assels; but those animals are sometimes brought thither from other countries. The brutal inhabitants, from a congenial impulse, are fond of seeing and keeping assels, and they buy and sell them at a high price; but they are much surprised at seeing a camel; and are so afraid of a horse, that if one trooper should attack 100 armed Afamians, they would all throw down their arms and fly, or if unable to es-
cape, would surrender themselves prisoners. Yet if one of this detestable race should encounter two men of another na-
tion on foot, he would defeat them.

The ancient inhabitants of this country were divided into two tribes, the Afamians and the Cullitians. The latter fixed the former in all occupations except war and the conduct of hardy enterprises, in which the former are superior. A body guard of 6 or 7000 Afamians, dressed as demons, of unshaken courage, and well provided with arms and warlike accompaniments, always keep watch near the rajah's fitting and deeping apartments; these are his loyal con-

fidential troops and patrol. The martial weapons of this country are the musket, sword, spear, and arrow and bow of bamboo. In their forts and boats they have plenty of cannon, zerbzen or swivels, and ramchangees, in the manage-

ment of which they are very expert. Whenever any of the rajahs, magistrates, or principal men die, they dig a large cave for the deceased, in which they inter his women, attend-

ants, and servants, and some of the magnificent equipages and useful furniture which he possessed in his life, time, such as elephants, gold and silver, badash or large fans, carpets, clothes, victuals, lamps, with plenty of oil or a torch burning, for they consider these articles as stores for a future

flair. They afterwards construct a strong roof over the cave upon thick timbers. The rajahs of the country have never yielded submission and obedience, nor paid tribute and revenue to the most powerful monarch; but they have curbed the ambition, and checked the conquests of the most victorious princes of Hindoostan. When an in-
vading army has entered their territories, the Afamians have covered themselves in strong poits, and directed the enemey by stratagems, surprifes, and alarms, and by cutting off their provisions. If these means have failed, they have declined a battle in the field, but have carried the peafants into the mountains, burn the grain, and left the country empty. But when the rainy season has set in upon the ad-
vancing enemy, they have watched their opportunity to make excursions, and vent their rage; and the famished in-

vaders have either become their prisoners, or been put to
death.

The preceding account of the Afamians, who are prob-
ably superior in all respects to the Moguls, exhibits a

c specimen of the malignity and intolérance with which it was usful, in the reign of Aurungzebe, to treat all those whom the crafty, cruel, and avaricious emperor, was pleased to condemn as infidels and barbarians. It is extracted from "A description of Afam," written by Mohammed Caxim, and translated from the Perzian by Henry Vaghet-
tart, Esq. Asiatic Researches, vol. ii. p. 171-183. It should be re-collected, in justice to the people of Afam, that the author was an enemy, and a rigid Mahometan, resident at the
the coast of ArgomBce. The diet of the Aaswae, though less refined than that of the Hindoes of Bengal, is by no means promiscuous; and their religion does not materially differ from that of Hindoesan, and little be proved by their coins, on which are inscribed the names of the Hindoo deities.

ASAMA, or ASANA, in Ancient Geography, a river of Africa, in Mauritania Tingitana.

ASALMON, a mountain of Palestine, in Galilee, overagainu Sephuri. Jot-phus.

ASAMAR, a town of India, on this side of the Ganges. Potemey.

ASANCH, a town of Germany. Potemey.

ASANCHE, in Geography, a town of Asia, in the country of Dierbekir, situate on the Tigris, on the borders of Armenia.

ASANGA, a jurisdiction of South America, under the bishop of Cufco, in Peru, fifty leagues from that city, in which are bred many cattle. In the north-east part of it there are some silver mines.

ASAPH, in Biography, a celebrated musician in the time of David, was the son of Barachus of the tribe of Levi. Asaph, and also his descendants, professed over the musical band in the service of the temple. Several of the psalms, as the 50th, the 73d to the 83d, have the name of Asaph prefixed; but it is not certain, whether the words or the music were composed by him: with regard to some of them, which were written during the Babylonish captivity, they cannot in any respect be ascribed to him. Perhaps they were written or set to music by his descendants, who prefixed to them his name, or by some of that class of musicians of which the family of Asaph was the head. 1 Chron. vi. 39. 2 Chron. xxix. 30. xxxv. 15. Nehem. xii. 46.

ASAP, St. a monk of North Wales, was descended of a good family, and belonged to the church of Llan-Ely, over which Kentigern the Scotch bishop of that place presided. Upon the removal of this prelate to his own country, he alleging his consent and cathedral to St. Asaph, so that after his death Llan-Ely lost its name and took that of the saint. He was a diligent preacher, and frequently repeated this saying, "They who withhold the preaching of God's word, envy man's salvation." He flourished about the year 590, under Carentius king of the Britons; but the time of his death is unknown. The feast seems to have continued vacant above 500 years, till it was filled by Geoffrey of Monmouth. St. Asaph was eminent in his time for learning and sanctity; he wrote the "Ordinances" of his church, the "Life" of Kentigern his master, and some other pieces. Biog. Brit.

ASAP, St. in Geography, a city and bishop's see in Flintshire, which derived its name from St. ASAP. The diocese consists of part of Denbigh, Flint, Montgomery, and Merionethshire, and a small part of Shropshire; containing 41 parishes and 91 churches and chapels, most of which are under the patronage of the bishop. The see is valuable, and the patronage extensive. The town is seated on an eminence near the sea, at the termination of the vale of Chwydd. Although it is denominanted a city, it is merely a village in extent. Its fine Gothic cathedral has been lately improved in its external decoration, and its palace has been rebuilt by the late bishop (Bagot); which being situated above the town, fronting the hill towards Holywell, commands a pleasant view.

ASAPEIS, asepr, from z, negative, and aabem clear, open, in Hippocrates, in Prohr. & Coce. are such patients as do not utter their words in a clear manner. The defect is occasioned, as Galen says, Comm. 2 in Prohr. "either by some hurt which the organs of speech have contracted from a disorder of the nerves, or else by a delirium."

ASAPEHADAM, in Ancient Geography, a town of Syria, in the Chalcidean territory. Potemey.

ASAPEES, or AAZAPES, an order of soldiers in the Turkish army, whom they always expose to the first shock of the enemy; to the end that the enemy being thus fatigued, and their swords blunted, the pashas and janissaries may fall on, and find an easy conquest.

The word is derived from the Turkish saph, which signifies rank, from whence they have formed asaph, to range in battle.

The afappes are said to be held of fo little value, that they frequently serve as bridges for the cavalry to pass over in bad roads, and as fascines to fill up the ditches of places beleaguered.—The greatest part of them are natural Turks; they travel on foot, and have no pay but the plunder they can get from the enemy.

ASAR, in Commerce, a Persian coin worth 6s. 8d. sterlings.

ASARHADAD, or ASARHADON, in Biography, son of Sennacherib, king of Syria, succeeded his father about 709 years before Christ, and having reigned 29 years in Nineveh, he became also king of Babylon, in the year 680 before Christ. He sent a colony of Babylonians and Cutharians into Samaria; and his generals having taken captive king Manasles, sent him loaded with chains to Babylon. His reign terminated in the year 667 before Christ.

ASARINA, in Botany. See Antirrhmum, and Cheilone.

ASARO, in Geography, a town of Sicily, in the valley of Noto, eight miles south of Nicofia.

ASAROTA, aseweta, from a and asew, if sweep, a kind of painted pavements, in use before the invention of mosaic work. The most celebrated was that at Pergamus, painted by Sefus, and exhibiting the appearance of crumbs, as if the floor had not been swept after dinner, whence, according to Pliny, the denomination. Perrot supposes them to have been a black kind of pavements of a spongy matter. Plin. Nat. Hist. lib. xxxvi. cap. 25. Perrot ad Vitruv. lib. vi. cap. 5.


Species. t. A. eurobapus, common afarabacca. Hadf. 265. With. 440. Smith. Flor. Brit. 509. Med. Bot. t. 86. Flor. Dan. t. 653. "Leaves kidney-shaped, obtuse, in pairs;" root perennial, creeping; stems short, simple, round, pubescent, one-flowered, and commonly two-leaved; leaves opposite, on long footstalks, reniform, perfectly entire, somewhat downy; flower terminal, pitcher-shaped, of a dark purple colour, villose, on a slender peduncle. It has been found in the north of England, in woods, particularly in Lancashire, but it is a very scarce plant in Britain. The time of its flowering is in May.

Medicinal
ASB

Medicinal Properties. The leaves and roots of asarabacca are strongly emetic and cathartic; the latter indeed has been observed to excite vomiting in invariably, that they have been proposed as a substitute for ipecacuanha. At present, however, this plant is seldom given internally, as the evacuations expected from its use may be produced with more certainty and safety by various other medicines: it is now chiefly employed as an emetine or febrifuge, and is found to be the most useful and convenient in the Materia Medica. For this purpose the leaves being less acid than the roots, are preferred. A few grains sufficed to the nose several evenings produce a considerable watery discharge, which sometimes continues for several days, by which head-ache, tooth-ache, ophthalmia, and some paralytic and soporific complaints, have been effectually relieved. The college directs a pulvis afarici compotitis. See Woodv. Med. Bot. p. 328. 2. A. canadensis, Canadian asarabacca. Mill. figs. 53. i. 6. “Leaves kidney-shaped, mucronate;” the leaves of this are much larger than those of the preceding; their foot-flats are also longer; in this species the leaves are pointed and hairy; and the flower, greenish on the outside. A native of Canada, cultivated by Miller in 1751. It flowers from April to July. “Leaves heart-shaped, blunt, smooth, petiolate,” the leaves of this are veined and spotted on their upper surface, like those of the autumn cyclamen. The flowers are shaped like the others, but stand on longer peduncles, and are of a darker purple. A native of Virginia and Carolina; also of several provinces in China. Both this and the second species were found in Japan by Thunberg. Cultivated by Miller in 1759.

Propagation and Culture. These plants delight in a moist shady situation, and may be increased by parting the roots in autumn. Much wet in winter will rot the Canadian species, and the last species will not bear too much sun. See Martyn’s Miller’s Diet.

ASARUM Hypocistis. See Cytinus.

ASASI, a name given by the people of Guinea to a tree, the leaves of which being boiled in water, and held to the mouth, cure the tooth-ache. This tree in its form and manner of growing resembles the laurel; the leaves are very hard and stiff, and grow alternate on the flanks; they have short pedicles, and the branches are blackish and rugged, but they are variegated with small reddish spangles, or scaly protuberances. Phil. Trans. N° 232.

ASAWNLLY, in Geography, a town of Hindooftan, in the circuit of Oudipour, eighteen miles south-west of Oudipour.

ASBAMAE, in Ancient Geography, a fountain dedicated to Jupiter, near Tyana in Cappadocia. Phliusofratus, in his life of Apollonius, says, that the waters, though in a state of ebullition, were cold, and that they were pleasant and refreshing to those who observed their toilets, but poisonous and fatal to bars and perfumed persons. Jupiter had a temple near this fountain.

ASBANKEI, a town of Asia, in Nawaraaher Trans-Oxana, or Zagatal.

ASBECK, in Geography, a town of Germany, in the circle of Weftphalia, four miles south-east of Ahaun.

ASBESTINE, something incombustible, or that partakes of the nature and qualities of the lapis asbestus. Such as asafinite paper and cloth. See ASBESTUS.

ASBESTINE, and ASBESTRIO of Kirwan, in Mineralogy. See Steahlestein.

ASBESTINUM, in Natural History, a species of Alyconium, described by Petiver, Pallas, and others. It inhabits the American fens, is very porous, white, and rosy within; the specific character is, item rather simple, roundish, with large, oblong pores scattered on every part. Olmec, &c. Petiver calls this kind Puteus trigonius Americanus, C. v. 1. 23. f. 2.

ASBESTOS; falsi, is a name given to plume alum. See ALUM.

ASBESTUS, in Chemistry, formed of the priv. α, and σωμα, to extingui, Asbestoniron. Fr. Asbestos, immutarius of the old mineralogists. Geminier asbest. Germ. Taleum asbestus vulgaris. Werner. The most usual colour of asbestos is black-green; sometimes mountain; or olive-green, more rarely greenish or yellowish grey. It occurs in masts. Hexahedral prismatic crystals of asbestos are also mentioned as having been found at Griesbach near Paffau, and rhomboidal prisms of the same at Gemundt in Carinthia, and at Bagneres; according, however, to Emmerling and Lentz, there are not crystals of asbestos, but of ilahhlein. Internally it is shining, or little shining with a silky or waxy lustre. Its fracture is parallel fibrous, either straight or curved, sometimes also splintery. It generally flies, when broken, into long splintery fragments. It is translucent in the edge; is tender, splitting into half; is brittle, slightly elastic; somewhat mucous to the touch. Sp. gr. according to Kirwan, 2.547.

Asbestos does not effervescce with acids; before the blowpipe it fumes without addition, but very difficultly, in a greyish black flag; at 160° of Wedgewood, it forms a grey porous porcelain, of sufficient hardness to fire with fire.

The results of the analysis of this mineral are as yet but little satisfactory. Bergman analyzed three specimens, from which it appears, that asbestos consists of 60...67 per cent. of fibres, 13...16 carbonated magnesia, 6...12 carbonated lime, and a very variable proportion of alumine and iron. Weigle, on the other hand, found in the asbestos of Zöblitz 48.45 magnesia, 46.66 fibres, 4.79 iron. It is fo lately, however, that the art of chemical analysis has been brought even to an approximation of certainty, and the caufls of error are still fo numerous, that with the exception of Klaproth, Volquin, Chenevis, and perhaps a few others, hardly any authority is to be attached to the various chemists who have been engaged in this very important but most difficult branch of mineralogical science.

Asbestos is found in serpentine rock, and, in general, in the same situations as amianthus. It is sometimes mixed with indurated talc and magnetic iron.

The more flexible varieties have been applied to the manufacture of incombustible cloth, in the same manner as Amianthus; which see, Kirwan’s Mineralog. vol. i. 159. Brochant. Mineralog. v. i. 497. Wedemann. Handb. der Mineral. p. 451. Lentz. Verfuß &c. v. i. p. 537. ASBISI, in Geography, a small kingdom of Africa, in Guinea, on the gold coast.


ASBROIT, in Geography, a town of Sweden, in South Gothland, six miles north of Wardberg.

ASBURG, a town of Germany, in the circle of Weiphalia, and county of Meurs, two leagues east of Meurs, and six miles west of Dilsburg.

ASBYSTÆ, in Ancient Geography, a people of Africa, in Libya, placed by Herodotus above Cyrene. Euthathus places them near the temple of Jupiter Ammon, and the fountain of the sun.

ASCA, in Geography, the name of a town of Arabia Felix.

ASCAGNE, Ascanius, in Zoology, a new species of Sinia.
ASCALON, a maritime town of Palæstine, and one of the five Satrapies of the Philistines, situate on the Mediterranean, and placed by Josephus at the distance of 320 furlongs west of Jerusalem, between Azotus to the north, and Gaza to the south. It was esteemed the strongest of the Philistine coast; and yet the tribe of Judah, to whose lot it fell, made themselves masters of it soon after the death of Joshua. Venus, called Urania or Caelitis, was worshipped in this city; and Herodotus relates, that this temple was pillaged by the Scythians about 632 years before the Christian era. There was another divinity, which was the object of worship in this place, called by Diodorus Siculus, Demeter, represented as half a woman and half a fish; and near it was a lake full of fishes, consecrated to this goddess, which the inhabitants, on this account, refrained from eating, as they also did from pigeons, supposed to be under her protection. This city had its own kings, and was successively under the dominion of the Assyrians, Persians, Greeks, and Romans. It was the native place of Herod the Great, who was hence called Acalonites, and who built a palace, which Augustus, after the death of Herod, gave to his foster son Salome. The port of Acalon was at some distance from the city. This city was made an episcopal see from the earliest ages of Christianity; and, during the holy war, was adorned with many flately edifices, all of which have been since ruined by the Saracens and Turks. It is still in being, though reduced to a small village called Scaldon. It was anciently famous for its ecclesiastics, which took their name from this town. N. lat. 31° 50'. E. long. 16° 44'.

ASCALPHUS, in Entomology, the name of a Fabrician genus of neuropterus insects, which in the Linnaean system belong to that of Myrmeleon. The character is, pali nearly equal, and filiform; jaw ciliated; lip horny, rounded, and entire. In other works of Fabricius it is thus defined: pali fix, nearly equal, and filiform; antennae elongated and ciliated. Gmelin forms a subdivision of his genus Myrmeleon, under the name acalpus, in which are included the species longicorhis, barbarus, aurialis, and cayennensis, all of which are truly alcalphii of Fabricius.

ASCANDALIS, in Ancient Geography, a town of Asia Minor, in Lycia. Plisty.

ASCANIA, a name given by Pliny to one of the islands of the Archipelago.

ASCANIA, a country of Asia Minor, in Bithynia, extending from the river and lake Acan, between the sea, the river Scarn, and mount Olympus. Sal.ii.

ASCANIA, small islands on the coast of the Tronde. Play.

ASCANII, in Entomology, a species of Cuculus, of a cylindrical shape, black, and bluish on the sides. Fabricius, Herb. &c. — A. Cuculio cylindricus of Herbst and Fuelich (Archives des Insectes), is considered by Gmelin as a variety (a) of this insect. Inhabits the south of Europe.

ASCANUS, in Biography, called also Iulus or Illus, the son of Ancas by Creufia, the daughter of Priam; or, as others say, by Lavinia, accompanied his father in his flight and dangers, and succeeded him in the government of Lavinium, in the year before Chrif 1177. He was called Acanus from a river of that name in Phrygia, and Illus, changed into Iulus, from Ilium or Troy. Having defeated Mezentius, king of the Tucans, who demanded of the Latins a tribute of all the wine produced in Latium, he made peace with them upon condition that the Tiber should be the boundary between the Latin and Hetrurian territories. When he found it expedient to resign Lavinium to Lavinia and his son Sylvius, he determined to build another city for the place of his residence, and the capital of his kingdom, which he called Aella Longa. Here he resided about 12 years; and, after a reign of about 38 years, died in this city in the year before Chrif 1140. Dion. Hal. I. i. p. 51, &c. Livy, I. c. 3.

ASCANUS, in Entomology, a species of Papilio (Eq. Tr.). Above and beneath black, with a common white band; posterior wings clouded with red. Fabricius, &c. Inhabits Brazil.—The body of this insect is black, and the breath is spotted with red.

ASCANUS, in Ancient Geography, a river of Asia Minor, in Bithynia, according to Pocleny, by which the lake Aca- cania or Acanus discharged its waters into the sea. Pliny places it in a gulf near Etheleum.—Alfo, a port of Asia, placed by Pliny near the city of Phocaea.—Alfo, a lake of Asia Minor, in Bithynia, now the lake of Ilinit, near which Pliny places the city of Nicaea.

ASCARA, in Geography, a town of Japan, in the province of Sino-odukye.

ASCARDIC, the capital of the country of Asia, called Little Thirer.


Species, 1. Acetaria pollychaeta. Forl. Flor. Austral. n. 364. A native of the Society islands in the South seas. ASCARIS, in Natural History, is the generic name of those creatures belonging to the tribe of Verme insculpfa, which have a round and elastic body, tapering towards each extremity; three protuberances at the head; tail obtuse or furbulate; and the intestines spiral, milky white, and pul- lucid.

The knowledge of the ancients concerning these animals was apparently very limited; and they invariably confounded the ascarides with other intestinal worms. To Redi much credit is due for directing his researches to this intricate subject; and though his discoveries are not of material moment, he was certainly the first among modern writers, who endeavoured to improve upon that knowledge which, the
the ancients had left us. He describes the ascariids of the
eagle, the raven, the swan, and several other creatures, in his
work, "De animalibus vivis quo in corporibus animalium
vivorum reperturum Observationes." Ann. 1788. Some
further observations were made by different persons after the
time of Redi, but many years intervened before any consider-
able advances were made in this important branch of scien-
tific inquiry.

Although it is evident that several species of the ascariids
were most clearly ascertained before the time of Linnaeus,
that celebrated naturalist has thought proper to infer only
two species of them in his Systema Naturae, which are A.
vermicularis and A. lumbricoides. In the last edition of that
work, Gmelin has added himself of more recent discoveries,
and has augmented that number to seventy-eight: some spe-
cies have even been discovered by naturalists since the publi-
cation of that work, of which one or two is described by
Dr. Pulney in the Transactions of the Linnean society of
London for the year 1800; and there can be no just reason
to doubt, that many other kinds of them exist in different
animals, which have hitherto escaped investigation.

Prof. Pallas published an elaborate work on the ascari-
ids and other intestinal vermes, intitled "Thesiv de in-
felitis viventibus intra viventia." It was printed at Leyden
in 1762, and deservedly acquired a very distinguished reputa-
tion. In this book the author has judiciously collated
every useful information the labours of his predecessors could
afford him, as well as his own experience and observa-
tions, and has given ample descriptions and accurate spe-
cific distinctions, by which the kinds he describes may be ac-
certained.

O. F. Müller has assiduously pursued the same inquiry,
and greatly extended our knowledge of these creatures.
The royal society of Copenhagen also, aware of the vital
importance of this subject to the welfare of mankind, pro-
posed a premium for the best dissertation on the origin,
generation, and bent means of destroying the various kinds of
tentias, ascariidas, fieshale, and other parasiticus vermes, about
the year 1782. This excited the diligence both of M. Bloch
and M. Goëze, and to each of them a prize was assigned as
a reward for their labours. M. Bloch afterwards published
his dissertation in the German language, at Berlin, in 1783;
and in 1788, a translation of it into French appeared in
Strasburg, under the title of "Traité de la généra-
dion des vers des intestines et des vermis." That of
M. Goëze was published in German with forty-four illus-
trative plates, and is also a work of considerable merit and
utility.

Among the French naturalists of the present day, M.
Lamarck's "Système des animaux sans vertèbres," and
"L'Histoire naturelle des vers," a sequel to D'Arville's
edition of Buffon, are much esteemed. "In spite of the
observations of all the writers who have treated on the ascari-
des," says a modern French author, "it is to Lamarck
and Cuvier we are indebted for circumstating the number
of species within the proper limits." M. Chalmet, a man,
of acknowledged skill in the veterinary art, has also written
on the intestinal vermes; as a naturalist, it seems he has
incurred some blame; his species may however be ascertained,
and what is of equal if not greater moment is the mere
accuracy of arrangement and scientific definitions, he has
endeavoured to point out the best means of extirpating
them.

From the observations of different writers it appears,
that the ascariids are of the two sexes; and that the female
is oviparous and very prolific. All the species that are
truly ascariids, live in the stomach of man or of animals;
and their origin, which it is of the utmost consequence to
ascertain, is still a matter of profound obscurity. The three
tubercules at the head have been mistaken by fame for the
accompaniments of the vent, because there is obviously an
aperture or pore in the middle; but this is unquestionably
the mouth, and Brugière notices two little transverse openings
below, which he named figmata; and these, it is con-
jectured, are the organs of respiration.

It will be proper to observe, that besides the prodigious
number of ascariids already ascertained, there is a numerous
host of similar internal enemies peculiar to different animals
which do not profess the generical character of the ascariid,
and are therefore arranged in the new genera ichchosphalus,
filaria, uncinaris, fieshale, hyla, bronchialis, echynorhynchos,
hercules, celenus, carophyllus, linguitula, fieshale, tanta,
&c. The species of ascariids described by Gmelin are ar-
ranged in the following order:

**Insectory Man, and the Mammalia.**

Vermicularis, lumbricoides; -refertillumus, in the long-
scarved bat: -Phoece, bidita, canis, viceralis, lupi, vulpis,
leonis, tigridis, felis, cati, martis, bronchialis, renalis, me-
phitidis, gulonis, talpe, muris, hirci, vituli, equi, lys,
apri.

**Insectory Birds.**

Aquila, albicilla, buteonis, milvi, subbuteonitis, herma-
phrodita, cornicis, coracix, cygni, anatis, fuligula, lari,
ciconius, tares, papillosa, gallogavonius, galli, galling,
phani, tetronis, columna, abuads, furri, turbri.

**Insectory Reptiles.**

Telfudinis, lacerte, bufonialis, rubetras, tre-
chalis, rane, intellectalis, dyphnoos, infons.

**Insectory Fishes.**

Anguilla, marina, blemni, rhombi, perex, globica,
la-
cufalis, filii, faronis, trutta, marena, acus, halecis,
argentinis, gobionis, raja, squali, lophis.

**Insectory Worms.**

Lumbricis.

In the sequel of this article we shall confine ourselves to
the two species of ascariids that belong to the human body;
viz. the A. lumbricoides and vermicularis, referring for their
scientific characters to their specific names.

The ascariids of the first species generally infest the small
intestines; sometimes they ascend through the duodenum in-
to the stomach, and creep out of the mouth and nostrils; they
feldom descend into the large intestines, except on the exhibi-
tion of medicines increasing the action of the intestines. Some-
times they are very numerous. Dr. Hooper (to whose excellent
Paper in the Memoirs of the Medical Society of London we
are indebted for much of this detail) relates a case of a girl
eighty years old who voided per anum upwards of 220 in the
course of a week. Sometimes, however, they appear even fol-
itary. When recently excluded, they are transparent, and ap-
pear as if they had been sucking water tinged with blood;
this colour, however, soon disappears, and they become at
length of a light opaque yellow. After being evacuated, their
motion is feeble, and they soon die: sometimes, when they
have been hastily evacuated, they will be very lively, and
by means of putting them into warm milk and water, they
will continue to for some time. Their motion is serpentine,
and in no respect resembles the motion of the luminbricus
terrestris, or earth-worm, which has the power of diminish-

\[ \text{ASCARIS.} \]
ing its length and extending itself again, while the length of the ascaris lumbricoides is never diminished; the head is always sent forward by the worm curling itself into circles, and suddenly extending it with considerable force to some distance.

It is said that the ascaris lumbricoides is not hermaphrodite. The worm here described is considered as the female. Dr. Hooper says he has examined a very considerable number, and has never met with any other appearances than these.

Anatomical Description. Cuticle.—The covering or external membrane of the worm, which may be considered as the cuticle, is very strong, elastic, thin, smooth, and transparent, and only separates from the parts underneath by maceration in water; under this we find the cutis or true skin, which is considerably thicker than the former, and retains marks of the muscles which it covers; it is also very strong, elastic, and transparent. When the cutis is removed, the muscles, observable through the skin, present themselves; they do not entirely surround the worm as they at first appear, but are two distinct orders acting in opposition to each other, for the two longitudinal lines which extend from one extremity of the worm to the other, are each of them composed of two distinct tendons, separable from one another; these tendons serve for the attachment of the femoral muscles which cover the worm from the head to the tail. Upon carefully removing the femoral muscles from the head to the deflected band, a number of minute vessels are to be seen (by means of a glafs) filled with a submucous fluid which issues out upon puncturing them. This cellular or parenchymatous apparatus closely embraces the intestinal canal from the head to the deflected band; but from thence to the tail there is merely a fibrous kind of cellular membrane. When the muscles are removed from the deflected band to the tail, an extremely delicate membrane appears, which as a peritoneum embraces the abdominal vesseas, and lines the cavity of the abdomen, which cavity extends from the deflected band to the tail; it is diffused with a transparent fluid, and contains the intestinal tube, and an apparatus supposed to be subfervient to generation. The intestinal tube or canal begins from the mouth, and continues nearly half an inch in a parallel form, which Dr. Bawle calls osophagus; it then becomes larger and transparent, increasing in size till it arrives to the beginning of the abdomen, closely embraced by the parenchymatous substance; it now obtains the dimensions of a crow-quill, and pales straight, still enlarging, through the whole length of the worm to within an eighth part of an inch, where it suddenly becomes narrow, and terminates in an anus. This canal is generally filled with a greenish coloured fluid of the consistence of mucus. If a portion of this tube be macerated a few days in water, it exhibits distinct tunics, the external of which is a portion of the peritoneum; it is externally covered with filaments, which may be vesicles of nutrition. The second vescas is considered by some as peculiar to the female, and all agree it is for the purpose of generation; it begins about the middle of the worm, where the cavity of the abdomen commences by a slender tube which is continued from the punctiform aperture situated in the deflected band between the two longitudinal lines. This tube, which is termed the vagina, soon becomes larger, when it commences uterus, and divides into two large sacs, which for the space of four or five inches are of an uniform diameter, then suddenly diminish and appear like opaque threads, embracing in every direction the intestinal tube. Werner considers these as Fallopian tubes. This convoluted apparatus is composed of very fine transparent membranes; it is never found empty, but always diffused with an opaque fluid, in which are a number of ova containing young worms. Some have considered these threads (which always protrude if the skin of the worm be divided) as young worms, and have contended that the ascaris was viviparous; but it is not; and ova, similar to those found in the Fallopian tubes, will be found in the mucus surrounding the worm in the intestines.

As the ascaris lumbricoides has long been confounded with the lumbricus terrestris, or earth-worm, it may be proper to mention that the lumbricus terrestris has but one vehicle at its head, in the middle of which is its mouth; it is flat towards the tail, and is furnished with sharp bristles on its under surface that serve it for feet, which the animal can erict or depress at pleasure; its annule are very large and strongly marked, and its colour is of a dirty red. Upon the under surface there is a large femoral fold in the skin, into which the animal can draw its head or thrust it out at will; in all these it is strongly distinguished from the ascaris lumbricoides. This lumbricus has also an elevated belt in its middle, the ascaris a deflected band; on each side of the ascaris there is a longitudinal line; on the lumbricus, there are three lines upon its upper surface.

The ascaris vermicularis, called the maw or thread worm, when full grown, is about half an inch in length, and in thickness resembling a piece of fine thread; the head, or obtuse extremity, is divided into three vehicles or papillae, in whole middle is an aperture, which is the mouth. The body is about a third of the length of the animal, beginning from the head, and terminating in the tail, and is of a rigiose, pellucid, annular fabric; the tail commences at the small aperture or anus, and becomes less and less, terminating in a fine point.

These worms are mostly confined to the rectum and colon, and that principally of children; but they are often found in the cocoon and small intestines, and even the stomach, and frequently get into the vagina, and even uterus, bladder, &c. Their number sometimes exceeds all bounds; in which case the excrement, when first evacuated, appear quite alive from being covered with them; generally a small number are evacuated from the rectum every day, producing a most unpleasant sensation of itching by their piercing the skin in a degree with theirawl-shaped tails. Their constant action is one of their most flirking characters, appearing to be never at rest. On exposure to the air, they have the power of piercing the faces, and burying themselves in almost infancy. From the extreme action of this species, the genus has obtained the name ascaris, for ovcasrion signifying the same as ovnsir, falsare, inquit, mo-vere.

They are not hermaphrodite: the male does not exhibit any of the gyrate apparatus; the stomach and intestinal canal have in appearance a different arrangement from those in the female: but the male organs of generation have not been detected, probably they are too minute. The female has upon its external surface, about the eighth of an inch from the head, a small punctiform aperture through which the young are protruded, and when highly magnified, its internal cavity appears filled with the convoluted apparatus; and Dr. Hooper says he has found upwards of one hundred young ones escape through this aperture while alive, and very vivacious several hours after the death of the mother; upon a little pressure being made upon it.

Anatomical Observations. The integuments of this species are similar to those of the lumbricoid ascaris, and const
A single page of text discussing the symptoms and treatment of ascariasis, a parasitic infection caused by the nematode Ascaris lumbricoides. The text explains the internal structure of the adult worm, its symptoms, and various methods of treatment.

Symptoms of Worms: When these worms exist in any number, they produce more or less constipation, paleness of the countenance, with sometimes flushing of the face, a bluish circle about the eyes, itching of the nose, inquietude with flaring and talking during sleep, thirst in the morning, nausea and difficulty for food, though more frequently great appetite, foetid breath, pinching, gripping, and tendernefs in the belly, especially about the navel; belly frequently much enlarged, flatus, colic sometimes at other times purging, weakness, languor, epileptic fits, and more or less symptomatic fever, pulse weak, and sometimes intermitting. These symptoms arise more from the lumbricoïdes than the vermicularis; but where the latter are numerous, they will occasion nearly as violent symptoms; otherwise they are more known by their effects in and about the rectum and its neighbourhood, producing itching there more or less intolerable, with tenesmus, and even fatal abuses. There are a number of other symptoms brought on by the existence of worms; these, however, are the principal and most decisive; but the best and most satisfactory evidence is their being seen in the evacuations.

Cure: The indications for the cure of ascariases are of two kinds; first, the expulsion of them, their young, their ova, and the mucus containing them, from the bowels; and second, the correction of that weak state of the bowels, or other morbid dispositions of them, whatever they may be, which favour the production of them, and that mucus which becomes a nidus for their propagation. For although the only place in nature where these two species of infects are known to be generated, is the human intestines, during life, and therefore it might be reasonable to suppose, they might exist in them (not in great numbers) in a state of health, yet they are generally found in them when at least in a state of lefis vigour, as in infancy and age, or when weakened by any external means, among the caufes of which (it may be proper to mention here) the drafle purgatives, employed to get rid of them. These frequently weaken so much that the patient rather submits to the inconvenience of them, especially the ascariases vermicularis, than to the pernicious effects of vermifuges upon the digestive organs.

There is hardly a purgative, especially among the drauffe ones, which has not been employed for this purpofe. They should be used with every precaution; and are hardly ever necessary for the expulsion of the acarcides. The lumbricoïdes is not very tenacious of life, and is easily defroyed and evacuated by means of colonel, with fcanmony or jalap, and other milder purgatives, in moderate doses, adapted to the strength of the patient. The purgative should be several times repeated, at short intervals, in order to remove such worms and ova as have been screened by the foads of the intestines, or in the mucus, from the action of the preceding dose. The same means are employed to remove the acarcides vermicularis, but not with the fame facilities. This is much more tenacious of life, and as it is generally located far from the defomach, medicines administered by the mouth have little other effect upon it than as they evacuate the contents of the rectum in common with the other vifcera; but administered by glyfter, the relief they afford is very con- siderable, though not in all cafes certain. A small quantity of aloes, diffolved in some inodorous fluid, and employed as a glyfter, is very powerful in this way, affiited at the fame time by medicine, to evacuate them from above. There are cafes where no effectual remedy has been found to remove these troublesome vermin. We shall below tranfcribe the accurate history of a cafe of these worms, given by the late Dr. Heberden, in the first volume of the Medical Transactions, which will greatly illustrate this part of our subjed.

The second indication of cure, the removal of that weak and morbid state of the intestines which proves favourable to the generation of the acarcides, is by no means the leat; and it is on this principle perhaps only that bitters have been ranked with worm medicines: it is hardly probable that infects always bred in bitters, and which have been found in the dukes communis cholechochus, and even gall bladder, should be poisoned by bitters. Bitters, and tonics, as preparations of feel and other mineral and vegetable tonics, will be found nearly as useful as the medicines which simply expel them. The consideration of other remedies employed in the removal of worms, we must refer to the article TANIA.

Dr. Heberden tells us, that being acquainted with an experienced and intelligent physician, who had from his infancy been troubled with ascariases, he defired to be informed by him what were the inconveniences which they had occasioned, and what was the ufe of the remedies which the defired. was to this end; that according to his experience, the peculiar symptoms of this species of worms are a great uneafiness in the rectum, and an almost intolerable itching of the anus. These defections usually come on in an evening, and prevent sleep for feveral hours; they are attended with a heat, which is sometimes fo considerable as to produce a swelling in the rectum, both internally and externally; and if these symptoms be not soon relieved, a tenesmus is brought on with a mucus dejection. Sometimes there is a gripping pain in the lower part of the abdomen, a little above the pubis. If this pain be very feeve, there follows a bloody mucus, in which there are often found ascariases alive. They were sometimes suspected of occasioning di- turbed sleep, and some degree of head-ache. Purgings and irritating cyflets were injected with very little success. One dram and a half of tobacco was inifed in five ounces of boiling water, and the strained liquor being given as a cyflet, occasioned a violent pain in the lower part of the abdomen, with faintnefs and a cold sweat. This infecfion, though retained only one minute, acted as a smart purger, but did little or no good. Lime water was also used
as a clyster, which brought on a coffeeenis, but had no good effect. Six grains of salt of rhubarb were dissolved in six ounces of water, and injected. This clyster in a few minutes occasioned an aching in the rectum, and gripped a little, without purging, and excited a tenesmus. Some few aferidies were brought off with it, but all of them were alive. The uneazy fermentation occasioned by this clyster did not abate till some warm milk was thrown up. Wherever the tenesmus or mucus flowed the worth worth taking notice of, warm milk and oil generally gave immediate relief. If purging was necessary, the lewest purges, such as manna, with oil, were in this case made use of; rhubarb was found too stimulating. But, in general, the most useful purge, and which therefore was most usually taken, was cinnamon and rhubarb, of each half a drachm: this powder seldom failed to bring away a mucus as transparent as the white of an egg, and in this many sacrifies were moving about. The cinna-

bar frequently adhered to this mucus, which did not come off in such large quantities, when a purge was taken without the cinnabar. Colonel did no more than any other purge, which precipitates briskly, would have done; that is, it brought away aferidies, with a great deal of mucus. Oil, given as a clyster, has sometimes brought off these animacules; the oil swam on the surface of the mucus, and the sacrifies were alive moving in the mucus, which probably hindered the oil from coming in contact with them and killing them. The same mucus may reasonably be supposed to preserve these worms unheal, though surrounded with many other liquors, the immediate touch of which would be fatal. If the sacrifies be taken out of their mucus, and exposed to the open air, they become motionless, and feem to die in a very few minutes.

The general health of this patient did not seem to have at all suffered by the long continuance of his disorder, nor the immediate inconveniences of the disorder itself to have increased. It is perhaps universally true that this kind of worm, though as difficult to be cured as any, is yet the least dangerous of all. They have been known to accompany a peron through the whole of a long life, without any reason to suspect that they have hattened its end. As in this example, there was no remarkable sickness, indigestion, pain of the stomach, giddiness, nor itching of the nose, possibly these symptoms, where they have happened to be joined with the sacrifies, did not properly belong to them, but arose from other causes. There is indeed no sign of worms, but what in some patients will be wanting. From this cely further appears, that mucus or slime is the proper seat of the sacrifies, in which they live, and perhaps the food by which they are nourished. It is hard to satisfy ourselves by what instinct they find it out in the human body, and by what means they get at it; but it is observable in many other parts of nature as well as here, that where there is a fit foil for the hatching and growth of animals and vegetables, nature has taken sufficient care that their feed should find the way thither. Worms are said to have been found in the intestines of infants who have been born dead. Purges, by lessening this slime, never fail to relieve the patients; and it is not unlikely that the worms which are not forced away by this quickened motion of the intestines may, for want of a proper quantity of it, languish, and at last die. Experience furnishes no objections against supposing that the kind of purge is of little moment in the cure of all other sorts of worms as well as of the sacrifies, the worms being always defended from the immediate action of medicines; and that therefore those purges are the best which act briskly, and of which a frequent repetition can be most sally borns.

Purging waters are of this kind, and jalap, especially for children; two or more grains of which, mixed with sugar, are easily taken, and may be daily repeated.

ASCAROIDES, a species of Cucullanus found in the flomach of the Silurus glan/us; it resembles the larva of the mufca, is about an inch in length, of a whitish grey colour, and is gregarious. Goëze and Gmel. thus define its specific character: head orbicular, and hooked on each side; tail rounded, short, and pointed with two exserted fipules.

ASCALUS, in Ancient Geography, a town of Ger-

many. Ptolem.;

ASCALUS, in Ancient Mufic, a wind instrument, con-
cerning which musical antiquaries are not agreed; but it is
genearly supposed to be synonymous with the tibia articu-
laris, or borg-hofte: which fee.

ASCULUS, in Geography, a town of Venetia, north-
well of Tavilion.

ASCENDANT, in Astrology, denotes the harcope; or the ecliptic which lies upon the horizon, at the time of the birth of any one. This is supposed to have an influence on the person’s life and fortune, by giving him a bent and propensity to one thing more than another. In the celestial theme this is called the first house, the angle of the north, or oriental angle, and the regulator of life.—Such a planet ruled in his ascend. —Jupiter was in his ascend. &c.

Hence the word is also used in a moral sense, for a certain superiority which one man has over another, from some unknown cause.

ASCENDANT, in Genealogy, is underflow of ancestors, or such relations as have gone before us; such are father, grandfather, &c.—They are thus called in contradistinction to descendants, or the defending line. It is a canon in law, that inheritances never linearly ascend.

ASCENDANT, in Anatomy, is applied to such vessels as carry the blood upwards; thus part of the aorta, and the inferior cava, have been termed the ascending aorta, and ascending cava.

ASCENDANT, in Botany, denotes growing first horizontally, and then bowed upwards; and the term in this sense is applicable to leaves, to italks, to stems, as in spik’d weedwell; or to flamos, as in all the speedweeds.

ASCENDANT, in Astronomy, is underflow of the stars or degrees of the heavens, &c. which are rising above the horizon, in any parallel of the equator.

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Apocryphal Constitutions, 1. v. c. 19. Its origin is not known; and hence none have been led to imagine, that it was received by tradition from the apostles.

Ascension, in astronomy, is either right or oblique.

Ascension, right, of the fun, or of a star, is that degree of the equinoctial, accounted from the beginning of Aries, which rises with the fun, or star, is a right sphere. Or, right ascension is that degree and minute of the equinoctial, counted as before, which comes to the meridian with the fun, or star, or other point of the heavens. The reason of thus referring it to the meridian, is, because it is always at right angles to the equinoctial, whereas the horizon is only so in a right or direct sphere. The right ascension stands opposed to the right ascension, and corresponds to the longitude of places on the earth. Two fixed stars, which have the same right ascension, i.e. that are at the same distance from the first point of Aries, or, which amounts to the same, are in the same meridian, rise at the same time in a right sphere, or with respect to people who live under the equator. If they be not in the same meridian, the difference between the times of their rising or coming to the meridian is the precise difference of their right ascension. In an oblique sphere, where the horizon cuts all the meridians obliquely, different points of the meridian never rise or set together; so that two stars, on the same meridian, never rise or set at the same time; and the more oblique the sphere, the greater is the interval of time between them. To find the right ascension of the fun, stars, &c. trigonometrically, say, for the fun, as radius is to the cofine of the fun's greatest declination, or obliquity of the ecliptic, so is the tangent of the fun's longitude to the tangent of the right ascension.

Let PESQ (Astronomy, Plate II. fig. 15.) represent the folliellular circle, the centre of which is \( \gamma \), and let the diameter \( EP \) be the equator and the diameter \( PS \) be the equinoctial circle. Suppose the obliquity to be \( \varepsilon = 23^\circ 28' \), and the diameter \( \omega \), the ecliptic, in which take \( \gamma \), for the fun's longitude or distance from the point \( \gamma = 43^\circ 16' \); and through \( P \), describe a circle of right ascension. Then in the right-angled spherical triangle \( \gamma P \beta \), we have

**Radius**

| to t. fun's long. = 43° 16' | 9.97371 |
| As cof. obl. ccl. = 23° 28' | 9.96251 |
| to t. right ascension = 46° 48' | 9.93722 |

While the fun is moving from \( \gamma \) to \( \omega \), or in the first quadrant of the ecliptic, the given longitude is the hypotheneuse in the triangle \( \gamma P \beta \), the declination \( B \) is north, and \( \gamma P \beta \) is the right ascension. When the fun has passed the folliell \( \varepsilon \), and is descending towards \( \gamma \), or in the second quadrant, his longitude or distance from \( \gamma \) being taken from \( 180^\circ \), the remainder \( \gamma \) becomes the hypotheneuse, and the declination is still north; but the arc \( B \) found for the right ascension is only the supplemement, and must therefore be taken from \( 180^\circ \). The fun having paffed the peff 

\[
\begin{align*}
\text{A} + \text{O} &= \text{B} \\
\text{A} + \text{O} &= \text{B} + \text{E} \\
\text{A} + \text{O} &= \text{B} + \text{E} + \text{F} \\
\end{align*}
\]

The right ascension and declination of a fixed star or planet, whose longitude and latitude, as well as (O) the obliquity of the ecliptic, are given, may be found by the following problem, communicated by Dr. Mattheus to Dr. A. Mackay.

Tan. lat. — fine long. = tan. A, north or south, as latitude.

Call. O north in fix first signs, and south in fix last signs.

A + O = B

A less than 45°, co. ar. co. A + cof. B + tang. long.

A more than 45°, tang. A + co. ar. fine A + cof. B = + tang. long.

If the right ascension of the given kind as longitude; unless B be more than 90°, when the quantity found of the same kind as longitude must be subtracted from 12 signs.
AR (right ascension) nearer III and IX signs than o and VI signs, then $\text{AR} + \tan \beta$

AR nearer o and VI signs than III and IX signs, then $\tan \alpha \cos \beta$


tang. declination of fame title as B, true to the nearest second by Taylor's logarithms, to nearest 10" by Gardiner's logarithms, or to nearest minute by Sherwin's or Hutton's logarithms, without proportioning.

Example.

Let the moon's long. be 7° 14' 26" 21", and lat. 4° 0' 34" N., and the obliquity of the ecliptic 23° 27' 48". Required the right ascension and declination?

Lat. $\Gamma 4^\circ 0' 34"$, tang. 8.8456713.

Long. 223 26 21 fine 9.8451920; tang. 9.9914974.

$A = 5^h 4^m 6^s$ tang. 9.0004793 ar. cos. o. 0.0021654.

$O = 23^h 27' 48"$. N. B. The right ascension and declination may be found by the following formulae:

Co. f. Decl. = $\varphi$. f. Long. a. $\varphi \times f$. co. lat. $\times f$. ob. ecl. + v. f. co. lat. $\times f$. ob. ecl.

Co. Right ascension from $\varphi$ or $\alpha$ =

The practical method of finding the right ascension of a body from that of a fixed star, by a clock adjusted to sidereal time, is this:—Let the clock begin its motion from o to 0" at the instant the first point of aries is on the meridian; then, when any star comes to the meridian, the clock would show the apparent right ascension of the star, the right ascension being estimated in time at the rate of 15° an hour, provided the clock was subject to no error, because it would then show at any time how far the first point of aries was from the meridian. But as the clock is liable to errors, we must be able at any time to ascertain its error, or the difference between the right ascension shown by the clock and the right ascension of that point of the equator which is at that time on the meridian. To do this, we must, when a star, whose apparent right ascension is known, passes the meridian, compare its apparent right ascension with the right ascension shown by the clock, and the difference will show the error of the clock. 

The arc of right ascension is that portion of the equator intercepted between the beginning of aries, and the point of the equator which is in the meridian; or, it is the number of degrees contained in it. This coincides with the right ascension itself. The right ascension is the same in all parts of the globe.

We sometimes also say, the right ascension of a point of the ecliptic, or any other point of the heavens. The right ascension of the mid-heaven is often used by astronomers, particularly in calculating eclipses by the nonaginal degree; and it denotes the right ascension of that point of the equator which is in the meridian, and is equal to the sum of the sun's right ascension and the hour angle or true time reduced to degrees, or to the sum of the mean longitude of the sun and mean time.

Ascension, angle of right. See Angle.

Ascension, oblique, is an arc of the equator intercepted between the first point of aries, and that point of the equator which rises together with a star, &c. in an oblique sphere.

The oblique ascension is numbered from west to east; and is greater or less, according to the different obliquity of the sphere.

To find the oblique ascension of the sun by the globe, see Globe. See also Ascensional Difference.

The arch of oblique ascension is an arc of the horizon intercepted between the beginning of aries, and the point of the equator, which rises with a star or planet in an oblique sphere. This coincides with the oblique ascension itself.

The oblique ascensions change according to the latitude of the place.

Ascension and Declension, Refraction of. See Refraction.

Ascension, isf of, in Geography, one of the African islands situate in the Southern Atlantic ocean. S. lat. 9° 56' 30". W. long. 14° 22' 31".

This dreary desolate island was first discovered in 1501, by J. de Nova Galego, a Portuguese navigator, who called it "Ilha de Nossa Senhora de Conceição;" and it was seen a second time by Alfonso d'Albuquerque, on his voyage to India in 1523, probably on Ascension-day when it received its present name. Capt. Cook stopped at this island in 1775; and he says that it is about ten miles in length, from north-west to south-east, and about five or six in breadth. Its surface is composed of barren hills and valleys, or a collection of rocks and hollows, without a shrub or plant for several miles, and exhibiting by the stones and ashes which abound in it, sufficient evidence that at some period or other it was a volcanic production. Mr. Forster, in his account of this island, says, that they could discern from the ship, near the centre of it, a broad white mountain of considerable elevation, on which there was some verdure, and from this circumstance it obtained the name of the "Green Mountain." When they landed on the beach, through a high surf, they found themselves amid vast rocks, which consisted of minute shell-sand, chiefly of a snowy white, deep and dry, and by the reflection of the sun intolerable to the eyes. In their progress, they ascended through heaps of block cavernous stone, which perfectly resembled the common lavas of Vefuvius and Iceland. After a perpendicular ascent of about twelve or fifteen yards, they arrived at an extensive level plain, about five or eight miles in circuit, at the different corners of which they observed large hills, of a conical shape, and of a reddish colour, which were perfectly intimated. Between these hills the plain was covered with a great
great number of small hillocks, composed of lava similar to that which they found on the sea-shore, and the pieces of which founded like glass when struck against each other. Between the heaps of lava the soil was a firm black earth, and where the heaps did not appear, the whole was a red earth, so loose and composed of such minute particles, that the wind raised from it clouds of dust. The conic hills consisted of a different sort of lava, which was red and bright, and crumbled into earth. One of these hills stands directly in front of the bay, and has on its summit a wooden cross, whence the bay is said to take its name. The sides of the hill are very steep, but a path about 1/2 of a mile long winds to the summit. The plain on which the hill is situated, they concluded to have been once the crater of a volcano, by the accumulation of whole cinders and pumice stones the conic hills had been gradually formed; the currents of lava which were now distributed in many heaps, had, as they conjectured, been gradually buried in fresh cinders and ashes; and the waters flowing from the interior mountain in the rainy season, had carried every thing before them, and thus filled up by degrees the cavity of the crater. The rocky black lava was the residuum of numberless men-of-war birds, and boobies, which sat on their eggs and allowed of a close approach. Here they found a New York sloop, which came to the island to catch turtles, in order to sell them at the Windward islands. The East India ships, it is said, touch at this island for the purpose of furnishing themselves with turtles, which are plentiful and very large. On a second visit to the island, Mr. Forster and his companions crossed the plain, and arrived at a prodigious current of lava, intersected by many channels from fix to eight yards deep, which appeared to have been formed by torrents of water, but which they found dry, as the sun was in the northern hemisphere. In their gullies they perceived a small quantity of soil which was a black volcanic earth mixed with some whitish particles, that were gritty to the touch. This soil afforded sufficient nutriment to purfana, and a species of grass, the "panicum fanguineum." Having with difficulty climbed over this lava current, they came to the foot of the "green mountain," which was surrounded by a lava, that was covered with purfana, and a kind of new fern, "lunaria adeniophora," on which several wild goats were feeding. This mountain is divided in its extremities by various cliffs into several bodies, which run together towards the centre, and form one broad mass of great height. The whole appears to consist of a gritty topahoeus limestone, which has never been attacked by the volcano, but probably existed, as Mr. Forster supposed, prior to its eruption: its sides are covered with a kind of grass peculiar to the island, which Linnaeus has named "aridita adeniophora." The goats which feed on it were very numerous, but being very shy, they fled with great velocity over tremendous precipices, where it was impossible to pursue them. This island, with a little trouble, says this writer, might in a short space of time be rendered fit for the residence of men. The introduction of furze, "aulx Europae," and some other plants which thrive best in a parched soil, and which are not likely to be attacked by rats or goats, would soon have the same effect as at St. Helena. The moiture attracted from the atmosphere by the high mountains in the centre of the island, would then not be evaporated by the heat of the sun, but gradually be collected into rivulets, and supply the whole island. A bed of grasses would everywhere cover the surface of the ground, and annually increase the flatus of the mould, till it could be planted with more useful vegetables. The outsports of the island are represented to be beyond description dreary.

It is said that, as this island is visited by the homeward-bound ships on account of its sea-fowls, fowl, turtle, and goats, there is in the crevice of a rock a place called by the sailors the "Poit Office," where letters are deposited, shut up in a well corked bottle, for the ships that next visit the island. Mod. Uni. Hist. vol. xi. p. 458.

ASCENSION, or Ascension, Isle of, a small island about 120 leagues east from the coast of Brazil, N. lat. 25° 30'. W. long. 33° 40'. Some have supposed this island to be the same with the Isle of Trinidad or Trinity, M. le Perouze, who wished to ascertain the existence of the island of Ascension, made search for it, and aetas (see his voyage, vol. i. p. 24.) that no such island exists from the meridian of Trinidad to about seven degrees west longitude, between the latitudes of 20° 10', and 25° 30'. M. le Pautre d'Augelet also suspects (Mem. Acad. Sc. Paris, for 1788) the French geographers have committed an error with regard to the Isle of Trinity, which they have laid down in their maps of the African seas, but which he thinks is really the Isle of Ascension, which, by some error of reckoning, occasioned probably by currents, has been twice laid down. But M. Dapres (Neptune Oriental, p. 10.) has placed the island of Ascension 100 leagues west of Trinidad, and fifteen miles to the southward. It appears also, that though the latitudes of these two islands were nearly the same, their latitudes were very imperfectly ascertained; and from the minute and very different plans which Dalrymple has given of these two islands and their appearance, it is presumed that they are not the same. La Perouze did not pursue his researches far enough, as the Isle of Ascension is probably somewhat nearer the coast of Brazil than Dapres has placed it.

ASCENSION BAY, lies on the east side of the peninsula of Yucatan, in the bay of Honduras, having Amber bay on the north, and the northern point of Ambergris Key on the south, which forms a passage into Hanover bay, south from Ascension bay.—Also, a bay in the north part of the gulf of Mexico, situate between Cape Balize at the mouth of the Mississippi, and the bay of Fresh-water on the west, in N. lat. 35°, and W. long. 92°.

ASCENSIONAL Differences, in Astronomy, is the difference between the right and oblique ascension of the same point on the surface of the sphere.

To find the ascensional difference trigonometrically, having the latitude of the place, and the sun's declination given, lay, As radius is to the tangent of the latitude, so is the tangent of the sun's declination to the sine of the ascensional difference.

E. G. Let it be required to find the sun's ascensional difference at London, lat. 51° 32' N. on the 21st of June, being the longest day, when the sun's declination is 23° 28' N.

Let the primitive circle PESQ (Astron. Pl. II. fig. 17.) represent the meridian of the place, and the diameter HR the horizon; take RP from R, the north point, for the latitude = 51° 32'; draw the axis, or 6 o'clock hour circle, PS, and perpendicular to it draw the equator EQ; make En, QM, each = 23° 28', the declination, and describe the parallel of declination TMS, intersecting the horizon in O, the place of the sun at his rising or setting, and through this point describe the hour circle POS.

In the spherical triangle AOA', right-angled at A, the angle QPR, measured by the arc OR, is the co-latitude; A'O is the sun's declination; and the required ascensional difference is A'A, which may be found by the proportion above stated; viz.

Rad.
ASC

Rad. 
To t. lat. P^\circ \theta = 51^\circ 32' 
As t. decl. A^\circ = 23^\circ 26' 
To find ate. diff. \phi' \theta = 33^\circ 7' 

This ascensional difference 23^\circ = 7', converted into time, gives 211 12' 28" for the time which the fun rides before, and sets after the hour of fix, on the longest day. Hence it appears, that when the latitude and declination have the same name, the fun rides before, and sets after fix; but when they are of contrary names, the fun rides after, and sets before fix. And as the fun describes the parallel of declination in 24 hours, being at n when it is noon, and s when it is midnight, the time in passing from n to s, or the time of rising being doubled, gives the length of the right; and the time of setting being doubled, gives the length of the day. Consequently, 6° + 2° 12' 28" = 8° 12' 28", will be the time of setting; and 6° - 2° 12' 28" = 3° 47' 32", will be the time of rising; and \(8 \times 12' 28" \times = 16' 24' 56"\) the length of the day, and \(3^\circ 47' 32" \times 2 = 7^\circ 55' 44"\) the length of the night.

But when it is the shortest day at London, that is, when the sun has 23° 28' south declination, the lengths of the day and night will change places; the day being 7° 35' 44", and the night 16° 24' 56".

When the latitude and declination have the same name, the difference between the right ascension and the ascensional difference, is the oblique ascension; and their sum is the oblique declension; but when they are of contrary names, the sum is the oblique ascension, and the difference is the oblique declension.

The above solution is applicable to a star, as well as to the sun; but on account of the small change in the declination of the stars, the fun stars in any latitude may be considered as having the same ascensional difference through the year. Hence it appears that the diurnal difference of the same star's rising, culminating, and setting in the same latitude, is nearly equal to the diurnal difference of the fun's right ascension. As the sun's mean apparent daily motion is 59' 8" nearly, or in time 3° 36' 32", this will be the daily difference in the rising, setting, and passing of any fixed star in the same latitude.

ASCENSIONIS, in Ichthyology, a species of PERCA, which inhabits the sea about Ascension island; it is reddish above, whitish beneath, and the tail is bifurcated. Obs. 11. P. 388.

ASCENSORIAM sometimes occurs, in our ancient writers, for a fator or fip.

ASCENT, in a general sense, the motion of a body tending upwards; or the continual recedes of a body from the earth. In this sense the word stands opposed to descent. The Peripatetics attribute the spontaneous ascent of bodies, to a principle of levity inherent in them. The moderns deny any such thing as spontaneous levity, &c. that whatever ascends, does it in virtue of some external impulse or extrusion. Thus it is that incoke, and other rare bodies ascend in the atmosphere; and oil, light woods, &c. in water; not by any internal principle of levity, but by the superior gravity, or tendency downwards of the parts of the medium in which they are.

The ascent of light bodies in heavy mediums is produced after the same manner as the ascent of the lighter scale of a balance. It is not that such scale has an internal principle by which it immediately tends upwards; but it is impelled upwards by the preponderancy of the other scale, the excess of the weight of the one having the same effect by augmenting its impetus downwards, as so much real levity in the other; because the tendencies mutually oppose each other; and that action and reaction are always equal. See this further illustrated under the article Specific Gravity, and Fluid.

ASCENT of Bodies on inclined Planes. See its doctrine and laws, under Inclined Planes.

ASCENT of Fluids, is particularly understood of their rising above their own level, between the surfaces of nearly contiguous bodies, or in slender capillary glass tubes, or in vessels filled with fluid, &c., or the like porous substantias. This effect happens as well in vacuo, as in the open air, and in crowded as well as straight tubes. Some liquids, as spirit of wine, and oil of turpentine, ascend with greater velocity than others; and some rise after a different manner from others. Mercury does not ascend at all, but rather subsides. The phenomenon, with its causes, &c., in the instance of capillary tubes, will be spoken of more at large under CAPILLARY TUBE. Upon the same principle, two smooth polished plates of glass, metal, stone, or other matter, being so disposed as to be almost contiguous, have the effect of several parallel capillary tubes; and the fluid rises in them accordingly: the like may be said of a vessel filled with fluid, &c., the divers little interstices of which form a kind of capillary tubes. So that the same principle accounts for the appearance in them all. And to the same may probably be ascribed the ascent of the sap in vegetables. Thus Sir I. Newton—When a large pipe of glass be filled with sifted ashes, well pressed together, and one end dipped into flagrant water, the fluid will ascend slowly in the ashes, so as in the space of a week or fortnight to reach the height of thirty or forty inches above the flagrant water. This ascent is wholly owing to the action of those particles of the ashes which are upon the surface of the elevated water; those within the water attracting as much downwards as upwards; it follows that the action of such particles is very strong; though being less dense and close than those of the glass, their action is not equal to that of glass, which keeps quicksilver suspended to the height of sixty or seventy inches, and therefore acts with a force which would keep water suspended to the height of about forty feet. By the same principle, a sponge suckes in water; and the gills of the bodies of animals, according to their several natures and dispositions, imbibe various juices from the blood. Optics, p. 367.

If a drop of oil, water, or other fluid, be laid on a glass plane, perpendicular to the horizon, so as to stand without breaking or running off; and another plane inclined to the former so as to meet a top, be brought to touch the drop, then will the drop break, and ascend towards the touching end of the planes; and it will ascend the faster in proportion as it is higher, because the distance between the planes is constantly decreasing. After the same manner, the drop may be brought to any part of the planes, either upward or downward, or sideway, by altering the angle of inclination. Lastly, if the plane perpendicular planes be so placed, as that two of their sides meet, and form a small angle, the other two only being kept apart by the interposition of some thin body, and thus immersed in a fluid tinged with some colour; the fluid will ascend between the planes, and this the highest where the planes are nearest; so as to form a curve line, which is found to be a just hyperbola, one of the asymptotes whereof is the line of the fluid, the other being a line drawn along the touching fides. The physical cause, in all these phenomena, is the same power of attraction. See HYDROSTATICS (Pl. 1, fig. 1.), and Cohesion.
ASC

ASCENT of vapour. See EVAPORATION, CLOUD, and VAPOUR.

ASCENT, in Astronomy. See ASCENSION.

ASCENT, in Logic. denotes a kind of argumentation, wherein we rise from particulars to universals. As when we say, this man is an animal, and that man is an animal, and every other man, &c., therefore, every man is an animal.

ASCESIS properly denotes exercise of the body. It is formed from the verb *ascinos*, used by the ancients in speaking of the sports and combat of the athletes.

ASCESIS is also used by philosophers to denote an exercise conducive to virtue, or to the acquiring a greater degree of virtue. Buddeus has a dissertation on this philosophical subject.

ASCETERIUM, in Ecclesiastical Writers, is frequently used for a monastery, or a place set apart for the exercises of virtue and religion. The word is formed from *a*bis, "exercise," or *affectus*, one who performs exercise. Originally it signified a place where the athletes, or gladiators, performed their exercises.

ASCETIC, derived from *ascinos*, "I exercise," an ancient appellation given to those persons as in the primitive times, devoted themselves more immediately to the exercises of piety and virtue in a retired life; and particularly, to prayer, abstinence, and mortification. Moench (Eccle. Hist. vol. i. p. 129) traces the origin of this sect in the Christian church to the second century. He says, that the ascetics owed their rise to certain Christian doctors, who maintained, that Christ had established a double rule of sanctity and virtue, for two different orders of Christians: the one was ordinary, and designed for persons in the active scenes of life; the other extraordinary, and more sublime, and intended for those who, in a sacred retreat, aspired after the glory of a celestial fate. Accordingly, they distributed those moral doctrines which they had received either by tradition or writing into the two classes of precepts and counsels; the former being universally obligatory upon all orders of men, and the latter, relating to Christians of a more sublime rank, who proposed to themselves great and glorious ends, and breathed after an intimate communion with the Supreme Being. The effects of this latter description declared their resolution of obeying all the counsels of Christ, in order to their enjoying communion with God here; and also that, after the dissolution of their mortal bodies, they might ascend to him with the greater facility, and find nothing to retard their approach to the supreme centre of perfection and happiness. They looked upon themselves as prohibited the use of things which other Christians were allowed to enjoy, such as wine, flesh, marriage, and commerce. See Athenagoras, Apol. pro Chriff. c. 28. They thought it their indispensible duty to exterminate the body by watchings, abstinence, labour, and hunger. They sought felicity in solitary retreats, and in desert places, where, by severe and arduous efforts of sublime meditation, they raised the soul above all external objects and all sensual pleasures. Both men and women implored upon themselves the most ayverse discipline, which, though at first it was the fruit of pious intention, proved in the issue extremely detrimental to Christianity. These persons were called *affectus*, *exilantia* Ecclées, and philosophers; nor were they distinguished from other Christians merely by their appellation, but also by their garb. In this century, such as embraced this kind of austere life, contented themselves with submitting to all these mortifications in private, without breaking alms their social bonds, or withdrawing themselves from intercourse with mankind. In the next century, and particularly in the

regain of Constantine, these ascetics, who, as an elegant historian describes them, (Gibbon's Hist. vol. vi. p. 239.) "obeyed and abused the rigid precepts of the gospel, and were inspired by the savage enthusiasm which represents man as a criminal, and God as a tyrant," fled from a profane and degenerate world to perpetual solitude, or religious society, and assumed the name of "Hermit," or "Monk," and "Anachoretus," expressive of their lonely retreat in a natural or artificial desert. The reasons which gave rise to this austere sect are sufficiently obvious. One of the principal was, the ill-judged ambition of the Christians to resemble the Greeks and Romans, many of whose fages and philosophers distinguished themselves from the generality, by their maxims, by their habits, and, indeed, by the whole plan of life and manners which they had formed to themselves, and by which they acquired a degree of esteem and authority. Of all these ancient philosophers, there were none whose sentiments and discipline were so well received by the ancient Christians, as those of the Platonists and Pythagoreans, who preferred in their leisures two rules of conduct, one for the sage who aspired to the sublimest heights of virtue, and another for the people involved in the cares and agitation of an active life. As the opinions of some of these latter persons were adopted by the more learned among the Christians, they were naturally led to embrace also the moral discipline which resulted from them. Some of the religious fervors to which they were led were deduced from the genius and temper of the people by whom they were first practised. This morose discipline originated in Egypt, which abounded with persons of a melancholy complexion, and produced, in proportion to its extent, more gloomy spirits than any other part of the world. Here the Effenes and Therapeutae, those dismal and gloomy sects, principally dwelt, long before the coming of Christ, and also many of the ascetic tribe, who, led by a certain melancholy turn of mind, and a defulve notion of rendering themselves more acceptable to the Deity by their austerity, withdrew themselves from human society, and from all the innocent pleasures and comforts of life. From Egypt this four and inoffensive discipline passed into Syria and the neighboring countries, and was adopted by persons of the same dismal constitution with that of the Egyptians; and from thence, in process of time, its infection reached to the European nations. Hence sprung that train of austerities and superflitious rites, that yet, in many places, cast a veil over the beauty and simplicity of the Christian religion. Hence the celibacy of the priestly order, the rigour of unprofitable penances and mortifications, the innumerable fasts of monks that withdrew their talents and labours from society, and who did this in the f eas of a visionary pursuit of a visionary fort of perfection. Hence also proceeded the distinction between the theoretical and mystical life, and many other fancies of a similar kind. The ascetics acquired the respect of the world, which they despised; and the loudest applause was bestowed on this "divine philosophy," as it was called, which suffused, without the aid of science or reason, the laborious virtues of the Grecian schools. When the monks came in fashion, the title of ascetic was bellowed upon them; especially upon such of them as lived in solitude. See HERMIT, and MONK.

ASCETIC is also a title of several books of spiritual exercises; as, the *Affectes* or devout treatises of St. Basil, archbishop of Caesarea in Cappadocia. We also say the ascetic life, meaning the exercise of prayer, meditation, and mortification.

A SCRERETIS. See Secretary.

A-SCHACH, in Ornithology, the name by which the...in the...
LANIUS SCHACH OF LINZA, OR Chiche Shrieve, is called in
China, and under which it is described by Otbeck, Voy. p. 227.
See Lanius Schach.

ASCHAFFENBURG, a town of Germany, in the
circle of Franconia and bishopric of Wurzburg, thirty-two
miles north of Wurzburg.

ASCHAFFENBURG, a town of Germany, in the
circle of the Lower Rhine, which runs into the Mayne near Stock-
stadt.

ASCHAM, Roger, in Biography, an English scholar
of distinguished reputation, was born at Kirby-Wiske, near
North-Allerton in Yorkshire, about the year 1515, of parents who,
having lived together for sixty-seven years, with uninterrupted harmony, died at the same hour of the same day.
Having discovered very promising talents at an early age, he
was taken under the patronage of Sir Anthony Wingfield, and
after making considerable progress in classical literature
under the instruction of the domestic tutor of his sons, As-
cham was removed by his patron, in 1530, to St. John's col-
lege at Cambridge. Here he enjoyed peculiar advantages
for improvement, under the tuition of two persons who were
eminent for literature at a period when the study of the
Greek and Roman classics was the object of particular at-
tention. Of these advantages he availed himself with in-
gular dili dence and emulation; and his proficiency was so con-
fiderable, that he gained very distinguished reputation in the
university at a very early age. In order to perfect himself in
the Greek language, he taught it to others; and learning
very soon to discriminate with regard to the comparative ex-
cellence of different authors, he lost no time in the pursuit
of mean or unprofitable books. Upon the model of Cicero
and Caesar, whose works he diligently studied, he formed
his style; and among the philosophers he selected Plato and
Aristotle; among the historians, Thucydides and Herodotus;
and among the orators, Demosthenes and Isocrates; and on
these two last authors he read lectures to his pupils, as he
also did on the most celebrated of the Greek poets. At
the age of eighteen, in 1534, he took his degree of bachelor
of arts, and soon after in the same year was elected fellow of
his college, though his attachment to the reformed reli-
gion raised some obstacles in the way of this appointment.
These honours were conferred by Ascham as inducements to
his continued and increasing application; and such was his
improvement, particularly in the Greek language, that
his lectures, both in the university and in his own college,
were received with universal applause. In the year 1536,
and at the age of twenty-one years, he was inaugurated
master of arts. Such was the proficiency of those who at-
tended his lectures, that one of them, viz. William Grindal,
was, at his recommendation, appointed to be tutor in the
languages to the lady Elizabeth; an honour which it is prob-
able he might have obtained for himself, if he had not de-
clined it from a preference of the academical life to a station
at court. At this time Sir John Cheke attempted to in-
trude a new mode of pronouncing Greek into the univer-
sity, which for some time was opposed by Ascham; but
upon maturing and more deliberate examination, he approved
of it, and concurred in adopting and promoting it; and it
has since generally prevailed in the schools of England.
The purity and elegance of his Latin style were held in such
estimation, that he was constantly employed in writing the
public letters of the university. As a relaxation amidst his
 heavier studies, he amused himself with the exercise of arch-
ery; and having thus given offence to some persons who
were envious of his superior merit, he wrote a small tracts
on the subject, intitled "Toxophila," which was published
in 1544. His design in writing this tract was partly to
vindicate himself from the aspersions of his enemies, and
partly to improve the English language, by introducing a
more natural, easy, and truly English diction, than that
which was used by the common writers of his age. The
author's views in both these respects were fully acco-
 mplished. This work, besides the purity and perspicuity of
its style, abounds with learned allusions, with curious frag-
ments of English history, and with ingenious observations
on life and manners. Ascham honestly confesses, that he
was actuated by another more felicitous motive in the com-
position and publication of this tract: He wished to make
a tour into Italy, which was then the republic of letters, and
particularly the seat of Greek learning; and he was dis-
fious by dedicating his work to king Henry VIII. to ob-
tain his patronage and encouragement in the prosecution of
his plan. In this respect, his modesty and laudable with
 was gratified: for in 1544, the king granted him a pension
of 10l. a year, equal according to Dr. Johnson, to more than
100l. at the present day. This pension, which was discon-
tinued after the king's death, was restored by Edward VI.,
and doubled by Queen Mary. In the same year, Ascham
received the pecuniary benefit as well as honour of an ap-
pointment to the office of Orator to the university; which
office, whilst he continued there, he occupied with great
erit.

He had also for some years received an annual gratuity
to an amount that is not ascertained, from Lee, archbishop
of York. At length, viz. in 1548, upon the death of his
pupil Grindal, he was called by the lady Elizabeth, to
whom he had already given lectures in writing, from his
college, to direct her studies. This charge he executed with
equal diligence and success; but after two years, a caufe of
disturbances occurred, and he returned from the service of
the princess to the university. Notwithstanding this cir-
cumstance, the princess's regard for him continued; for in the
same year, 1550, he was recalled to court, and appointed sec-
tary to Sir Richard Morpion, who was then going as amba-
bassador to the empe or Charles V. During this expedition,
which lasted three years, he had opportunity of conversing
with many learned men in various parts of Germany which
he visited, and made an excursion into Italy, where he was
much diverti with the manners of the inhabitants, par-
ticularly of the Venetians. One of the fruits of this tour
was a curious tract, intitled, "A Report and Discourse of
the
of the Affairs and State of Germany," &c. which contains valuable information and judicious reflections.

On the death of Edward VI. in 1553, Morley was recalled, and Afchan returned to his college, with no other support than his fellowship and salary as orator to the university, and the liberality of his friends. But by the intercession of Bishop Grafton, who, though he knew him to be a protestant, did not defect him, he was appointed Latin secretary to queen Mary, with a salary of ten pounds a year, and permission to retain his college prebend. Afchan by his prudence, without any servile compliances that reproached his integrity, enjoyed the favour of the queen, and in the most perilous times, he maintained his interest with Elizabeth; and he was partly indebted to the fidelity of his friendship with Cecil for his prosperity in the next reign. Indeed, his learning, and the facility with which he wrote Latin, made him necessary at court. In his capacity as Latin secretary, he is said to have written in three days forty-seven letters to persons of such rank that the lowest of them was a cardinal. Upon the accession of Elizabeth, Afchan was continued in his former employments with the same stipend. He had daily access to the queen, and read with her some portions of works in the learned languages for some hours every day, and of her proficiency under such a master many proofs remain. Notwithstanding the benefit which the queen derived from his services, and the intimacy with which she honoured him by permitting him to play with her at draughts and chefs, he obtained from her no other recompense than a pension of twenty pounds a year, and the prebend of West wa ng in the church of York. This poor pittance has been ascribed by some to the parsimony of the queen, and by others to her knowledge of the extravagance of Afchan. He has been charged, and not unjustly, with a profligacy, disgraceful to a man of letters and humanity, to cock-dighting. In his "Schoolmaster," he intimates a design of writing a book "Of the Cockpit," which he reckons among the pastimes fit for a gentleman. It is a subject, however, of regret, that whilst the queen did not think him unworthy of her patronage, she did not think proper to remunerate him for his services with a liberality more suitable to her high station. In the year 1563, a conversation occurred at Sir William Cecil's on the subject of education. Whilst the subject was much agitated, and different opinions were entertained, Sir Richard Sackville was so much prepossessed in favour of Afchan, by the arguments which he used for the mild treatment of boys, that he solicited his counsel and assistance with regard to the education of his son, and at the same time requested that he would write a treatise on the general subject of education. Thus was produced Afchan's excellent performance, intitled, "The Schoolmaster," a work replete with erudition, and fugitive useful advice on the best method of teaching the chil dren. Afchan particularly recommends the method of "double translation," which merits adoption in schools. This treatise was published after the author's death by his widow, in 1571, and reprinted with notes, in 1580, at London by Upton, in 1571. Afchan's last illness was occasioned by too sedulous application to the composition of a poem, which he intended to present to the queen on the New Year's day of 1569. He died in his 53d year, December 23d, 1568. His death was generally lamented, and the queen expressed her concern by exclaiming, that "she would rather have lost 10,000l. than her tutor Afchan." His epistles, which have been much commended for the elegance of their style, and also for the abundance of historical matter which they contain, were published in 1577, by Grant, and dedicated to queen Elizabeth; and his miscellaneous pieces have been since collected by Bennett into one volume, with a life by Dr. Johnfon prefixed, and published in 1571, in 4to. Afchan is said to have been an elegant poet; but his works are not to be found in the best edition of his works. One of his biographers, speaking of his works, says, "He Topophillus was a good book for young men, his Schoolmaster for old men, and his Epistles for all men." Mr. Wood afribes another work to our author, intitled, "Apologia contra Missam," printed in 1577, 8vo.

It appears from the writings of Afchan, and those records of him that remain, that his temper was amiable; that he was kind to his friends, and grateful to his benefactors; that he was inclined to free inquiry on the subject of religion, but too much engaged in other pursuits to be able to give much attention to this object; that he was, as a man, respectable; and that, as a scholar, he procured correct taste and found learning; and by thus serving both his contemporaries and posterity, he deserved much more ample recompense than he received. He died poor, and left a widow and several orphans in delitute circumstances. His poverty has been ascribed by some to his attachment to dice and cock-dighting; and it is noticed by Buchanan in the following short epigram, said by some to display more wit than friendship, which he confided to his memory:

"Afchanum extinctum patriae Grajisque Camana
Et Latins verum pietate, dolent;
Principibus vitæ carus, jucundus amicus,
Re modicè, in mores diece fama acquisite."

Thus translated and paraphrased:

"The Attic and the Latin muse deplore
The fate of Afchan, once their joy and pride;
His laws shall charm the listening crowd no more;
Ereteen'd by kings, lov'd by his friends, he died.
Fortune denied her treasures—juffer fame
Honour'd his worth, and spread abroad his name."


ASCARIANS, or ASCHARIANS, followers of Af chan, or Ahari, one of the most celebrated doctors among the Mahometans, who died at Bagdat, about the year of the Hegira 329, or of Chrifl 940, and who was secretly buried, left the Hanbalites, by whom his opinions were reckoned impious, should tear up his remains from the grave. The Ascarians were a branch of the Sefatiuns; and their opinions were, 1. That they allowed the attributes of God to be distinct from his essence, yet so as to forbid any comparison to be made between God and his creatures. 2. As to predilection, they held that God hath one eternal will, which is applied to whatsoever he willeth, both of his own actions and those of men, so far as they are created by him, but not as they are acquired or gained by them; that he willeth both their good and evil, their profit and their hurt; and as he willeth and knoweth, he willeth concerning them that which he knoweth. They went so far as to say, that it may be agreeable to the will of God that man should be commanded what he is unable to perform. But while they allow man some power, they refrain it to such a power that cannot produce anything new. God, they say, orders his providence so, that he creates after or under, and together with, every created or new power, an action which is ready whenever a man wills it and acts about it; and this action is called "casib," or acquisition, being, in respect to its creation, from God, but in respect to its being produced, employed, acquired, from man. This is generally esteemed the orthodox opinion, and has been variously explained.

3. As to mortal sin, the Ascarians
Afgharitans taught, that if a believer, guilty of such a sin, die without repentance, his sentence is to be left to God, whether he pardon him out of his mercy, or whether the prophet intercede for him, or whether he punish him in proportion to his dement, and afterwards, through his mercy, admit him into paradise; but that it is not to be supposed he will remain for ever in hell with the infidels, since it is declared, that whoever shall have faith in his heart, but of the weight of an all, shall he delivered from hell-fire. This is generally received as the orthodox doctrine in this point, and is diametrically opposite to that of the Moslem. D’Herbelot’s Bibl. Orient. Selle’s Koran. Pet. Difc. p. 165.

ASCHAUSEN, in Geography, a town of Germany, in the circle of Saubia, eight miles north of Ravensburg.

ASCHBARAT, a town of Turquetian, in the country of the Gates, on the other side of the river Sihon.

ASCHBOURKAN, or ASCH-FOURKAN, a town of Persia, in the province of Chorasan.

ASCHEION, in Ancient Geography, a town of the Pelo-ponnesus, in Achaia.

ASCHENGISKOL, in Geography, a fortress of Sicilia, on the confines of China, 130 miles S.S.W. of Selinguhk.

ASCHER, a district of the sif of Aggers-Herred, in the diocese of Christiania, or Agerhuus, in Norway.

ASCHERSLEBEN, a town of Germany, in the circle of Lower Saxony, and principality of Harlbracht, seated on the-Eine. It was once the capital of a country to which it gave name, and was one of the most ancient provinces of the house of Anhalt. The circle of Ascherleben, or Aachen, comprehends the tract which was once the Ascherleben, or Gaterleben lake, about two German miles long and half a mile broad; but being drained between the years 1703 and 1709, is now become good corn and pasture land.

ASCHIA, ASCHER Cramer, ASCHE Genser, &c., in Ichthyology, synonymous names of the sif called Grayling in England; and by Linnaeus SALMO THYMALLUS; which fee.

ASCHOUR, in Geography, a river that passes by the town of Kafch in Turquetian, towards the north.

ASCHRAFF, in Ancient Geography, a city of Persia, in the province of Mazendran, near the Caspian sea, was once the favourite residence of Abbas the great, but now fallen into decay; the splendid palaces and gardens being sunk into a ruinous flat, since the commotions that followed the death of Nadir Shah.

ASCHTIKAN, in Geography, a town of Afia, in Independent Tartary, fifteen leagues from Samarcand.

ASCHWOMSEN, a lake of Prufia, forty miles south of Konigberg.

ASCIA, in Antiquity, an instrument, suppofed to be of theaxe kind, used in the fabric of the Roman tombs, and frequently represented on them.

The formula "sub alica dedicatur," is frequently found inscribed on ancient tomb-stones. We also meet with "rogum alica re polito," among the antique laws of the Twelve Tables. These expressions, and the figure of the alica, as seen on the tombs, have puzzled several antiquaries, who have formed very curious conjectures concerning it. F. Martin rejects all their opinions, and with considerable probability affirms, that the alica was a hoe, or fort of pick-axe, for digging up the ground, which is to this day called chibado, or affaid in, in Languedoc. This alica, he pretends, was not an instrument of common use, but consecrated and employed only for digging of graves; and that it is the same with what Sidonius Apollinarius calls rafium functire, where-with the Gauls digged their graves. Lib. iii. ep. 13.

This, he thinks, appears plainly to be the signification of the word, from the Latin proverb, "ipsi sibi alicaem in cruse impiegat," which often happens to those who work with this instrument.

On this footing the famous law of the Twelve Tables, wherein the alica is mentioned, and the explication of which has puzzled all our antiquaries, contained only a prohibition to dig graves with an instrument of iron or copper, such as the alica. In reality it was a tradition observed by the remotest antiquity, that no instrument made of those metals should be used in sepulchres.

Dom. Martin has given a dissertation concerning the funeral monuments of the Romans, consecrated "sub alica." La Relig. des Gaul. tom. ii. liv. 5.

Mabillon, in his explication of the formula "sub alica dedicatur," &c., conjectures that the ancient, in dedicating their tombs to the names, made imprecautions against those who violated their sanctity; and these imprecautions, he conceives, were expressed by the figure of the alica, which bore a threatening aspect. Much to the same purport is the opinion of Muratori, who apprehends that the formula "sub alica," or the alica itself placed upon the tombs, was a tacit but well-known supplication addressed by the perfons interred to the owner of the field in which the grave was dug, that the adjacent soil might be hoed, the briers removed, and the earth rendered light over the ashes of the deceased. Accordingly, "fit tibi terra levis," is part of an epitaph found on ancient monuments. The sentiments of Mabillon and Muratori have been illustrated and confirmed by count Caylus. Moreover it appears, that the Romans annexed no superstitious idea to the formula "sub alica dedicatur," as the first Christians made use of it on their monuments.

ASCIA is also used, in Surgery, for a kind of bandage, some oblique or crooked; whose form and use are well described by Seulcitus, in his Arman. Chirurg. p. 1. tab. 54. fig. 3.

ASCIBURGIIUM, in Ancient Geography, a citadel on the Rhine, mentioned by Tacitus, in which were a Roman camp and garrison; situated in a place corresponding with a small hamlet, now called Abaroi, not far from Meurs, in the duchy of Cleves.

ASCIDIA, in Natural History, the name of a genus of VERMES that belong to the Molufa tribe, the body of which is fixed, roundish, and apparently inflating from a heath; the apertures two, generally placed near the summit, one below the other, Gmelin. &c. These creatures are more or less gelatinous, and have the power of contracting and dilating themselves at pleasure; some are furnished with a long stem, but most of them are flexible. Gmelin enumerates the following species: papiliofa, gelatinofa, interdinali, quadridentata, rufica, echinata, mentula, venosa, praunum, conchilega, parallelogramma, virginea, canina, patula, aphabetra, scabra, orbicularis, corrugata, lepadiformis, complana, tuberculium, villosa, clavata, pedunculata, mammillaris, globularis, phueca, gelatina, cryallitha, ochodentata, patelliformis, pyura, aurantium, globularis: which see respectively.

ASCII, formed of the primitive a, and *a, in Geography, are those inhabitants of the globe, who at certain times of the year have no shadow: such are the inhabitants of the torrid zone, because the sun is twice a year vertical to them, and have then no shadow. — To bind on what days the people of any parallel are aet, see Globe.

ASCINODE, in Botany, a name given by the people of Guinea to a shrub, which they use in medicine, boiling it in water,
water, and giving the decoction in gonorrhoeas, and the like complaints. Petiver has named it the prickly Guinea shrub, with roundish crenated leaves, and filamentosous flowers. The leaves are about an inch wide, and about an inch and a half long; they stand on short foot-stalks; and at the ends of the branches, there stand clusters of flaminoous flowers. The thorns on the large branches are very strong. Phil. Trans. No. 232.

ASCITAI, in Ichthyology, a species of Silurus, that differs in several respects from other creatures of the same tribe, and is specifically described as having the dorsal fin fleshy, and eighteen rays in the anal fin. This fish inhabits the Indian seas, and is figured both by Bloch, and in Deter- vik's edition of Bufon. The mode of generation, or manner in which the young are produced, is singular, for it is neither oviparous, nor viviparous, but, partaking of both, forms a distinctly connecting link between those two natural divisions of fishes: the eggs are not comjposed like those of most other creatures, but confit merely of a yolk, without white, and surrounded by a thin skin to which the embryo is attached by means of an umbilical vessel on the outside, and by which it receives its proper nourishment till it is disengaged. Among other reasons it is affected that it cannot be viviparous, because it does not receive its nourishment from the parent by means of a placenta, but from this yolk of the egg, to which it is affixed while it remains in the matrix; and that it cannot be oviparous, because the eggs are not as usual deposited when completely formed, nor are the young contained within the egg, but only attached to the outside of it.

ASCITAE, derived from σακός, a bag, or bottle, in Antiquity, a fact or branch of Montanilla, which appeared in the second century.

The Alcites were so called, because they introduced a kind of Bacchanals into their assemblies, who danced round a bag or skin blown up; saying these were those new bottles filled with new wine, whereas Jesus Christ makes mention, Math. x. 17.—They are sometimes also called Affodrigios.

ASCITE, in Ancient Geography, a people of Asia, placed by Pliny and Ptolemy in Arabia Felix.

ASCITES, in Medicine, (from σακός, a bag, or bladder,) denotes a species of Dropsy which is situated in the abdomen. This disease is commonly divided into two kinds; viz. 1. When the water is contained within the peritoneum investing the general cavity of the lower body; and 2. When the fluid is included within a bag, or cyst, in which case it is called an incysted dropsy: but the description of this disease, and its appropriate treatment, will be found under the articles Dropsy, and Paracentesis or Tapping.

ASCITES, the operation for, in Surgery, is named Tapping, which see. This operation is likewise technically called Paracentesis. It consists in drawing off from the abdomen, by means of a trocar, the water or other fluid which is contained therein.


Species, 1. Ascium noravantae, Aublet Guian. t. 220. This is a tree furnished with alternate entire thick leaves. The flowers grow in hoofe spikes from the ends of the branches; they are alternate, subelliptic, and to each is a long bract, with a claw to it, resembling the cowled bag, of maneagravie, to which genus this seems nearly allied. It is a native of Guiana.

ASCLEPTA, in Antiquity, feaks celebrated in various parts of Greece in honor of Asclepius. They chiefly consisted of music, and a convent between musicians and poets. They were also called Macedonias, or the great festivals of Asclepius.

ASCLEPIAD, Asclepiades, a Greek or Latin version of four feet, containing a spondee, a choriambus, and two dactyls; or, which amounts to the same, a spondee, two choriambuses, and pyrrhichus.

Such are the verses,

"Meceas, stavis edita regibus."

"Subhmi feriam fidera vertice."

ASCLEPIADA, in Entomology, a species of Chrysomela, discovered by Pallus in the vicinity of the rivers Volga and Irin, in Siberia. It is of a dusky blue, and glossy; antennae black; dots on the thorax scattered; on the wing-cules disposed in lines. Pallus, Gmelin, &c.

ASCLEPIADES, Artorus, in Biography, physician and friend to Caesar Octavius, by whose advice the emperor left his camp the evening before the battle at Philippus, by which his life was probably preserved, that part of the army being surprized and cut to pieces by Brutus. Artorius perished by ship-wreck soon after the battle at Actium, and the emperor caused a magnificent monument to be erected to his memory at Smyrna. He is said to have maintained, that the flonarch is the part principally affected in the hydrophobia. Haller Bib. Med. Prac.

ASCLEPIADES, descendants of Asclepius, to call, who were supposed to have preserved the fetures of their progenitor, and to have founded schools of medicine in various parts of Greece, which continued many ages. The most famous were those of Rhodes, Cnidos, and Cos, formed by different branches of the family. Hippocrates was derived from the latter branch; see article Hippocrates.

ASCLEPIAD, a celebrated physician, born at Prusa in Bithynia, flourished somewhat before the time of Galen, and formed an intimacy with L fcius Cr atius the orator, and other persons of distinguished character. It is not known whence he took his name, as he was not of the family of Asclepius. After completing his education, he went to Rome, where he commenced by teaching rhetoric; but not succeeding in that line, he applied himself to the study of medicine, in which he soon became famous: for, rejecting the doctrines of his predecessors in that art, he formed a new theory of diseases, and instituted new methods of curing them. He avoided all harsh and violent drugs, particularly vomiting and purging medicines, which, he contended, injured the stomach, and induced complaints more dangerous than those they were given to remedy, and professed to cure diseases, "tutis, et efficaces." Rome con vexit (Haller says) at lassum et mollitionem Romanum acerbo accommodavit. He was attached to the corporeal philosophy, and thought that the first motion of the corpuscles in the vessels constituted health, and that diseased when they were restricted or checked in their motion by the obstructions of the vessels. "Thns pains, ardent fevers, intermittentis, &c. were occasioned (he said) by corpuscles impacted in the pores." A doctrine full as intelligible, "as the才or of the humour obstructing the vessels," the favourite theory of one of the most celebrated teachers.
teachers in the last century. In fevers, he prohibited all food, and even drink to his patients for three or more days, but when by this means, the violence of the fever was abated, he inducted them with warm coverings, and with wine. When convalescent, he used glycyrrhiza, which he frequently employed. In pleurisy, and in other complaints attended with violent pain, he prescribed bleeding, but in chronic complaints, he depended principally on abstinence, exercise, baths, and frictions. These, he said, opened the pores, and gave free exit to the obstructed particles.

That he was in high repute in his time, we have the authority of Celsus, Claudius Aurelianus, Galen, and Scribonius Largus, from whose writings what is known of his opinions and practice is principally taken, as none of his works have been preserved. Mithridates, king of Pontus, invited him to his court; but his employment at Rome was too lucrative to permit him to accept the offer.

But besides the reputation he acquired by his practice, his fame was further increased by the number of pupils or disciples who attended his school, and who continued to follow his method long after his decease. Themion, one of his disciples, in part adopting, and in part deviating from his master's doctrine, formed a new sect, under the title of the Methodists, which became general. Aeclepiades is said to have pledged his reputation on preferring his system, to have lived to a great age, and to have died at length in consequence of a fall. Le Clerc Histoire de la Medicine. Haller Bib. Med. Pract. who gives a detailed and particular account of his practice in a variety of diseases.

Aeclepiades, a Greek philosopher of the Eleac school, was born at Phila, in Peloponnesus, and flourished about 350 years before Christ. He was the intimate friend and associate of Menedemus, whilst they both attended the school of Stilpo, and afterwards when they attended Phedo's school at Elis. They were under a necessity of supporting themselves by the manual labour of masons. They left their country for the sake of enjoying the advantages of Plato's school at Athens, and gained a subsistence by grinding in the night in one of the public prisons, that they might be able to spend the day in the academy. When the Athenian magistrates, upon inquiring into their mode of subsistence, were informed of this circumstance, which manifested their want of knowledge, they applauded their zeal, and prevented the apprehensions entertained by them. Aeclepiades lost his sight, but bore the affliction with equanimity.


Aeclepias, in Botany, swallow-wort. (From Εφεσεώς, the god of medicine.) Linn. gen. 306. Schreb. 429. Jaff. 147. Geer. l. 117. Clas, pantodentia digynia. Nat. Order. Contortae. Apocineae. Jaff. Gen. Char. Cal. petiolatia, cleft, sharp, very small, permanent. Cor. mono-petalus, flat, or reflex, five-parted; divisions ovate-acuminate, slightly bending with the fun; nectaries five, growing to the tube of the filaments, fleshy, or cowed; a sharp horn protruding from the bottom, bending inwards. Stam. filaments five, collected into a tube, swelling at the base; anthers oblong, upright, two-celled, terminated by an inlexible membrane lying on the stigma, having a reversed wing on each side; the pollen is collected into ten corncibles, invariable lanceolate, flat, hanging down into the cells of the anther, by short threads, which are annexed to pairs of five cartilaginous twin tubercles, each placed on the tip of the flanks of the anthers, adhering to the angles of the stigma, between the anthers. Fil. germs two, oblong, acuminate; style two, fimbriate; stigma common to both, large, thick, five-cornered, covered at the top by the apexes of the anthers, umbilicate in the middle. Per. follicles two, large, oblong, acuminate, swelling, one-celled, one-seeded. Seeds numerous, imbricate, crowned with down; receptacle membranaceous, five.


1. A. undulata, waved-leaved swallow-wort, apocynum africamum, lapathi folio, Comm. Rar. t. 16. "Leaves feffile, oblong, lanceolate, waved, smooth." A native of the Cape of Good Hope. It was introduced into our gardens in 1753. Its flowers are seen in July. 2. A. trigyna, curled-leaved swallow-wort; apoc. erectum afric., &c. Herms. par. 25. Comm. Rar. t. 17. "Leaves cordate, lanceolate, waved, febrile, opposite; umbel terminal." Its stem is pubescent, branching at the bottom; leaves sub-fidibus, repand; one umbel of yellow flowers terminates the stem. Found at the Cape by Sparrman. Introduced into the Kew garden by Mr. Mollon, in 1774.

3. A. pubescens, pubescent swallow-wort; apoc. afr. tuberosum, &c. Morr. Hist. 5. 610. Plack. 139. f. 1. "Leaves ovate, veined, naked; item fruhvy; pedicelles villous." The item is shrubby, simple or little branched, very shortly villose; leaves on very short footstalks, villose, pointed, much veined, rather crowded; pedicels and umbels villose; flowers purple. A native of the Cape of Good Hope. 4. A. volubilis, twining swallow-wort; Rheed. Mal. 9. 24. t. 13. Rumphi. Amb. 5. t. 175. f. 1. "Leaves ovate, entire, acuminate; item adnecose, twining; umbels erect; item smooth; branches shaving; leaves pilos, ovate-subcordate, veined; umbels simple, on peduncles the length of the petiole; flowers greenish. A native of Malabar and Ceylon. 5. A. aethiopica, aethiopic swallow-wort. "Leaves petiolate, cordate-ovate, above smooth, entire; item fruhvy, twining, hisrufe; umbels few-flowered." The whole plant is villose, except the upper surface of the leaves, which resemble those of laurel, heart-shaped at the base, pointed at the apex; umbels shorter than the leaves, often proliferous; flowers small. Found in the woods of Ceylon by König. The root is esteemed in aethiopic cafes. 6. A. gigantea, curved-flowered gigantic swallow-wort, Brown, Jan. 182. 1. "Leaves ovate-oblong; petioles very short; segments of the corolla reflex, involute. It rifes fix or seven feet in height; leaves thick; flowers white; pods very large; nectaries without horns. Brown says, in Jamaica it is called curcularia, or French jacinth. Cultivated at the royal garden, Hampton court, in 1690. It flowers from July to September. 7. A. fruticos, Syrian swallow-wort. Hort. Cliff. 78. & A. caudata. Lin. Spec. 313. "Leaves oval, tomentose underneath; item simple; umbels nodding;" root creeping; item strong, four feet high, on the sides of which, and near the top, the flowers appear, these are of a dingy purple, succeeded by large oval pods. A native of North America, and cultivated by Parkinson in 1629. In Canada, the French cut the tender shoots as asparagus. Poor people collect the coton, from the pods, with which they fill their beds. On account of the likeness of this cotton, Parkinson calls the plant Virginian flax. 8. A. amara, oval-leaved swallow-wort; apocynum, Dill. Eth. 21. t. 27. f. 30. "Leaves ovate, rather hairy underneath; item simple; umbels and nectaries ered." From a foot and half to more than three feet high; items round, smooth, the size of a strand's quill. At each joint are placed two large leaves, which are blunt, thickish, fimbry, smooth, with purple nerves; lower leaves smaller and rounder; the umbels arise from the top of the stalk, and some of the upper axils; the nectaries approximate more,
are slighter, longer, rifer, more acute, and less excava
ted than in the other species; the flowers are of a bright
purple colour. Cultivated by Dr. Sherard, at Eltham, in
1732. A native of North America. 9. A. purpurascens, purple
Virginian swallow-wort, Dill. Elth. 32. t. 29. f. 21.
"Leaves ovate, villose underneath; stems simple; umbels fructifer;
nectaries reflexuate;" stems many, as thick as the little
finger, at bottom obtusely quadrangular; leaves on short
footstalks, from four to six inches long, with a purple
midrib; flowers of a dull herbaceous colour; horns of the
nectaries horizontal. A native of North America. Cul-
tivated by Dr. Sherard, in 1772. Linnæus observes that
this species is nearly related to A. Syrica. 10. A. variegata, variegated swallow-wort, apoc. americanum. Dill.
Elth. 32. Pluk. Alm. 34. t. 77. f. 1. "Leaves ovate,
wrinkled, naked; stems simple; umbels subflabellate; pedicels
tomentose." According to Miller, this resembles the for-
going sort, but the leaves are rough, and the umbels of the
flowers are more compact; they come out on the side of the
flanks, are of a herbaceous colour, and not succeeded by
pods in this country. A native of North America. We
learn from Plukent, that it was cultivated here in 1695.
11. A. curassavica, Curassavian swallow-wort, bialert ippecacuan-
ha, Brown, Jam. 183. 4. Apocynum. Dill. Elth. 34.
t. 30. f. 33. Sibam. t. 1. 129. f. 4. 5. "Leaves lanceolate,
smooth, shining; stems simple; umbels erect, solitary, lax-
yak. The stem is from one to two or three feet in height;
leaves ovate, and decollated, petioled, acute, entire, smooth
on both sides; flowers in umbels; umbrellas terminal; in-
volve a few fiddle-shaped leaflets; pedicels one-flowered; corolla
reflex; the flowers, according to Brown, are of a fawn
colour in the low lands, but in the cooler inland plateaux
they change to a white. This species so much resem-
bles A. nica, that Swartz doubts whether it be really dif-
tinct from it. Miller affirms that the roots have been sent
to England for ippecacuana. The juice of the plant has
been used as a vermifuge. It is a native of South America,
the West Indian islands, and China. In 1692, it was cul-
tivated in the royal garden at Hampton-court, where it flowed
from June till September. 12. A. nica, white or almond
leaved swallow-wort. Apocynum, Dill. Elth. 35.t.29.
f. 32. Plum. Spc. 2. 1c. 39. "Leaves ovate-lanceolate,
smooth, shining; stems simple; umbels erect, solitary,
flowers two feet high, flat, round, the fize of a fawn's
quill, dark green; leaves like those of common pericaria,
deep green above, pale beneath, smooth, rather fluff.
The principal difference between this and the curassavica is in
the flowers, which are green with white nectaries. A native
of North America. Cultivated by Dr. Sherard in 1732. 13.
A. incarnata, flesh-coloured swallow-wort, Jacq. hort. 2.
t. 107. "Leaves lanceolate; stems divided at the top; um-
bel s erect, tawny." This puts several upright flanks,
about two feet high; at the top of which are produced close
umbels of purple flowers in Auguill. A native of North America.
Cultivated by Miller in 1731. 14. A. decumbens, decumbent swallow-wort. "Leaves villose; stems decum-
bent." The flanks are declivous, hairy, a foot and a half
high; leaves narrow; umbels compact, at the extremity of
the branches; flowers of a bright orange colour. A native
of North America. 15. A. laetiflora, milky swallow-wort;
"leaves ovate; stems erect; umbels proliferous very short."
This is so like the vincetoxicum as scarcely to be distin-
guished from it; the leaves however are less coriaceous,
the corymb compound, and scarcely longer than the pedicels.
A native of Ceylon. 16. A. vincetoxicum, officinal swallow-
lutea. Mill. Dicbt. "Leaves ovate, bearded at the base;
flabellate, umbels prolific;" root divided and fibrous;
flowers about two feet high, slender, woody, round, hairy,
flame; leaves cordate-ovate, acuminate, smooth, entire, on
short footstalks; peduncles axillary, many-flowered; corolla
white; follicles ovate-acuminate; seeds small, brown,
inclosed in cotton. It flowers during the month of June,
July, and Auguill. It is common in the northern parts of
the continent. The medical virtues of the root are stated by
Bergius to be diuretic, fodiocide, emmenagogue, and alex-
iphatic. 17. A. nigra, black swallow-wort, Villars' Dagh.
487. "Leaves ovate, bearded at the base; stems twining
a little at the top." This agrees with the officinal species in
the shape of its roots, leaves, and flowers, but the flanks ex-
tend to a greater length, and at the upper part twitc round
other plants, &c. near them; the flowers are black. A
native of the south of France.

** Leaves volut. at the nodes.

18. A. arboroscentes, arborecent frag-wort, apoc. fruticos.
&c. Bern. Afr. 21. t. 13. "Leaves ovate; stems subhy-
by, reflexuate;" stems upright, as thick as the finger, rough,
with hairs; leaves opposite, on very short petioles, obtuse,
but with a minute smooth point; pedicels from the sum-
mit of the stem, unbell'd, villose; corolla white. A
native of the Cape of Good Hope. Cultivated by the duch-
ess of Portland in 1714. It flowers in December. 19. A.
fruticos, subhybry, or willow-leaved swallow-wort. A. glabra,
Mill. Dicbt. t. 2. apoc. erectum africannum, &c. Mill. fct. 45.
β A. craffiolao, Lin. Syfl. ed. 13. "Leaves bipartite-
acolate, stems subhyby;" the nectaries are compressed,
without a claw, instead of which are two long reflex ears;
follicles inflated, set with soft prickles. This is a native of
the fane place, and was cultivated in the same year, and by
the fame peron, as the A. arboroscentes. 20. A. refanada,
reapped swallow-wort, apoc, erectum afric. subhybrium., &c.
Herm. Par. 45. Comp. Rar. t. 17. "Leaves revolute, re-
panied, hairy;" this is given on the authority of Reichard.
Its native country is unknown. 21. A. fibrica, Siberian
77. t. 21. "Leaves linear-lanceolate, opposite, or in three
fem decidum." This varies with alternate leaves. It is
a native of Silberia, and cultivated in 1775, by Mr. J. G.
Brown. It flowers in July. 22. A. verticillata, verticillate
swallow-wort, apoc. marianum, &c. Mill. Pl. 17. t.
336. f. 4. "Leaves linear verticillate, stems erect;" the flanks
flender, upright; flowers small, white, in umbels at the top
of the fem; leaves frequently four together. A native of

*** Leaves alternate.

23. A. rufa, red swallow-wort. "Leaves ovate, umbels
many, from the same common peduncle." Stem upright,
spurce, annual; leaves acuminate; several umbels on a
peduncle. A native of Virginia. 24. A. tuberosa, tuberosous
t. 647. Dill. Elth. 35. t. 50. f. 34. "Leaves lanceolate;
stem divaricate, hairy." Stems a foot high, hairy, round,
duky red; leaves alternate, except at the upper part of
the stem, and where the branches arise; flowers of a bright
orange colour; the tuberous roots are very large. A
native of North America, flowering in Auguill. Cultivated
in 1690, in the royal garden at Hampton-court.

**** 25. A. foemina, narrow-leaved swallow-wort.
"Leaves filiform; stems erect; umbels lateral, elongate,
peduncled." This species was found at the Cape of Good
Hope, by Thumberg. 26. A. grandifloro, great flowering
swallow-wort. "Leaves petioled, oblong, hairy; stems
spurce, rough, erect; flowers axillary, peduncled." The flower
of this is very large, coloured, and tsefticked like that of the
fritillary
frillaries. It also was found at the Cape by Thurber. 27. A. coronata, flitchy-leaved swallow-wort. "Leaves ovate, flitchy, very smooth;" leaves about four inches long, with out veins; petals flitchy, half the length of the leaves; umbel simple, axillary, solitary; calyx minute; corolla scarcely half an inch flat. This differs much from the other species. A native of Carolina. 28. A. fanderson, climbing swallow-wort, Mill. Dict. n. 19. "Leaves oblong, lanceolate, fiddle-shaped, hair-rough, climbing s umbels laterally, compact." It climbs to the height of ten or twelve feet. At the joints are two opposite leaves, on short foot-stalks. Flowers of a sulphur colour, and appear in August. A native of Carthage. Cultivated by Miller in 1759. 29. A. prostrata, bell-flowered gigantic swallow-wort, Ast. Hort. Kew. A. gigantea, Jacq. Ofib. 3. 17. t. 69. "Leaves oblate-oblong, petals very short; corollas subcampanulate." A native of Peru. Cultivated in 1744 by the duchess of Beaufort. It flowers from July till September. This ought to be placed before A. gigantea at 6. 30. A. farinosa, small-flowered swallow-wort, Ast. Hort. Kew. i. 307. A native of Carolina and East Florida. Introduced by Dr. Fothergill in 1774. 31. A. tenera, tall flax-leaved swallow-wort, Cavan. Hifp. 42. t. 57. "Leaves scattered, fiddle-shaped; umbels lateral, many-flowered, 6 or 7." A foot high; leaves narrower at the base, narrow, round, entire, axillary. We are ignorant of its native country. It has been cultivated in the royal garden at Madrid since 1788, and flowers in autumn. 32. A. mexicana, Mexican swallow-wort, Cavan. Hifp. 42. t. 58. "Leaves fix together in whorls lanceolate; flowers umbelbed." Stems upright, fiddle, a foot and a half high; leaves quite entire, with a short petiole; corolla white, deeply five-parted. A native of Mexico, and cultivated at the royal garden at Madrid. 33. A. fujara, Lour. Cochinich. 170. "Stem creeping; leaves cordate, lanceolate; umbels axillary, in pairs." Stem herbaceous, twining, fleshy, much branched at the top; leaves opposite, small, bearded at the base; flowers dull purple, small, with five car-shaped petals. A native of Cochin China. 34. A. viminalis, Swartz. Prodr. 53. Brown, ib. 1857. 3. Sloane, i. 207. t. 131. "Stem fleshy, twining, fiddle-shaped; leaves opposite, lanceolate, smooth; umbels lateral, many-flowered." Stalks fleshy, weak, spreading to the ground, and to one yard. It has very few leaves, but many flowers disposed in large umbellate groups; it abounds with a milky juice. A native of Jamaica in woods.

Propagation and Culture. In this numerous genus, only two species, viz. 16. and 17. are European; two or three are from South America; the rest are natives of North America, the East and West Indies, or Africa. Such as are inhabitants of North America, 7-10, 12, 13, 14, 22-24. are, as well as the European, hardy enough to bear the open air, and therefore proper for large borders in pleasant grounds, and to mix with shrubs. The other species require the protection of the green-house or flore; all of them are tall perennials, flowering from June till August or September, mostly dying down to the root in autumn. They should have little water, especially in winter; they may be propagated by seeds, where they can be obtained, or by cuttings; the hardy sorts may be increased by parting the roots. 14, 15, 24, 25, 26, 27, 28, 29, 30, 31, and 32, will live but in a flore. These must be raised from seeds sown in the spring on a hot-bed, and being transplanted into pots filled with rich earth, must be plunged into the sand-beds in the flore. After the second year, the 11th foot becomes naked, and does not produce many flowers, so that young plants ought to be raised to succeed them, especially as it produces plenty of seeds in England. All the Cape sorts, 1, 2, 3, &c. may be propagated by seeds sown in April on a bed of light earth in the open air, and when the plants are three or four inches high, they should be each planted in a small pot filled with light earth, and shaded till they have taken new root; then they may be placed with other exotic plants in a sheltered situation until October, when they may be removed into the green house or dry flore. They may also be increased by cuttings. The roots of the 5th and 22d should be planted in a warm border, and in winter covered with old tan. The 14th and 24th are propagated by seeds in pots placed in a moderate hot-bed, and gradually exposed to the open air as soon as the weather will permit. When they are of a proper strength they may be planted in a warm border, and treated as other tender plants. See Martyn’s Miller’s Dict.

ASCOLTER, in Geography, a town of Sweden, in South Gotland; twelve miles south of Wardberg.

ASCO, a town of Spain, in Catalonia, seated on the Ebro, ten leagues from Tortosa.

ASCODRUTAE, in Antiquity, a set in the second century, who rejected all use of symbols and sacraments; on this principle, that incorporeal things cannot be committed by things corporeal, nor divine mysteries by anything visible.

ASCODRUTUS, in Middle Age Writers, denotes a bridge supported on bags made of leather or bullock hides. Such bridges appear to have been in use among the ancient Greeks, and to have given the denomination to a tribe of Arabs, hence called Arabs.

Hence also the appellation of monami, given to pirates, by reason of their using bridges, or rather boats made of leather. Plin. Hift. Nat. lib. vi. c. 9. Du Cange.

ASCOLI, in Geography, a town of Italy, in the state of the church, and marquisate of Ancona, seated on a mountain between the rivers Tronto and Caffinian; twenty leagues south of Ancona, twelve north-east of Aquila, and thirty north-east of Rome. N. lat. 42° 50'. E. long. 13° 5'.

ASCOLESI, de Satricio, a town of Italy, in the kingdom of Naples, and province of Capitanata, the see of a bishop. This town was almost destroyed by an earthquake in 1399. N. lat. 41° 8'. E. long. 13° 32'.

ASCOLIA, in Antiquity, a feast which the peacants of Attica celebrated in honour of Bacchus. They sacrificed a he-goat to him (as being the destroy of vines); and of the victim’s skin made a foot-ball, which they blew up, and anointed with some unctuous matter; or, as Potter thinks, they made a bottle of it, which they filled with oil and wine. The young people playing at this, and keeping themselves always on one foot, whilst the other was suspended in the air, by their frequent falls gave occasion of derision to the spectators. He that held the sport longest, and made the largest hops, was the conqueror. Hence the game called cophafin. Picturus.

ASCOMARII, in Ancient Geography, a people of Asia, in Sarchatia. Pliny.

ASCONIA, in Geography, a town of Switzerland, lying on the Locarno Lake, in which is a college for the instruction of youth, founded in the sixteenth century.

ASCOUNIUS, in Ancient Geography, a town of Asia, the seat of Virgil, and the acquaintance of Quintilian and Livy. His notes on Cicero’s orations are judicious, and still exist, though in a mutilated state. They were first published, with those of Lucan, in folio, at Venice, in 1477;
ASCORNA, in Geography, a province of the empire of Morocco. See ESCURA.

ASCORUS, a river of Colchis, according to Arrian.—Also a town of Africa, in Mauritania.

ASCUS, in Natural History, a word used by De Laet, as the name of that pouch or bag with which nature has supplied the animals of the Diadephos or Opethum tribe, for the protection of their young; and in which they are contained in a state of imbecility, or time of danger. Later writers, as Linnaeus, Gmelin, and others, call this abdominal pouch, or receptacle, folliculus; it is not the womb, as is vulgarly imagined, but a kind of skinny bag, situated under the belly, and in most species containing the teats of the animal.

ASCYRUM, in Botany, a genus of plants resembling St. John's wort (supposed from s, and spiri, or spleen, aperaturus, not rough, a soft plant). Lin. g. 903. Schreb. 1225. Cascn. 62. Juss. 254. Clus. polygalphus polyandric. Nat. Ord. Rosaceae.—Hypericæ, Juss. Gen. Char. Cal. perennial, four-leaved: the outer leaves opposite, very minute; the inner heart-shaped, large, flat, erect, all permanent. Cor. petals four, ovate; the outer opposite, very large; the inner leaves. Sam. filaments numerous, bristle-shaped, slightly united at the base in four parts; anthers roundish. Pst. germ oblong; style scarcely any; stigma simple. Per. capsule oblong, acuminate, one-seeded, two-valved, inclosed by the larger leaves of the calyx. Seds. numerous, small, roundish, fixed to the edge of the valves.


Species. 1. A. crus Annuus, common acyrum, or St. Andrew's scrofts. "Leaves ovate; item round; panicle dichotomous." Stalks about six inches high, thinner, dividing into two towards the top; from between the divisions of the branches loose panicles of small yellow flowers are produced; capsule small, pointed at the ends, compressed as a lens, obliquely two-sawed. A native of North America. Cultivated by Miller, in 1759. It flowers in July and August. 2. A. hypericoides. Brown, Jam. 309. Swartz. Obs. 294. Hypericoides, Sc. Plun. Gen. 51. t. 152. f. 1. "Leaves oblong; branches erect," An elegant little shrub, three feet high, full of leaves and branches. Branches dichotomous: twigs compressed and aciculate; leaves opposite, subacute, lanceolate, obtuse, entire, very finely perforated, smooth, at their base small glands; flowers terminating, solitary, yellow; two leaves of the calyx four times larger than the others. A native of South Carolina, Virginia, Maryland, and the cooler mountains of Jamaica. Cultivated by Miller. 3. A. villifum. "Leaves hirsute; stem stiff and straight." This grows about three feet high. The flowers are produced at the ends of the stalks, and are of the same shape and colour as those of common St. John's wort. It grows wild in Virginia, and was cultivated by Miller in 1759.

Propagation and Culture. These are perennial plants, the stems decaying in the autumn. The first may be increased by laying down its branches; it loves a moist soil and shady situation. The second rarely produces seeds in England, but may be propagated by cuttings of the young shoots in May, planted in pots, and plunged in a moderate hot-bed, and afterwards transplanted into a warm border; but in severe winters they must be defended from the frosts by covering the roots with straw. The third may be increased by parting the roots in autumn, and planting them in a sandy soil. See Martyn's Miller's Dict.

ASCYRUM. See HYPERICUM.

ASDRUBAL, in Biography, a name given to several of the Carthaginian generals. Aedruba, the son-in-law of Hamilcar, the father of Hannibal, accompanied Hamilcar into Spain after the first Punic war; and on his death, was elected by the army his successor. Having made considerable conquests in Spain, he built a city called New Carthage, now Carthagena, in order to secure them. Hannibal served during three campaigns under him. His administration in Spain was prosperous for eight years; but it terminated with his affiancement, which was effected by a Gaul, whose master he had put to death. The affianced was so gratified with his revenge, that he filled in the midst of the tortures with
ASE

with which he was executed.—Afdrubal Barca was the son of Hamilcar and brother of Hannibal. He commanded in Spain, while his brother was in Italy. After extinguishing a rebellion of the natives, he was summoned to the assistance of his brother, but in his progress was completely defeated by the Romans. Afdrubal and the other Carthaginians generally maintained themselves with difficulty in Spain, and were frequently defeated by the two Scipios; but at length these two leaders were overpowered by the Carthaginians, and killed. Whist he was advancing along the coast of the Adriatic to join his brother, and the existence of the Roman fleet was threatened by his numerous army, he was met at the river Metaurus, now Metaro, by two confuls Livius and Claudius Nero with their united forces; and a bloody engagement ensued, which proved decisive, for Afdrubal was slain, and almost the whole of his army destroyed. Claudius Nero carried the head of Afdrubal to his brother Hannibal; and when it was thrown into the Carthaginian trenches, it was presented to Hannibal, who recognizing his brother’s features, exclaimed: “I perceive the fortune of Carthage,” and then retired, in the year before Christ 203, into the extremity of Italy.—Afdrubal, the son of Gisco, served in Spain with the former Afdrubal, and afterwards in Africa, against Scipio. He was father of the celebrated Sophonibus.—Another Afdrubal defended Carthage in its last siege by Scipio, and foreseeing its fate, surrendered himself to the Romans. When his wife, who was left behind him with her two children in the temple of Aeculapius, perceived that the temple was set on fire, she appeared on the walls magnificently adorned, with her two children; and having reproached and executed her husband for白白defeating her, she flit hatted her children, and then threw herself into the flames. See Carthag.

ASDYNIS, in Ancient Geography, an island of Egypt, in the lake Mosis, according to Eudoxus, cited by Steph. Byz.

ASE, in Biography, a celebrated Jewish rabbi, was born at Sora in Persia, and was chosen chief of the famous academy in that place, in the fourteenth year of his age, which dignity he retained during sixty years, that is, till the year 427, in which he died. Afe was the principal compiler of the Babylonish talmod. During his long residence at Sora, he published a collection of his decisions, which he divided into four parts: the first contained the rules and maxims of the Mifheva, with the doubts and solutions relating to them; the second was chiefly occupied with the various questions of their doctors, and the sentiments of the Talmud and Gemarilis; the third comprehended the decisions and maxims published since Judah the fain; and the last recapitulated the texts of scripture relating to law-suits, with the comments of their learned men. This was the first division of the Babylonish talmod; but as Afe did not live to complete it, his disciples altered his method, and made several additions, which are thought to have rendered the work more obscure. See Talmud.

ASEA, in Ancient Geography, a town of Arcadia, north-east of Megapolis.

ASELGRUR, in Geography, a town of Hindoosfan, in the Candela, fifteen miles from Burnhampour, and eighty-five south of Indore.

ASEIAC, a town of Persia, in the province of Chufian, thirty leagues south-west of Ifpanah.

ASEKI, or Aserai, the name which the Turks give to the favourite sultanees who have brought forth sons. They are greatly distinguished above others in their apartments, attendants, pensions, and honours. They have sometimes shared the government. The sultan, who first presents the emperor with a male child, is reckoned the chief favourite, is called bayut akbi, and ranks as a legitimate wife; though from the time of Bajazet II. the sultans are forbidden to marry by a public law, which Solymans II. violated in favour of Roxelana.

ASELE, Aafee-Lapmark, or Angermanland Lapmark, in Geography, a province of Lapland, lying near the Angermanland river, borders on Angermanland, towards the earl, on Umea-Lapmark towards the north, and joins to the mountains on the west, and to Jantland on the south. In length it is about thirty Swedish miles. In the reign of Charles XI. about the year 1673, measures were taken for improving the population of this country. In this Lapmark lies the parish of Afele, about eight or nine Swedish miles long, of which the southern part is inhabited by Swedish peasants. This district is not capable of much improvement, and few parts of it have been cultivated. Barley is the only grain that is grown, and when the crop fails, the inhabitants are reduced to the necessity of mixing the bark of fir-trees dried and pulverized with their barley-meal, and of this mixture to make their bread. They chiefly subsist by breeding of cattle and fishing. The country is infested by a kind of watery rats, which are very troublesome, against which they secure themselves by besmeering their faces with an ointment of tar and grease, and which they drive from the huts by smoke. A service is performed in a wooden church, built by queen Christina in 1648, once on every other Sunday; and the Lapps meet once a fortnight, on Friday evening, and continue till Sunday evening in their huts erected near the church, and the peasants in the huts built by them for the same purpose. At the fair which is held every year at Xene near Afele church, the Lapps sell the flesh and skins of rein-deer, furs, whittings, fowls, &c.; and the Lapland peasants carry butter, cheese, dried fish, fowls, and some dot of furs, to the fair market.

ASEL LINA, in Entomology, a species of Phalana that is found in Germany. The wings are brownish, and without spots. Fab. It belongs to the Bombyx family.

ASELLI, in Antiquity, two fixed stars of the fourth magnitude, in the constellation Cancer.

ASELLII Pancreas, in Anatomy. See Pancreas.

ASELLINA, in Natural History, a species of Lernna described by Linnæus. Lin. S. V. The body is bunted, and the thorax heart-shaped. Found on the gills of some fishes.

ASELLIUS, Gasp., of Cremona, in Biography, born toward the end of the sixteenth century, taught anatomy at Paris with great reputation. In 1622, while prosecuting his studies, he discovered: “causam quæs timet concilia,” Douglas says, the lacteals running across the mesentery, in a dog that had been opened alive soon after eating a plentiful meal. He describes these vessels as passing from the intestines to the liver, not knowing their real course, and mistaking the lymphatics of that viscus for them. He saw their valves, preventing the regurgitation of the chyle. The lacteals, he candidly observes, had been mentioned by some of the earliest medical writers, but not described, or their functions stated, and as none of the modern reformers of anatomy noticed them, the discovery is properly attributed to him. Caspar Hoffman ridiculed the invention of them; and our great countryman, Harvey, supposed them to be only defined to convey the lymph.

Acellus mixed a collection of glands in the mesentery for the pancreas, and described the pancreas as a new discoverd gland, which, with his error in describing the coupl
of the lizards, throw much obscurity on his discovery. He
died some time in the year 1624, and was buried at St. Peter's
at Milan, aged, as appears by the interment on his tomb,
only forty-five years. The year following, his friends, Alex-
ander Padim and Senator Septulius, published, from a man-
uscript that had been prepared by the author, "De Lacti-
busbus Lacteis Venis, quarto Vafumor Meteoricorum Genero,
noventoino, Dilisimnattc, cuo figuris elegendisins, Medici-
i, 1627, 400." It was republished at Bâle 1628, at Leyden
1628, and afterwards among the works of Spiegelburg and

ASELLUS, in Ichthyology, the name of a tribe or ge-
ner of fishes adopted by Willughby, Ray, and other old
writers on Natural History. Linnaeus arranges the fishes
of this kind in the GADUS genus; as for example: affinis ma-
fo of Aldrovandus, is gardus agletanus Lin. (Hodgson) af-
affinis niger of Ray, is gardus laetus Lin. (Bib.) affinis mollis
mow of Willughby and Ray, is gardus minutus Lin. (Poor),

ASELLUS, in Entomology, a specific name of the com-
on wood-kswe, or hog-kswe, as it is called in England. It
belongs to the OXICEUS genus. It is of an oval shape;
and has an obtuse tail, which is furnished with two simple
fles. This well-known creature delights in moit places,
but often, when times, in walls, in damp and rotten wood,
&c. The young are contained in a four-valved receptacle,
under the abdomen of the female.

ASELLUS, in Conchyliology, a species of Chiton, found
in the North seas, most frequently adhering to anguirs mod-
dious. The shell consists of eight valves, is very black,
convex above, with a yellowish dorsal spot on each valve.
Chemnitz, Gen. &c.

ASELLUS, a species of Cyprina, very common about
the Madeira islands. It is white, with three brown bands.
Linn. This shell is called Aellus also by Rumphius and
Arkengelius. The shape is oblong; and the brown bands
are bordered with yellow, or sometimes reddish.

ASEMOS, a species, from a negative, and ergo, a figer,
is an epithet applied to events that fall out contrary to all
appearance, and without any manifest cause.

ASENA, in Ancient Geography, a town of Spain, in the
territory of the Carpetani.

ASENI, a people of India, whose capital was Buchepula.

ASEPTA, in Medicine, a species from a negative, and
 ergo, to putrify; signifies any thing unpurified, or uncon-
certed.

ASER, in Geography, a town of Asia, in the Arabian
Irac, situated on the Tigris, eight miles west-north-west of
Baghur.

ASES, in Ancient Geography, a Scythian people, who
inhabited the vicinity of the Cimmerian Bosphorus.

ASFACA, in Geography, a town of Peria, in the pro-
vince of Mecran, 52 leagues north-west of Mecran.

ASFELD LAVILLE, a town of France in the de-
artment of the Ardennes, and chief place of a canton in the
district of Recht, thirteen miles north of Rheims. The
place contains 1880 and the canton 7852 inhabitants: the
territory includes 230 kilometres and 19 communes.

ASFON, or ASFON, a town of Egypt, four miles
orth of Ermnt. This is the site of one of the cities called
Aphroditopolis.

ASFUR, in Ichthyology, a species of Charrodon, found
on the coasts of Arabia. It is black, with a yellow tran-
versal lunar-wedged band. Fortik. In Arab. The same
author describes a variety of this fish, of a bluish colour,
with oblique bands, biotches, and fine lines of violet.

Length five inches; body oval, covered with rhombic scales,
diposited in a quinconx order, and finely dotted; a strong
spine on the gill-cover half an inch in length; lateral line
curved; dorsal and anal fin calcated; tail rounded, fulvous,
and edged with black.

ASGILLIA, in Ancient Geography, an island situated
in the Persian gulf, on the coast of Arabia Felix. Pliny.

ASGILL, John, in Biography, an English discoverer of
singular character, was born about the middle of the 17th
century, and educated at Lincoln's Inn, under Mr. Eyre, a
very eminent lawyer. His political talents and singular
mind of humour were manifested in two pamphlets, which
were printed in 1698, and which attracted public notice;
the first was entitled, "Several Assertions proved in order

4

..to create another Species of Money than Gold and Silver,"
and the second, "An Essay on a Registry for Titles of
Lands." These were followed, in 1700, by another whimsi-
ical and enthusiastic tracts, intitled, "An Argument,
proving, that, according to the Covenant of Eternal Life,
revealed in the Scriptures, Man may be translated from
hence, without passing through Death, although the human Nature
of Chrift himself could not be thus translated, till he had
passed through Death." This publication excited a general
clamour against the author as an infidel and a blasphemer.
Before this time he had removed into Ireland, and pursued
the practice of the law with so much success, that he was
enabled to purchase an estate, and to obtain a seat in the
Irish parliament; but this publication occasioned his expul-
sion from the house, as a person whose blasphemous writings
rendered him unworthy of representing a Chriftian people.
On his return to England, he obtained a return to the Bri-
tish parliament, in 1705, for the borough of Bamber in
Sussex, and held his seat for two years. But his want of
wealth involved him in debts which he was unable to dis-
charge; and during the interval of privilege, he was arrested
and committed to the Fleet prison. On the opening of the
next session of parliament, in 1707, he was demanded by the
fiercst at arms, released from custody, and resumed his
seat. However, his embarrassed circumstances, and the
consideration of his being a privileged debtor, created a
prejudice against him in the house, and a committee was ap-
pointed to examine his offensive publication, in order to jus-
tify the proposed measure of his expulsion. This com-
mittee reported that his book contained several blasphemous
expressions, and that it seemed to be intended for exposing the
scriptures; and though Afgill made a spirited defence, and
solemnly protested, that he published his treatise under a
firm belief of the truth of the scriptures as well as of his own
argument, he was expelled. In consequence of this mea-
Sure, as his debts increased, he was thrown by his creditors
into the King's Bench prison, where he remained thirty
years; furnishing himself with amusements and occasional
supplies, by writing pamphlets, chiefly political, against the
pretender, and by practising in the way of his profession.
Notwithstanding his misfortunes, and the confinements of
his own infatuation, he retained great vivacity of spirits, and
peculiar powers of entertaining conversation, till his death,
which happened within the rules of the King's Bench, in
1738, at the age, as some say, of 80, or according to others,
100 years. Afgill seems to have been a visionary and en-
thusiastic, rather than an infidel or blasphemer; and his ecce-

..tricities rendered him more the object of contempt or pity,

ASH, Common, Flowering, and Manna, in Botany. See
Fraxinus.

ASH, Mountain. See Sorbus. See Rhus.
ASH

Ash-Balls, are formed of the ashes produced by a low incineration of the green plants of fern, which contain a considerable portion of alkali, and are used in making lye for the scouring of linen. See FILIX. 

Ash-Tree, a tree of the deciduous kind, of which there are several species cultivated either for the sake of variety, or for the purpose of ornamenting pleasure grounds, &c.; but the kind which deserves attention here, is the common ash, so well known as a timber tree as to need no description. See Fraxinus.

The ash tree will thrive in barren soils, and in the bleakest and most exposed situations; but it grows to the greatest advantage on such lands as have a tolerable depth of soil, and on which water is not liable to stagnate. It is found to be of so hardy a nature, as to withstand the effects of the sea-winds; it may therefore be planted on the coasts where but few other kinds of trees are found to prosper. When planted on the sides of ditches, or in moist meadow lands, from the spreading of its roots it has been found to render the ground more firm and dry. From this, as well as other causes, it is, however, highly prejudicial when planted on arable land; it ought therefore to be chiefly planted on the waste nooks and corners of fields, or perhaps, on improveable swampy lands, and on the springy fides of hills, as it would not only render them useful as plantations, but, from the spreading of its roots, make them more firm and dry.

This fort of tree propagates itself plentifully by means of seeds, which being scattered in autumn in places where cattle do not come, plenty of plants come up in the spring. Where any person is defirous of raising a quantity of these trees expeditiously, the seeds should be sown as soon as they are ripe, and the plants will then come up in the following spring; but if the seeds be kept out of the ground till spring, they will not come up till the second year. The ground should be kept clean all the summer where they are sown, and not disturbed, let the seeds be turned out of the ground, or buried too deep to grow. When the plants are come up they must be kept perfectly clean from weeds during the summer months, and if they make good progress in the seed-bed, they will be fit to transplant by the following autumn; some ground should therefore be prepared to receive them, and as soon as their leaves begin to fall, they should be transplanted. In removing the plants, care should be taken not to break or tear off their roots; to prevent which, they should be taken up with a spade, and not drawn up, as is frequently practiced; for as many of the plants which rise first from seed will outstrip the others in their growth, as is a frequent practice to draw out the largest, and leave the others to grow a year longer before they are transplanted; and to avoid hurting those that are left, the others are drawn out by hand, and consequently many of their roots torn off or broken. It is therefore much the better way to take all up, little or big, together, and transplant them out, placing the large ones together in rows, and the small ones by themselves. The rows should be three feet asunder, and the plants a foot and a half distant in the rows. In this nursery they should remain two years, by which time they will be strong enough to plant out where they are to remain; as the younger they are planted out the better they will grow, so that where they are designed for use they should be planted very young, and the ground where they are raised should not be better than that where they are to grow. For when plants are raised in good land, and afterwards planted into works, they very rarely thrive well; on which account it is much the better method to make the nursery upon a part of the same land where the trees are designed to be planted, and then a sufficient number of trees may be left standing upon the ground, which will generally outstrip those which are removed, and grow to a larger size.

Where planters reside in the neighbourhood of ash-trees, they may supply themselves with plenty of self-sown plants, provided cattle are not frequently trodden on the land; and where the seeds fall in hedge-rows and are protected by bushes, the plants mostly come up and thrive well; in such hedge-rows the trees are frequently permitted to grow till they have deforested the hedge, for there is scarcely any tree so hurtful to all kinds of vegetables as the ash, as it robs every plant of its nourishment within the reach of its roots; it should therefore never be suffered to grow in hedge-rows, as the hedges are not only killed, but corn, or whatever is found near them, greatly impoverished.

If a plantation of this kind of trees be rightly managed, it will turn greatly to the advantage of the owner; for by the underwood which will be cut to cut every eight or ten years, there will be a continual income more than sufficient to pay the rent of the ground and all other charges, and still be a large profit for timber, which, in a few years, may be worth forty or fifty shillings, or perhaps even much more, per acre. In the sixth volume of the Bath papers, Mr. South observes, that the growth of ash, in soils adapted to its nature, is little inferior to that of elm or beech; but that there is no timber whatsoever that differs more in its value than this does, according to its situation. The productions of dry and healthy grounds will prove acceptable to most purchasers; those of woods are generally clean in the shaft, and more valuable than the former. The nearer the ground the rougher is the timber; the shaft therefore is coveted, the brittle branch is rejected; the buyers of this timber accepting the shaft and its continuation, or belt bough; the reit, be they ever so large, go with the top. When this fort of timber is raised in damp meadows or moorish soils, it becomes light, spongy, brittle, and of small value in comparison of that on dry and healthy spots. In meadows these trees will attain a size which cannot be expected in moors and bogs; for when the roots reach the peat, the bark grows soft, and the top decay; how long it lasts may be productive of poles in such situations, remains to be determined; but experience determines that ash thus planted will never become timber of any value, as the roots must perish before the tree arrives to perfection. If ash-trees get disbarked, though in appearance they should be flourishing, on being felled, the roots will be frequently found decayed, and the fems at bottom a complete hell; they ought not, therefore, in point of profit, to be suffered to stand. These trees, when they stand among firs and larches if planted close, will grow too tall and slender, but thrive well when planted alone. They are frequently known to have thriven for at least ninety years, as may be seen by their rings. But in the first ten years, as well as the half, the growth has been observed slow. It is remarked by Mr. Marshall, in his "Rural Economy of the Midland Counties," that in the intermediate years, the different thickness of the rings in different years were striking. This kind of timber is generally esteemed next in value to that of the oak, and in some places even nearly equal to it. It is of great value to the coach-maker, the wheelwright, and cartwright, for ploughs, axletrees, felloes of wheels, harrows, ladders, and other implements of husbandry; and also to the ship-builder, for oar-blocks, for pulleys, and many other purposes.

The best season for sowing this fort of timber is from November to February; for if it be done either too early in the autumn, or too early in the spring, the wood will be

ASH
ASHCUTNEY, or ASACUTNEY, a mountain of America, in Vermont, situate partly in the townships of Windsor and Westfield, and opposite Clarendon, on Sugar-river, in the state of New Hampshire. It is 2,253 feet above the sea, and 1,732 feet above the high water in Connecticut river, which runs by its western end.

ASHDOD, in Ancient Geography. See Azotus.

ASHDO'I-PIGGAH, a city in the tribe of Reuben, so called from נ技術, well-watered places, and situated in the fertile plains at the foot of Mount Piggah, or at the springs of Piggah; whence its name.

ASHENAGUR, a province of India, corresponding with the country of the Asaccani, in which Alexander warred, on the west of the Indus, situate at or near the conflux of the Penj-korch and Sewad rivers, and two marches from Bajore. The present Sivad is part of the ancient province Ashenagar. Kennell's Memoirs, p. 159.

ASHER, the son of Jacob, by Zilpah, gave deno- mination to one of the twelve tribes which was settled on the north-west of the province of Lower Galilee, in a very fertile country producing abundance of corn, and wine, and oil, of the best kinds, with Phœnicia west, mount Libanus north, mount Carmel and the tribe of Issachar south, and Zebulun and Naphtali east. It contained some considerable cities near the sea, but no sea-port of any note. This tribe never possessed the whole extent of district assigned to it, which was to reach to Libanus, Syria, and Phœnicia.

ASHER, a city of Palestine between Scythopolis and Shechem,—Also, according to Eusebius, a large town between Azoth and Ascalon.

ASHES, in Chemistry. This is a term of general import, which is applied to the pulverulent residue left after the combustion of any substance whatever. In this sense, the combustion of metallic bodies has been said to yield metallic ashes, but to these the terms calc and oxyd have been applied; and it is only vegetable and animal matters that are now said to afford ashes after burning.

To confume vegetable or animal fibubance to ashes, the free access of air is requisite, more particularly with the latter. Vegetable Ashes. When a vegetable is set on fire, a vast quantity of aqueous vapour first escapes, together with the component parts of most of the other vegetable principles, such as the native juices, the acids, the sugar, the oil, &c. which latter either burn with flame, or are driven off in a dense smoke. The more solid carbonaceous part requires a longer continuance of heat, and a free access of air for its complete combustion; but when this is effected, a certain portion of white or grey ashes remains behind, consisting of the fixed saline, the earthy, and the metallic ingredients. In general, it is found (as would be expected) that the watery, succulent, and herbaceous plants, yield a less quantity of ashes than the hard and woody parts of vegetables; but there are numerous exceptions to this rule, as the hardness of texture is more determined by the quantity of carbonaceous matter. A very violent heat either melts the ashes into a flag or scoria, or dilutes their saline ingredient, and leaves only the earthy and metallic; so that a certain management of the fire is requisite in order to procure the greatest possible quantity of ashes from vegetable matter.

From the saline ingredient are procured those very important articles in chemistry and manufacture, the fixed alkales, both vegetable and mineral; the former distinguished according to its species and purity by the terms wood-ashes, pearl-ashes, pot-ashes of commerce, full of tartar, or full of wormwood; the latter by the terms natron, barilla, kelt, and soda.
ASHES.

As the combustion of vegetables, when carried on in the large way, is always directed to the object of procuring the alkaline salt, and as this subject includes a variety of interesting observations, and the particulars of the analysis of ashes, we shall refer the whole of this article to those above mentioned, and especially to that of Carbonate of Potash and of Soda.

We may add, however, that though vegetable ashes are composed of fixed earths and alkalies combined with acids, and of some metallic oxides, especially those of iron and manganese, almost every possible variety of combination and proportional quantity of ingredients is to be met with, according to the nature of the plant, the composition of the soil, the season of the year, climate, and the like. In general, chemical analysis has detected the following substancess in vegetable ashes: fexs, magnesia, lime, potash, soda; the sulphate, carbonate, phosphoric, and muratic acids; and the oxides of iron and manganese. The most usual and important of these ingredients are, the sulphates of potash, soda, lime, and magnesia; the muriates and carbonates of the same, and the phosphates of lime. It is still a question, which of the faine ingredients represent the actual state of the vegetable juices, and which of them are formed by the process of combustion; the acid of the carbonates may with great probability be supposed to arise from the latter cause.

When the alkaline part of vegetable ashes has been separated by lixiviation, the light earth that remains, probably still mixed with a portion of sulphate of lime, is sometimes employed, after being well washed, for the formation of the large CUPELS used in the refining of silver.

The ancient alchemists paid considerable attention to the ashes of different plants; and some of the Rosicrucian school of deceived and deceiving impostors, pretended to be able, by a species of *polinsonfia* or re-production, to exhibit in the ashes of a plant a complete miniature representation of the gradual growth and maturity of the individual vegetable.

Animal Ashes. A very few words will be requisite on this subject taken separately. Animal matter is much more difficult of complete combustion than vegetable; the volatile part of each is driven off by heat without much difficulty, but the coal of animal substance is of very difficult incineration, often requiring a very long continued and violent fire. This is probably owing in part to the greater quantity of oxide of iron which, uniting with the carboaceous matter by the assistance of heat, forms a carburct of iron that burns with extreme difficulty. The feline and earthy parts almost peculiar to animal ashes are the phosphates of soda, phosphate of ammonia, and phosphate of lime, and often the carbonates of soda and lime. The proportion of earthy matter in bones, horn, and the harder parts of animals, is generally full one half the weight of the sub stance when fresh from the body; in bone it is almost entirely phosphat of lime, mixed however with a small portion of sulphate and carbonat of lime; in flesh the earthy part is principally carbonat of lime.

For further particulars concerning animal ashes we must refer the reader to the individual articles of animal matter; such as Blood, Bone, Hartshorn, Shell, and to the above-mentioned earthly and alkaline faults.

The only animal ashes employed in any extent in the arts are the fixivated ashes from bones, which when mixed up in water, and call in proper moulds, form the Cupels that are employed in ASSAYING and REFINING of gold and silver. The finer and whiter ash of calcined horn is employed in a small extent in medicine, under the term cornu cervi calcinatum, or calcined hartshorn.

ASHES, in Agriculture, the earthy or other particles of combustible substancess after they have been burnt in the fire. The beneficial effects of such matters, as manures, may probably, in a great measure, arise, on the deposition of alkaline saline matter which they contain, which by its action on, and combination with the materials that are present in soils, may render them more soluble and proper for the nutrition of plants. Considerable utility may also be derived from their operating medicinally, and in that way lessening the tenacity and stiffness of the heavier kinds of soils; and likewise by their absorbing powers in lands of the more moist kind. Ashes are of different sorts, as bluebars, after, coal after, peat after, pot after, foapers' after, turf-selves, wood after.

The first sort consists principally of the hard undissolved parts of pot-ash, kelp, weerd-ash, and barilla. Laid on land alone, they are too stimulating; they ought therefore, perhaps, never to be used but in union with earth, or earth and dung. It is said, however, they answer well with blood, garbage, and putrid animal substancess. They are generally laid upon followers for wheat. The greatest advantage derived from them is upon clays or deep loams. Upon rocky grounds, or coarse wet meadows, they will be found particularly useful, in destroying the coarse plants that infest them.

The second sort, or coal ashes, probably from their containing a portion of calcareous matter, are found to be highly beneficial on still and poor lands; for which purpose they are successfully used in the neighbourhood of many great cities, where coal is much burnt for fuel. They also open the texture of clayey grounds, and correct their tenacity, and other bad qualities. The gardeners and farmers about London know their value, and make a very profitable use of them; particularly in bringing into order those grounds which have been dug up for brick-earth. Mr. Bradley long ago, indeed, blamed the people of Staffordshire, and the countries adjoining, where there are coal-pits, for not improving their heavy grounds around them, by manuring them with coal ashes, which might be easily burnt out of the waste coals of such pits; and suggesses "that wherever there are plenty of coal-pits, there can be no want of good profitable land." Mortimer held the same opinion, elle-ming sea-coal ashes as the best manure of any for cold lands, as well as the most lasting and fittest to kill worms and flugs. And Worley looked upon them as an excellent compost, when mixed with horse dung; remarking, that they have great effects in removing moss and rithes in moist grounds. Ashes of this kind are employed in different proportions, in different places according to the particular circumstances of the crop, and the land on which they are applied. It is observed by Mr. Farey, in the Annals of Agriculture, that about Diabley they are used at the rate of from fifty to sixty bushels to the statute acre, for a complete dressing; and that they succeed, well fawn on clover, in March or April, on dry chalky lands. They have also much effect on fward-land, when applied during the winter or spring; but they are never used on wheat. It is likewise further remarked by the same writer, that in very dry reasons they do little service, except on cold fwards, which they invariably improve; and that on light land they require rain, after being fown or spread over the land, in order to promote their operation.

The ashes formed from peat, are found, from long experience, to be a very good manure. The author of Modern Agriculture remarks, that in many parts of the kingdom peat-earth cut and dried in the course of the summer, is the only fuel; and that the peat dug from the motts that are so firm as to bear cattle to tread on them, is the belt both
ASHES.

both for fuel, and afterwards for manure. The ashes of the
f rdr, or what is pared from the surface of heath and com-
mons by the cottagers in many parts, as about Bedford,
the, he says, of little value, when compared to those above
mentioned. It is probable that Berkshire is the only district
of Great Britain, where peat ashes, without the mixture of
any other substance, are at present generally used as manure.
The ashes of peat, dug from extensive meadows in that county,
have been proved by the experience of sixty or seventy years,
to be a most excellent manure, when used as a top dressing on
almost all kinds of crops; as oats, wheat, barley, turnips, clo-
ver, fairfround, meadows, pastures, &c. The quantity generally
used is about twenty bushels, more or less, as the condition
of the land seems to require; and the price about thre-
price, or four-pence a bushel. To such an extent is this
mode of manuring carried on in that county, that the
proprietors often receive two or three hundred pounds the
year for the liberty of cutting and carrying off peat to the
depth of five or six feet. It would be absurd to suppose,
says he, that the peat ashes of Berkshire are superior, as
manure, to those in every other part of the island; and as
their effects in that country, when applied to the soil, have
been conspicuous for a great number of years, it is certain
there is a circumstancy meriting the attention of those who reside
where peat is the only fuel, to ascertain whether peat ashes
in such districts do possess all the fertilizing qualities of
those in Berkshire. The experiment is easily made; all that
is necessary being to keep the ashes dry, and under cover
during winter; and to sprinkle them with the hand over the
crops in spring, at the rate that has been just mentioned.

Lord Dunsmuir, in his Treatise on the Connection of
Agriculture with Chemistry, however, remarks, that the
ashes procured from peat in the neighbourhood of Reading,
in Berkshire, seem to possess a fertilizing power infinitely
greater than ashes obtained from moat other peat. They
are, however, contain no alkaline salts; and in an
analyses made four years since, no saline matter, says
he, is re-collected to have been got from them, but a small
proportion of Epsom salt. Had these ashes, however, been
analyzed with more care, and when newly made, they
probably would, he thinks, have been found to contain a kept
of lime, a salt which is soluble in water; whilst gypsum, to
which it returns on exposure to the air, is infusible. To
this hepar, therefore, says he, may the fertilizing power of
these ashes most probably be attributed. And the writer of
the Survey of the County of Middlesex fugitively, that as
the hills on each side of the meadows which produce the
Newbury peat ashes, consist of chalk, easily dissociable by
heavy rains, which wash it off the ridges, dows the fur-
drows, ditches, and streamlets, to the low grounds, where
mixing with the ditches, it is floated over the meadows, and
deposited with the peat; consequently the peat of that dis-
trict differs from that of most others, by the quantity of
chalk which it contains, and that when dug, dried, and
burnt, the fire reduces the chalk to lime, and the rest to
ashes. Hence Newbury ashes are a mixture of lime and vege-
table ashes; and it is very probable, he thinks, that any
common peat ashes, or the ashes of rough grafs land, of
turf, heath, furze, ling, wood, &c. produced by the op-
eration of paring and burning, being mixed with chalk-dime
in due proportion, would be equally fertilizing as those
noted ashes. It is indeed been long since observed by Mil-
ler, that these ashes are greatly bettered by being mixed
with lime before they are put on the land. These ashes are
produced from land that is black and crumbly at the under
which lies the peat to the depth of several feet. They do
not burn the peat in the field by choice, because the peat
is burnt for ashes, when it cannot be dried for sale; and then:
it is burnt in large heaps, with a smothering fire, as is likewise
the superficial black earth, or moory soil, together with
the refuse of the peat. The ashes of these are laid up in
round or long heaps, rising at top like the sides of a
pond, in order to throw off the rain and keep them dry till they
are sold. Sometimes they are laid under dry fields or in hedges
to fume them from wet, which they cannot be wholly pro-
tected from by laying them up in ridges exposed to the
weather, into which the rain penetrates for some inches deep; but
these ashes are never so good manure as those that are kept
dry. Near the surface of the peat earth there is sometimes
a bed of whitish earth called murn, which is a composition
of earth and very small rocks of the periwinkle kind; this
is also burnt to ashes for manure, and the quantity of it in
some places is to great, that the ashes are of a whitish colour,
while those from the peat or moorish earth are reddish.
The white are esteemed to be as good manure as the red;
and being a kind of shell-marl, would make good manure
without being burnt; as indeed they rarely are thoroughly,
though they seldom lay them upon land till they have passed
the fire, or are mixed with the ashes of the peat-earth.
The ashes of the peat field for fuel, and burnt in chimneys,
are much stronger manure than the ashes burnt in the field;
and if care be taken to keep them dry, are sold for nearly
double the sum of the field ashes. Mr. Fawcet states, in
the Annals of Agriculture, that he has found field ashes to
improve the chalky soils about Dunstable, but on the wet
lands, or cold swards, and hot sandy lands, they did little
good. They may be employed on the same kinds of crops,
in the same way as coal ashes, and also on the wheat crops
about April. But Mr. Middleton says that he has tried
the Newbury peat ashes on wheat, tares, and me-
dows, and produced much good manure, than with
any fertile effect. In Norfolk, ashes are not in estimation
as manure; even those of the heath are in some degree
neglected. But the meadows and fens abound with peat-
holes, which in some places would be considered as inevi-
table sources of manure; and the peat earth in these
meadows, when burnt, would no doubt afford an ample
supply of ashes. In many places, much advantage has been
supposed to arise from the practice of mixing lime with
peat ashes before they are applied to the ground.

The refuse, or ashes, remaining after the burning of differ-
ent green vegetable matters from which the alkaline salt
called pot-ash has been extracted, is a kind of ashes which
has been found of great service to most sorts of land; but as
they have been in a great measure deprived of their saline
property, it is necessary to lay them on much thicker than
any other sort of ashes. Mr. Bradley affords that a buchel
and a half of these may be used in the room of a buchel of
fresh ashes; and that they should always be mixed with some
other light ingredient which may be used in any quantity
when laid on very stilt land; but if the land be not over
stilt, they may be laid on it with less mixture. As in places
far removed from the means of improvement, a substitute for
common manures, that is of easy carriage, and can be laid
at a moderate expence, must be valuable, pot-ash may be em-
ployed; for, from experiments that have been made, it ap-
ppears that two hundred pounds of it are sufficient for an acre
of strong land. For lighter soils much less is required, if
laid on by itself; on these, however, a compost of this and
train or refuse oil incorporated with mould, will be the best
way of employing it. Upon strong clays and deep loams,
however, it ought always to be applied by itself. When
the expence of carriage is considered, this will often be
found a cheaper manure than lime; and in one respect it
ASHES.

is superior, for the union of potash with all the different acids forms a neutral salt which is in some degree useful in vegetation; whereas when lime meets with vitriolic acid, it is almost entirely lost to the purposes of agriculture. A considerable part of what is used in manufactures (glass excepted) may be useful as a manure, after the purposes of the different manures have been served. Particularly in bleaching, the alkali of which will be found improved in consequence of the mucilage or oil which it has imbied from the cloth or other matters.

The soapers' ashes are a composition of wood ashes and lime, remaining after the soap-makers have drawn off their lye. These are in general a very valuable manure; but there is great difference in the quality and effects of them. Tho' from wood ashes the weakest sort, as, wood ashes being very light and porous, their flats are soon dissolved, and extracted by the lye; so that there remains but a very slight portion of salt in the ashes. But when the soap-boilers make use of kelp instead of wood ashes, the kelp, from its being a harder nature than wood ashes, is not so easily separated and dissolved by the lye; consequently, much more of the saline matter remains in the ashes. The soap-boilers also make use of another kind of potash called barilla, which is imported from Spain and other places in large lumps, and which is much harder than common potash; and though they break this sort very small, and sometimes screen or sift it, much more salt remains than when pot-ash is employed; so that the ashes from barilla are for the most part stronger than any other; and if the same quantity of them were laid upon land as is commonly the cafe with wood ashes, they would burn and destroy the crop. Farmers should therefore use soap-boilers' ashes with caution, till they know their qualities and strength. Wood ashes and pot ashes are used in various places for making soap; but in and near London, very little of any thing but barilla is employed. The ashes from the barilla are a strong rich manure, and sold at five shillings per cart-load. They are not now however so good as they were formerly, the soap-makers having found means to extract more of their salt from them; as they also take the salt from the lye which was formerly rather superior to the ashes as a manure, and be had for nothing, being all thrown away as ufeless.

This excellent manure was first used by the Flemings with great success. Two loads of these ashes are sufficient for an acre of arable land. They should be laid on the ground when the weather is inclined to be moist, in order that the rain may more easily dissolve and wash them in. As soapers' ashes principally come in of lime, which is used by soap-makers to deprive the alkaline salts of their fixed air, the addition of lime to the ashes is unnecessary. They are used to most advantage when made into compoils with earth and well-fermented dung in the proportion of two loads of dung to one of earth; the ashes being then added in the quantity of one load to ten of this mixture, turning and incorporating the whole completely. The quantity necessary for strong clays or deep loams is ten cart loads to an acre. If the dung has been well fermented, perhaps the most profitable way of using this compoil may be as a top-dressing; harrowed in with the grain, taking care, however, that the caustic quality of the ashes be properly blunted by a sufficient mixture of dung and earth, or rich earth only. Thence ashes, when best small, may be made into a rich compoil with refuse oil and earth, and used as a top-dressing for young crops. They will destroy flags and vermin of every description, and are therefore highly valuable on lands where the early wheat is injured by the worm. Laid upon grass lands in the end of autumn, this manure, it is said, produces a deep verdure during the winter, and an early vigorous vegetation in the spring; it is therefore particularly calculated for cold wet pasture lands.

In respect to turf ashes, produced by burning turf or the paring of the surface of heathy, moorish, and other lands, their utility as a manure, perhaps, chiefly depends upon the quantity of alkaline salts matter which they contain, and which is produced by the burning of the fresh vegetable substances of turf, and the combination of vital air or oxygen, with the clayey part of the soil during the process of combustion, as well as by the mechanical action of such substances on the tenacious earthy matters of the soils. According to the Rev. Mr. Comber, the ashes in the moors of Yorkshire are carried out daily, or once in two or three days, to the dung-hill; and the farmer takes the opportunity of his first leisure towards the end of the year, to carry them out to his meadow lands on which he lays them thicker or thinner as he has more or less land which he apprehends to want them, and more or less of them. The first rains wash them in, and the next summer never fails to show their good effects. It would however be probably a much better practice to apply to the land in the early spring when the weather is rather wet, and not to leave them to be washed away by the heavy rains and land-floodes during the winter months. They would also be much more efficacious if kept in fields, or other suitable places, instead of being carried out to the dung-head; where the rains must dissolve and carry away their most nutrient properties; as these ashes are much finer or more pulverized than those of coal, they may infallibly themselves more into the soil, but they are probably not so falling in their effects. Of the truth of this a remarkable instance is mentioned.—A field, wherein the soil was a poor gravel, that had a crop of the broad or red clover growing upon it, was drenched, one side of it with peat ashes, and the other side with turf ashes. The farmer had upon this field all the ashes he had of these two sorts, and the middle of the field had no dressing. The clover in the middle part not drenched was a very poor crop, the plants being short, yellow, and flinted; the side drenched with turf ashes was much better than the middle; the plants being taller, of a better colour, and promised to be double the crop of the undrenched part; but that side drenched with peat ashes produced a crop that appeared to be as much superior to the part drenched with the turf ashes, as this field was superior to the middle that had no dressing at all. The ashes were foun upon the clover by hand, and the improvement made upon the clover was so great, that the caul of the flower's hand was extremely plain next to the middle, and appeared like an indurature; and the vigour of the plants there was for much greater than the undrenched plants, that the extent of the peat ashes might be plainly distinguished almost an inch. This observation was however made in the beginning of summer, before the clover had arrived to its full growth. See Paring, and Burning.

Ashes produced from wood and moss green vegetable products contain a considerable quantity of fixed alkaline salt blended with the earthy particles; but none or very little can be produced by the combustion of dead or decayed vegetable matters. It is from the ashes of the former kinds of vegetable matter that the alkaline salts called potash and pearl-ashes are commonly extracted. It seems also probable, from the observations of the earl of Dundonald, that the effects produced upon land by the application of the ashes of fresh vegetable products, arise from the vegetable alkaline salt which they contain, which, by its action on what he terms the oxygenated or inert mould or earth of the soil, renders it soluble, and more suitable to the nutrition of plants,
plants. As the saline matters contained in these substances are liable to be bisulphated and carried away by moisture, they should always be kept dry and free from water, either by means of sheds or other conveniences. It has been long ago observed by Mortimer, that one load of dry ashes will go as far as two tons kept for; but though rain-water diminishes their salts, so the moistening them with chamber-lot or soap-suds will add greatly to their strength. Two loads of these ashes will manure an acre of land, better than six loads of those that are exposed to the rain, and that are not ordered for, which is the common allowance for an acre, though some lands require more, and some less. That the ashes of any sort of vegetables are very advantageous to land, is what is experienced in most parts of England, by the improvement that is made by burning of furze and flabbe, starw, heath, furze, fudge, bean-dails, &c. Mr. Young, in the first volume of the Annals of Agriculture, approves of charcoal-ashes, in preference to powdered charcoal itself. And wood ashes mixed with mud (he says) are superior to ashes alone, and four times better than mud alone, as a manure. In the second volume of the same useful work, he adds, that wood ashes appear to be a most powerful manure. In a neighbourhod abounding with vitriolic acid (he says), they more than neutralise that salt; they furnish, besides, the food of plants. In neutralizing it, the fixed vegetable alkali they contain forms with the acid a vitriolated tartar, which is beneficial to vegetation. From the alkaline matter contained in ashes, and its known operation on earthly substances, they may probably be used to great advantage in combination with good mould or earthy materials, and dung, in the proportion of one load of ashes to ten of the compost; and this may be applied to tillage-lands as well as those under grass, in their simple state; but in the former they would seem to be the most proper, when confounded with other matters, such as have been mentioned above. They may, when employed in the unmixed way, be sown upon the surface, and harrowed in with the crop to which they are used. But in whatever way they are made use of, they should be spread out as equally as possible on the land. Moit grass-lands are improved by their application, but more especially those that are wet, and given to the production of wild fowls, rats, or other coarse plants of the same kind. When used in the way of compost on tillage lands, they are generally laid on at the rate of about ten or twelve loads to the acre, but on pasture or grass-lands, the quantity applied varies very considerably, as from one hundred to one hundred and sixty bushels. These substances have been found highly useful, when sown on the green wheat and clover crops in the spring, and also when harrowed in with turnip seeds, or sown over the young plants when they first appear, as by this practice the ravages of the fly are laid to be greatly lessened in many cases. See MANURE.

ASH, Volcanus. See Volcano.

ASHFIELD, in Geography, a townhip of America, in Hampshire county, Massachusetts, about 15 miles north-west of Northampton, and 177 miles west from Boston; containing 1,450 inhabitants.

ASHFORD, a town of England, in the county of Kent, seated on the river Stour. It has a monthly market for cattle on the first Tuesday, and a weekly market on Saturday for corn, &c. It is distant 45 miles E.S.E. from London. N. lat. 51° 15'. E. long. 0° 45'.

ASHFORD, a township of America, in Windham county, Connecticut, incorporated in 1710; distant about 38 miles north-west from Hartford, and 76 south-west from Boston.

ASHFORD, New, a township of America, in Berkshire county, Massachusetts, 155 miles west from Boston; containing 450 inhabitants.

ASHKENAZ, in Ancient Geography and History, one of the sons of Gomer, is supposed to have settled near Armenia, in the eastern part of Asia Minor; or towards the north-west of that continent; for it is said, that with reference to his name, there was in Bithynia the Acesian lake, a river called Aceseus, and a bay of the same name; and in Leifer Phrygia there was a city called Acesius, with ill-s called the Acesian islands; and it is further observed, that besides Acesius, the son of Aesopus, Homer mentions a king of that period who was at the siege of Troy; and as a proof that the Ashkenaz, mentioned by Jeremiah, were people of these parts, it is shown from Xenophon, that Hylates having conquered Phrygia, that lies on the Hellespont, brought thence many of the horses and soldiers which Cyrus carried with him to the siege of Babylon. Moreover, the Pontus Euxinus, or Acesius as the Greek first called it, is supposed to be a corruption for the Ica of Ashkenaz.

ASHKOKO, in Zoology, a very singular kind of quadruped, described by modern naturalists under the names of Syrian hyrax, hyrax syriacus, and brizby cavy; for a full and accurate description of this species we are however indebted to that indefatigable and learned traveller, Mr. Bruce, who observed it in several parts of Abyssinia, and gives us the following account of it in the Appendix to his Travels. "This curious animal," says Mr. Bruce, "is found in Ethiopia, in the caverns of the rocks, or under the great stones in the mountain of the sun, behind the queen's palace at Kofcam. It is also frequent in the deep caverns in the rocks in many other parts of Abyssinia. It does not burrow or make holes as the rat and rabbit; nature having interdicted him this practice by furnishing him with feet, the toes of which are perfectly round, and of a soft pulpy, tender substance; the fleshy parts of the toes project beyond the nails, which are rather broad than sharp, much similar to a man's nail ill grown, and these appear rather given for the defence of his soft toes than for any active use in digging, to which they are by no means adapted. Its hind foot is long and narrow, divided with two deep wrinkles or clefts in the middle drawn across the centre, on each side of which the flesh rises with considerable protuberance, and it is terminated by three claws; the middle one is the longest. The fore-foot has four toes; three of them in the same proportion as the hind-foot; the fourth, the largest of the whole, is placed lower on the side of the foot, so that the top of it arrives no farther than the bottom of the top of the toe next to it. The sole of the foot is divided in the centre by deep clefts like the other, and this cleft reaches down to the heel, which it nearly divides. The whole of the fore-foot is very thick, fleshy, and soft, and of a deep black colour, altogether void of hair, though the back or upper part of it is thick-covered, like the rest of the body, down to where the toes divide, there the hair ends, so that these long toes very much resemble the fingers of a man. "In place of holes, it seems to delight in less close or more airy places, in the mouths of caves, or clefts in the rock, or where one projecting, and being open before, affords a long retreat under it, without fear that this can ever be removed by the strength or operations of man. The ashkoko are gregarious, and frequently several dozens of them sit upon the great stones at the mouths of caves, and warm themselves in the sun, or even come out and enjoy the freshness of the summer evening. They do not stand upright upon their feet, but seem to dwell along as in

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ASHIRT, Volcanus. See Volcano.
ASH

fear, their belly being near close to the ground, advancing a few steps at a time, and then pausing. They have something very mild, feble, and timid in their comportment, are gentle, and easily tamed; though when roughly handled at the first, they bite very severely.

"This animal is found plentifully on mount Libanus: I have seen them also among the rocks at the Pharar promontorium, or cape Mahomet, which divides the Elasitic from the Heropolitic gulf, or gulf of Suez. In all places they seem to be the same; if there is any difference, it is in favour of the size and fataes which thee in the mountain of the fun seem to enjoy above the others. What is his food I cannot determine with any degree of certainty: when in my poiffession he ate bread and milk, and seemed to be rather a moderate than a voracious feeder. I suppose he lives on grain, fruit, and roots. He seemd too timid and backward in his own nature to feed upon living food, or catch it by hunting.

"The total length of this animal, as he fits, from the point of his nose to the extremity of his body, is seventeen inches and a quarter: the length of his foot, from the extremity of the nose to the toe, is three inches and three eights; his upper jaw is longer than his under; his nose stretches half an inch beyond his chin. The aperture of the mouth, when he keeps it close, is round, no more than an inch. The circumference of his foot round both his paws is three inches and three eights; and round his head just above his ears, eight inches and five eights; the circumference of his neck is eight inches and a half, and its length one inch and a half. He seems more willing to turn his body altogether, than his neck alone. The circumference of his body, measured behind his fore-legs, is nine inches and three quarters; and that of his body, where greatest, eleven inches and three eights; the length of his fore-leg and toe is three inches and a half; the length of his hind thigh is three inches and one eighth, and the length of his hind leg to the toe, taken together, is two feet two inches; the length of the foot-foot is one inch and three eights; the length of the middle toe five lines, and its breadth six lines also. The distance between the point of the nose and the first corner of the eye is one inch and five eights; and the length of his eye from one angle to the other four lines. The difference from the fore angle of his eye to the root of his ear is one inch and three lines; and the opening of his eye two lines and a half. His upper lip is covered with a pencil of strong hairs for muttonchae; the length of which is three inches and five eights, and those of his eye-brows are two inches and two eights. He has no tail, and gives at first fight the idea of a rat rather than of any other creature. His colour is a grey mixed with a reddish brown, perfectly like the wild or warren rabbit. His belly is white from the point of the lower jaw to where his tail would begin if he had one. All over his body he has scarted hair, strong, and polished like his muttonchae; there are for the most part two inches and a quarter in length: his ears are round, not pointed: he makes no noise that ever I heard; but certainly chews the cud. [Dr. Shaw observes, that this particular of the ashhoko seems very doubtful, and may possibly be owing to the peculiar motions of the mouth resembling those of the hare, which has also been suggested by some to ruminate. Gen. Zool.] To discover this was the principal reason of my keeping him alive: thofe with whom he is acquainted he follows with great affinuity. The arrival of any living creature, even of a bird, makes him leek for a hiding-place; and I shut him up in a cage with a small chicken, after omitting to feed him a whole day; the next morning the chicken was unhurt, though the ashhoko came to me with great signs of having suffered with hunger. I likewise made a fecond experiment, by inclosing two smaller birds with him for the space of several weeks; neither were thee hurt, though both of them fed without impediment of the meat that was thrown into his cage; and the smallest of thee, a mouse, feem'd to be as familiar with him, though I never saw it venture to perch upon him, yet it would eat frequently, and at the same time, of the food upon which the ashhoko was feeding; and in this confillted chide the familiarity I speak of, for the ashhoko himself never shewed any alteration of behaviour upon the presence of the bird, but treated it with a kind of absolute indifference. The cage indeed was large, and the bird's having a perch to sit upon in the upper part of it, they did not annoy one another.

"In Amhara, this animal is called ashhoko, which, I apprehend, is derived from the singularity of those long herimacous hairs, which, like swet therms, grow about his back, and which, in Amhara, are called ashhok. In Arabia and Syria, he is called Israel's sheep, or Gannin Israel, for what reason I know not, unless it is chiefly from his frequented the rocks of Horeb and Sinai, where the children of Israel made their forty years' persecution; this name obtains only among the Arabians. I apprehend he is known by that of Saplan in the Hebrew, and is the animal erroneously called by our translators cuniculus, the rabbit or coney." Bruce, Appendix.

M. Schreber, who names this animal *hyrax syriacus* gives it this specific character: *H. plantis tridactylis, ungulibus omnis fublequulis. (Fect tridactyle, with all the claws nearly equal.)* To this Dr. Shaw, in his Zoology, adds, that it is rufous-grey, and white beneath. Gmelin also has *hyrax syriacus, pedibus unguiculatis.* See *Hyra syriiacus.*

ASHLAR, a term used among Builders, by which they mean common or free stones, as they come out of the quarry, and of different lengths and thicknesses.

ASHLEP, in *Arb. culture,* a term sometimes applied to foapers' ahes or walk. See *Sapiente Ashes.*

ASHLIERING, among Builders, a species quartering, to both, in garrets, about 2 or 3 feet high, perpendicular to the floor, up to the underside of the rafters.

ASHLEY, in *Geography,* a river of North America, which runs into the sea on the south-west side of Charlestown, in South Carolina.

ASHMORE, Elias, in *Biography,* an eminent antiquarian of the 17th century, was born at Litchfield in 1617; and at the age of sixteen was received into the family of his kinfman James Paget, esq. a baron of the exchequer, where he studied the law and other branches of knowledge. Having married in 1638, he settled in London as an attorney; but on the commencement of the civil war, his wife being dead, he entered into the king's service, and was employed in the department of the Ordnance, first at Oxford, and afterwards at Worcester. At Oxford he became a student of Draven-nofe college, and directed his attention to mathe-ematics, natural philosophy, and astronomy. From the study of the latter important and useful science he deviated to that of astrology, to which he seems to have been much addicted. In 1646, he was admitted into the society of free and accepted malons, and his election into this society was confirmed by him as a distinguihing mark of his life. His valuable collections very much contributed to the illustration of its history in this kingdom. Upon the surrender of Wor- cester to the parliament in this year, he withdrew first to Cheshire, and afterwards came to London, where he formed
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in 1647, he retired to Englefield in Berkshire, and applied to the study of botany. Here he became acquainted with a rich widow, whom he married in 1659, and then removed with her to London, where his house was a place of resort for all the profligates in the curious and occult sciences. Having acquired from an adept in Berkshire a taste for alchemy, he published, under a feigned name, a treatise by the famous Dr. Dee, and another by an anonymous author, on this subject; and with great labour and expense he made a collection of the MSS. works of English chemists, which he published in 1652, under the title of "Theatrum Chymicum Britannicum;" in 4to. Having brought to a favourable termination some legal disputes occasioned by his wealthy marriage, he devoted himself with singular fidelity to the study of antiquity and the perusal of records; and relinquishing hermetic philosophy with a preface to a treatise on the philosopher's stone, which he edited, he began to make collections for the work which continued much more to his literary reputation, than any of his alchemical and chemical pursuits, and this was his "History of the Order of the Garter." As he was fond of the study of botany, he chose for the place of his residence the house of John Tradescant, a scientific gardener of Lambeth; and became possessor of the collection of rarities that had been made by Tradescant and his father, and which was conveyed to Mr. Ashmole, by a deed of gift, in 1679. On the restoration, Ashmole was particularly noticed, on account both of his loyalty and learning, by the king, who appointed him Windsor herald, and committed to him the description of the royal medals. He was also made a commissioner, and afterwards comptroller of the excheque; he was called to the bar in the Middle Temple, admitted a fellow of the Royal Society that had been recently established; presented, by the university of Oxford, with the degree of doctor of physic; and promoted to other offices, both honourable and lucrative. Upon the death of his second wife, he married the daughter of his friend Sir W. Dugdale. In 1672, he prefaced to the king his book "On the Order of the Garter," intituled "The Institutions, Laws, and Ceremonies of the Most Noble Order of the Garter, collected and digested into one body;" and printed at London in folio, in 1672. In 1679, he resigned his office of Windsor herald, and declined accepting that of garter king at arms, on two vacancies which occurred. His valuable library, which he had been thirty-three years in collecting, and also his cabinet, consisting of nine thousand coins, and many curious antiquities, were destroyed by a fire, which happened in the chambers adjoining his own, in the Middle Temple; but his MSS. and gold medals were preserved at Lambeth. When the university of Oxford had founded an edifice for a museum, in 1683, Mr. Ashmole lent thither his Tradescant collection of rarities, with the additions which he had made to it; and he afterwards added to this donation, his books and MSS. Thus commenced the "Museum Ashmoleanum," now subsisting at Oxford. Mr. Ashmole, having attained the 76th year of his age, died in 1692, and was buried in the church of Great Lambeth. Some few of his numerous MSS. chiefly on antiquities, have been published since his death; and also "A Diary of His Life," written by himself. His rank in literature and philosophy may be estimated by the brief account that has now been given of his researches and pursuits. Whilist a sober judgment will hesitate in admitting the extravagant panegyric of the "Biographia Britannica," which records him as "one of the greatest men in the last century," he will be allowed to have possessed, in a high degree, industry, perseverance, curiosity, and exactness; and "Anthony Wood," says one of his biographers (see Aikin's Gen. Biog.), "in his quaint language, has perhaps not ill characterized him,—the greatest virtuoso or curioso that was ever known or read of, in England, before his time." Biog. Brit.

ASHMOT, in Geography, the principal harbour in Isle Madame, which is dependant on Cape Breton.

ASHMOUNINE, probably, says Bruce (Trav. vol. i. p. 91.), the ancient Latepoli, a large town of Egypt, which gives name to the province. See Achmounain.

ASHMUN-TANAH, a town of Egypt, on a canal, between the Nile and the lake of Tennis, twelve miles east of Manofra, and twenty south of Damieta.

A-SHORE, in Nautilic Language, a term signifying on the shore, as opposed to a-board. It also means a-ground.

ASH-PIT, is the lower part of any air-furnace, which serves to receive the ashes of the fuel as it is consumed, and in general to supply the air necessary for the combustion. See FURNACE.

ASHUELOT, or ASHVILLE, in Geography, a small river in America, having many branches, whose most remarkable source is at the north end of the Sunapee mountains, in New Hampshire. It runs south-wardly through part of Cliffton county; below Wincheller, its course is west by north, and it discharges itself into Connecticut river at Hulsdale.

ASHUR, in Ancient Geography and History, the second son of Simeon, occupied at the disposition the country called after his name, and by the Greeks Assyria, at present Curdistan, or the country of the Curdas. Ptolemy supposes that he was driven out of Shinar by Nimrod, the grandson of Ham; but however this be, it seems to have been Ashur, (Gen. x. 11.), and not Nimrod, who went out of Shinar into Assyria, and built Nineveh, and other cities; and thus Pericormus maintains, that the text ought to be understood. See ASYRIA.

ASH-WEDNESDAY, the first day of Lent, supposed to have been so called from a custom in the church, of sprinkling ashes on the head of penitents then admitted to penance.


ASIÀ, in Geography, one of the four grand divisions of the earth, and the second in order, though the first inhabited. It is separated from Europe by the Mediterranean, the Archipelago, the Euxine, the Palsus Meotides or sea of Azot, the Don, and the Drina; from Africa by the Red sea and the illusms of Suez. On the other sides, it is surrounded by the Great South sea. It does not join to America. Its principal parts are, Arabia, Asiatic Turkey, Persia, India, Tartary, Asiatic Russia, China, Japan, the

K 2 kingdom
kingdom of Ava, that of Siam, the island of Ceylon, and the Sands islands, whereof the chief are Sumatra, Borneo, Java, Celebes, the Moluccoes, the Philippines, and Maldives. Asia, according to Mr. Pinkerton, extends, in length, from the Heil-pont to what is called the East cape; that is from about the twenty-sixth degree of longitude, east from London, into the other hemisphere to near 180 degrees of east longitude, or 170 degrees west from London; being no less than 164 degrees, or (taking the degree at a medial latitude) more than 6500 geographical miles. From the southern cape of Malacea, to the Severofolothomuo-ofs the northern cape, now called the cape of Taimura, which bears the ice of the Arctic ocean, the breadth extends from about the second degree of northern latitude, to about the twenty-seventh, or nearly 5700 geographical miles. If, for the sake of a rude and merely comparative calculation, one-sixth part be added for the difference between the flat and geographical mile, the length of Asia in British miles would be about 7583, and the breadth 5250.—Under their proper heads, will be found the names of the places it contains, and each general accounts of them as the limits to which we are confined on this frontier will allow. We shall content ourselves then with relating the result of the latter observations of the academy of sciences at St. Petersburg, of the latitude and longitude of the following places in the north of Asia:

<table>
<thead>
<tr>
<th>Lat.</th>
<th>Long. from Pole,</th>
<th>Long. from Greenwich</th>
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<tr>
<td></td>
<td>17° 13'</td>
<td>156° 38'</td>
</tr>
<tr>
<td></td>
<td>176° 10'</td>
<td>158° 36'</td>
</tr>
<tr>
<td>66° 0</td>
<td>200° 0</td>
<td>182° 25'</td>
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</tbody>
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Unalakha, by the general map of Russia, lies in 68° of latitude from Ferro, 223° of longitude; and from Greenwich, 205° 25'. The same place, according to the chart of Krentzin and Levathé, is in 53° 30' latitude, longitude from Ferro 205° 30', from Greenwich 187° 55'; the longitude from Ferro to Greenwich being computed at 17° 34' 45'.

If the ancients had to flight a knowledge of the southern countries of Asia on the side the Gauges, we ought not to be surprised if what they have been able to hand down to us concerning the hyperborean regions, coasts, and seas, or the northern extremities, should be considerably more; and it must have been merely by chance that they obtained some slight knowledge of Cape Tabin and of the island Taztata; as we have learnt a few uncertain notions about the vast lakes towards the west of America, from savages taken prisoners, and others, and from vague report, with which we are obliged to be satisfied for want of better information. It was impossible to acquire any more authentic except by the means of the Ruffians, with whom, till the fourteenth century, we were scarcely any more acquainted than with the savage inmates of those northern coasts. Nay, had it not been for the Ruffian, Anika Stragano, who formed speculations for profiting by the lucrative commerce which the Samoyedes carried on at Moscow, in peltries brought from countries beyond them, Siberia, properly so called, would have remained a great while longer unknown to the Ruffians themselves. Thus, as a third for riches had been the chief motive that excited the Spaniards to the discovery of America, and attracted the attention of other maritime nations to that quarter, by the same greediness of gain occasioned the discovery and conquest of northern Asia, a country till then unknown to the Europeans. The first foundation of this conquest was laid by the celebrated Yermak Timofeiyf, at the head of a band of adventurers, left civilized, though not to inhuman, as the conquerors of America. By the accession of this vast territory, now known by the name of Siberia, the Ruffians have acquired an extent of empire, never before attained by any other people. (Tooke's View of the Russian Empire, vol. i. p. 324.) It was however owing to Anika Stragano and his comrades, that this conquest was undertaken, who also showed the way to subjudget, by degrees, further distant nations. The Ruffians themselves became known to the Europeans, through the voyages undertaken by the latter. The English and Dutch obtained from him occasion of them while in quest of a north-east passage; they learnt of the Samoyedes that the little ice froze over in winter, but the great ice was never frozen; that they went thither to fish between the mouths of the Pianida and the Yenifey; that opposite to the east and north point of Nova Zemla, was another, making a great fall angle, from which the coast afterwards declined towards the east and south-east, nearly to the hot countries. Here we see to what a small matter was confined the knowledge at that time obtained of the northern part of Asia, and the only materials from which they could lay down their charts. They were puzzled how to reconcile these statements, and the more, as the coast between the Pianida and the eastermost point of its cape was unknown to them. Some knowledge of it by land had indeed been obtained; and even the coast of the sea to the westward of it as far as its mouth, are filled with simories, or winter-huts, confidently peopled; but those inhabited beyond that little river were to indistinctly known to them, that they thought it best to mark them down in an indeterminate manner. They recontinued thus: Cape Tabin must form a fine terra, the extremity of Asia towards the north. There is a sea that washes all those shores; and we are assured there is another that divides Asia from America: these two seas therefore must join, and at that place form an angle, which will prove to be this Tabin; having an island to the westward which they laid down as lying at the mouth of a river. This notion, notwithstanding the numerous discoveries that might have destroyed it, has always subsisted, under one form or another, to the very times in which we live. Some, building on the report of the Samoyedes, marked the coast from the cape to the Taimura, as declining gradually towards the south-east. Others, willing to reconcile one with the other, laid down this declension only to the Lena, at its mouth, having got intelligence of some islands there; accordingly they carried the coast north-eastward, for the sake of preferring this Tabin. On learning that the Ruffians and others regarded Svetoi-nofs as the most advanced promontory, they gave its name, or Promontorium Sacrum, to the pretended Tabin. Afterwards, being informed that this Svetoi-nofs lay to the call of the Lena, they marked it accordingly; and hence were more firmly persuaded, that the ilks at the mouth of that river were thofe of Taztata; while, on the other hand, they perverted in the idea of a cape fines terra, which they left filling under the names of Tabin (which we shall continue
to ufe while (peaking of it in this fect.), Sweito-ofis, Caput
Sacrum, Tinehchath.ofis, Thinehchath.ofis, &c.

Strahlenberg notices this cape in a striking manner;
and the navigators of the eighteenth century, likewise, even
so early as Linschotten and his contemporaries, were per-
founded that it was not other than that prominent angle
laidwards the Taimura: indeed it is the most advanced cape
of that coast lying beyond the 77° or in 78°, and there-
fore the furthest towards the north. But Strahlenberg at
the fame time points out the Ifle of Tazzata, which he proves
to be Novaya Zemlya, since the ancient Sevthians and their
successors began with the northern nations of Europe, by
the river Taas, whence they denominate the great gulf
to which we give the name of Oby, the gulf of Taas, and from
which Novaya Zemlya, fituate over against it, was called
Tazzata. This is so natural, and can be the lefs doubted
of, as that island always been reputed as lying to the
walt of Cape Tabin, near the mouth of a river. Whence
Strahlenberg concludes, that thofe geographers who mark
it more to the ear are greatly mistaken, "luc alpium Tazzata
infula Phaino poiter."

After the conquest of Siberia, ftome Ruffians fell upon
the fena. as relations as Aukuta Stragorno and his companions
had done concerning the wealth that might be drawn from
thee oriental parts by the articles of peltry, on going
direct to obtain them, either by the chace or by commerce;
several companies were accordingly formed of people who
were then, and are still known by the name of Promyfcelen-
denzy.

They confidered that the method of making the greatt
profit poifible would be by going to sea coaitwise, and traff-
ficking with those unknown tribes, who, being ignorant of
the value of their peltries, would give them for a low
price. In this they were not deceived: and, notwithstanding
the great risk they ran, as their veffels were flcall and
cracy; as they were no lefs unfatisfed in the art of navigating
than in managing them; as in not venturing far from
shore, they were in propery every moment of foundering
among the ice; yet the thift of vice was too strong to
prevent them from being detained from their projects; and
the government was well satisfied with them, as they fur-
fished it with the means of rendering all these people trib-
batory.

They began their coours from Yakutik about the year
1656; proud of flag in this manner by rap, they every
year about discovered one new river, one new cape, that
Yenese, the Indigirka, the Alafka, the Kovyma. No fanner
were they came to the laft of these rivers, than their
curiosity was exceded to know what other streams might
be beyond it, in the two-feald view of rendering the nations
bordering on them tribatory to the empire, and of pro-
cuting the expected capture of fables for their own enrich-
ment. The firft voyage from the river Kovyma was under-
taken in 1646, by a free company of these Promyfceleni,
dercut of the countain a certain Iacut Ignatief, a native of
Mefu. They foumd the sea full of ice: between the ice,
howeover, and the main land, was an open passage, along
which they proceeded twice 24 hours; when, coming to
an iflet between the rocks and the shore, they ran into it.
These 48 hours make seven degrees and a half, and the bay
they entered lies in 72 deg. Here they met with people of
the Thukthikf nation, with whom they began to trade
in the manner customary with uncivilized people; spreading
their commodities on the shore, of which thne Thukthik
took what they pleased, and depofited in their place walrus-
tooth, and articles made of that species of ivory. None
of the mariners would venture on shore to the Thukthik,
particularly as they had nobody on board who could serve
as interpreter. Contenting themfelves, therefore, with hav-
ing made this firft discovery, they returned to the river Ko-
ym.

The accounts brought home by these people of the wal-
rus-teeth, induced fome other Promyfceleni fome years
afterwards to undertake a fcond voyage. To this end
Fedot Alexenf, a native of Kolmogor, affiliated him-
self with a Meico merchant of the Gollina forma, a fmall
of Alexey Ulof, and was immediately confidered as the
chief of the enterprife. He thought it, however, expedient
to ask of the commandant at Kovyma, one of his Kozaks,
to look after the concerns of the crown during the voyage,
who appointed one Simeon Ivanof in Dechef, to attend him,
with proper instructions. Four kettches, apecies of barks, failed at the fame time in June 1647, from
the river Kovyma. Some loofe information having been obtained
of a river Anad, or, as it was then pronounced, Anandir,
the borders of which were inhabited by numerous tribes
of strange people, it was calculated that this river must
fall into the Frozen ocean; one of the objects, therefore,
of the pr€sent voyage was to discover its mouth. How-
ever, in this as well as all the rest, it completely failed;
the sea, even in summer, being too fall of ice to permit
them a free navigation.

Nevertheless, the passion for discoveries for augmenting
the revenues of the crown, and the wealth of private in-
dividuals, was so great, that no thoughts were entertained
of giving them up. Indeed the number of adventurers
founded rather to increafe, both among the Kozaks and the
Promyfceleni, fo that the following year seven kettches
were fitted out in the fame design; what became of four
of these veffels the accounts received make no mention. Of
the three others, Simeon Dechef, and Gerard Ankudinof,
fome commanders on the part of the Kozaks, and Fedot
Alexenf, the principal of the Promyfceleni. Previous to
their departure, a quarrel broke out between the two for-
mers, arising from the jealousy of Dechef, that Ankudinof
should share in the honour as well as in the profits to accrue
from the future discoveries. The crew of each veffel
might confift of about thirty perfonns; at least that was the
number of Ankudinof's people.

It is to be lamented that the accounts of Dechef, the
original whereof Mr. Müller was lucky enough to find
among the archives of Yakutik, should lay fo little, and
even nothing at all concerning the fate of four of those
kettches: nothing of what happened to him and his com-
panions on board the other three till they came to the
Great Cape: nothing about the ice, however, doublef,
fays Mr. Müller, there was none; and, as Dechef remarks
in another place, the sea is not every year navigable.

The relation begins at this cape. His words are: "This
cape is entirely different from that which projects near
the river Thukthikh, wellward from the Kovyma. It is
fituate between the north and north-east, forming a femicircle
wards the Anadyr. On the Ruffians, or weftward flde, the
Thukthik are bafed by the fide of a river, a number of
walrusbones in the fform of a tower (according to other
reports they are the tulbs of the walrus). Oppofite to
the promontory (it is not mentioned on which flde) are two
iflands, whereon were fen people of the nation of Thuk-
thik, distinguished by wearing pieces of the teeth of the
walrus inserted in their upper lip. It is posfible, with
a very good wind, to ftrretch from the promontory as far
as the river Anadyr in three times 24 hours; and it
would require no longer time to do it by land, as the Anadyr
Dilcharges itself into a bay." On this promontory it was
that
that Anukidinof's kotch perished; the people, however, were saved, and put on board the other two kotches. Shortly afterwards these were separated, and never again got sight of each other. Dehnft, after being driven about by wind and weather till October, suffered shipwreck, as far as can be collected from circumstances, considerably to the south of the river Anadyr, somewhere about the river Ohtora. What became of Fedot Alexeief and his ship's company, we shall mention presently.

Dehnft, with his followers, five and twenty in number, now set out in search of the Anadyr, which they did not discover till after they had wandered about, for want of a guide, the tedious space of ten weeks. The region where they came up to the Anadyr was not far from its mouth, a country entirely void of inhabitants, and deficient of forests; circumstances that naturally threw them into the extremity of diftrefs, as perceiving no means of obtaining subsistence. Wild animals were not to be expected, as they usually haunt the woods; and they had no implements for filling. In this perplexity, twelve of the company went up the course of the river; but after a devions journey of twenty days, still finding no traces of mankind, they turned about to regain the station where Dehnft and the cell were waiting for them; which, however, on account of hunger and fatigue, only a few of them reached.

After undergoing incredible hardships, Dehnft, in the summer of 1649, with the small remains of his people, went up the Anadyr by water, till he came to a people, called Anaufl; and there he founded the Anadyrkoi-offtrog, which was followed by other buildings. Dehnft observed a great sand-bank lying at the mouth of the Anadyr, advancing on the northern side far into the sea, the rest of a vast number of morhles and other amphibious animals. This circumstance was too flattering to be neglected. Accordingly, he began to fell timber, in 1652, for the construction of a kotiche, to be employed in conveying the tribute to Yakutik by sea; but was obliged to delivef from his purpose, from the want of other materials, and because he learnt that the sea about Thukoktkoi-nofs was not every year equally free from ice.

In 1654, he made another expedition to the korga, or sand-bank, for the purpose of collecting morhle-teeth. He now associated with him a Kozak named Yulko Seliverstof, who had accompanied Mikhaila Sadokin on his voyage of discovery in the Frozen Ocean, and was sent from Yautik to collect these teeth for the benefit of the crown. In his instructions, mention is made of a river Stenvon, falling into the bay at Penhlink, as well as of the Anadyr; and he was ordered to levy a tribute on the inhabitants dwelling about these rivers; as what Dehnft had been doing was not as yet known at Yakutik. On this occasion new difcontents arose. Seliverstof arrogated to himself the discovery of the korga, as having failed to that place with Sadokin, in 1649. Dehnft however proved that he had not even reached the great Thukokthi-nofs, which he affirmed to be formed of nothing but bare rocks, as was but too well known to him, since Anukidinof's vessel had been wrecked upon them. He farther alleged, that this was by no means the first promontory that appeared under the appellation of Swetoi-nofs. The two islands lying opposite the Thukokthi-osts, belonging to the tooth-lipped people before mentioned, being the peculiar marks of it. That Dehnft alone, and neither Sadokin nor Seliverstof, had seen these people; and concluded by infaining that the korga at the mouth of the Anadyr was at a great distance from them.

Dehnft, while surveying the sea-coast, learnt of the Koraes the fate of the two Anukidinof's U-dot, and Gera-anim, as well as of Fedot Alexeief.

In 1659, other expiditions were again undertaken; but, from the foregoing impediments, though they set sail in July, they suffered so much damage from the floating ice between the eastern mouths of the Lena and Swetoimofs, that they were deterred from such voyages for a long time; and it was not till the reign of Peter the Great that these enterpries were resumed. It is well known that his comprehensive mind conceived only vast ideas and grand projects; that being principally defirous to establishe an extensive commerce by means of navigation, he began by opening to himself the navigation of the Baltic, by the foundation of St. Peterburg; Archangel already existed on the shore of the White Sea; he thought himself secure in the navigation of the Enzime, by the possession of Arc, and that of the Caspian by Astrakhan, which he succeeded in bringing to effect. He now conceived that it might not be impossible for him to participate in the lucrative commerce of the Indies, of Japan, of China, and of America, by establishing factories at the extremity of Asia, in the proximity of those countries. The Dutch East India company declining to attempt the discovery of the north-eaf paffage, the tsar adopted the project, as well as that of subjection the countries adjacent to the objects of his commerce, beginning by Kamaththa, of which some obscure information had been obtained.

Thither, in 1696, he sent Vladimir Atlassof, stationed as commandant of the Kozaks at Anadyrkoi-offtrog, a settlement that had been retained ever since its first erection by Dehnft, as before related, who was naturally supposed to have acquired an extensive knowledge of all the neighbouring countries. He accordingly dispatched sixteen Kozaks of Yakutik, to render the Kozaks on the river Opuka tributary; Morosco, their chief, acquired himself well of his commifion, and even took a Kamathadale offtrog. Atlassof, profiting by this advantage, put himself at the head of sixty Kozaks, and as many Yukuafs, and led them to the river Kamaththa, and the surrounding diilrits. In his juridical declaration, he relates, among other things, before he continues the recital of his progress to Kamaththa; that, between the Kovyma and Anadyr is a double cape, which some have called Shalaktooi cape and Anadyrkoi cape. Of the latter he affirms, that it can never be doubled in welfels of the ordinary construction, because on the western or northerf side are always vast pieces of floating ice (stationary and fold in winter) ; and that the other side of the sea of the Anadyrkoi cape is at all times free from ice. That, though he himself was not personally at the height of these capes, yet he learnt from the Thukothi, who dwelt about the mouth of the Anadyr, that over against this cape is a large island, inhabited by people who came to them in winter over the ice, and bring them bad fables.

To avoid profidity, we omit the remainder of his account; only observing, that Mr. Müller feems rather to depart from his usual candour, in regard to this narrative, which he acknowledges to be really Atlassof's; but fuggels that it does not exactly tally with a letter of his in 1700, nor with his juridical deposition in 1701. In order to have given validity to his doubts, he should have communicated these pieces among the great number with which he has enriched his valuable collection. This he has not done. And since the tsar, who was an excellent judge of mankind, was so well satisfied with him, that he made him colonel of the Kozaks at Yakutik, this circumstance ought to have its proper weight with us.

Parties were repeatedly sent against the Thukothi, with-
out being able to subdue them. In 1711, the Yakutsk-Kozak Peter Hinia Popof, the promyshlenok Yegor Vallilewin
in Toldin, and the newly baptized Ivan Vallilewin in Terlekh-
kin, made a vigorous attempt to compel those who dwelt on
the other side of the bay, and of the cape or nofs, to pay
the tribute; which they as strenuously refused. They, how-
ever, obtained from them a great number of particulars
concerning the situation of the surrounding countries; and,
among others, that opposite, whether to the Koyoma or
to the Amadyr they could not sufficiently comprehend, is situate
a spacious island, to which the Thukhti gave the name of
the great land, the inhabitants whereof pierce their cheeks,
and pass large pieces of teeth through the orifice; not
having the same language with the Thukhti, who have been
at war with them from time immemorial. Popof saw
ten of them, who were prisoners to the Thukhti; and he
remarked that these pieces were those of the walrus. He
learnt that in summer they pass over to this island in baidars
in one day, and in winter likewise in one day in fedges on
the ice.

On the promontory or land of this cape no other an-
timals than wolves and foxes are seen, since there are no fel-
larks; whereas on the other land are all sorts of animals that
figure the finer sorts of furs. The inhabitants keep numer-
rous herds of rein-deer. The country produces cedar, fir,
pine, larches, and other trees. Popof supposed that the
number of the Thukhti at this cape might amount to two
thousand men, and that of the illiders to triple that sum.
That, from the Amadyr to the far off they go by land to the
nofs, along the rock Matkol, which runs out from a great
gulf.

At the time of which we are speaking, there being yet
no implements for navigation at Okhotik, and the use of the
camps not being known there till the year 1714, by the
express command of the great czar Peter I., the governor
Prince Gagarin supplied both these defects. Probably the
governor at first imagined that the purposes of discovery might
be effected without these helps; for the first order
relating to the discovery of a passage by sea to Kamchatka,
dated the 17th of February 1713, directed to the voevode
Yelthin, contains not a word about the construction of ves-
sels, nor of people expert in the art of navigation; accord-
ingly, nothing farther appears than that the dvoramin Ivan
Vallilewin, who was charged with the business at Yakutik,
after arriving with twelve kozaks at Okhotik in the autumn
of that year, committed a great many blunders, and was
brought back to Yakutik in custody. It was now found
necessary that the governor should immediately send some
able men and ship-carpenters. By these, who arrived at
Yakutik the 23d of May 1714, and were sent off to Ok-
hotik the 3d of July, under the command of a Kozak named
Kalim Sokolof, with about twenty Kozaks, the long-wihled
for discovery was made.

One of the sailors, by birth a Dutchman, a native of Hoorn,
(Strahlenberg calls him Swedish corporal, who had formerly
been a ship-carpenter; but Buhf himself says, that he had
served in various places many years as a sailor, and at last in the
Swedish cavalry, and so came to be taken prisoner at Vyborg,
in the year 1706), named Henry Buhf, was still living at
Yakutik in 1736, when Mr. Miller made some stay there;
and, in answer to his inquiries, he learnt of him the following
particulars. After they were come to Okhotik, the car-
penters built a vessel of the same kind with the Russian
lodges, in which they used formerly to go from Archangel
to Mefen, Polozero, and Nova Zemlia. These labours oc-
cupied the whole of the year 1715. The vessel was very
short and substantially. It was eight fathoms and a half in
length, and in breadth three fathoms. When loaded, it drew
three feet and a half of water. All things necessary for the
voyage being ready, the first expedition was undertaken in
June 1716. They coasted northwaftwards, as far as the
region of the river Oka. It was intended to pursue the
same course farther; but a contrary wind drove the vessel,
as it were against the will of the navigators, across the
sea to Kamchatka. What they first desired, as they after-
wards were informed, was a promontory, starting northwards
from the mouth of the river Tigil. The coast formed steep
and rocky, therefore they would not venture on those dis-
tances as they were of any pilot or guide. Proceeding, how-
ever, to keep the sea, a contrary wind arose, which drove
the vessel back upon the Okhotikian shore. The wind after-
wards coming favourable, the navigators tacked about, and
came exactly back to the Tigil, where they now cast anchor.
Some of the people went on shore in search of human beings,
but found only empty huts. The Kamthaadles had per-
ceived the veild approaching, and had fled for fear into
the forests and mountains. Our mariners therefore again set sail,
passed the Tigil, and in the space of a day reached the
stream Chirulofoza, having two small islands lying in its vi-
cinity. The former, being the largest, is at the distance of
five versts from the main land; the other, consisting only of
bare rocks, a little farther. Leaving the Chirulofoza,
they found out to sea the whole night, and the next morn-
ing found themselves in with the land at the river Ithina.
Here they sent some of the crew on shore, who, finding
however neither people nor habitations, presently returned.
Continuing to sail along the coast, they came up with the
river Krotigorovka, into which they would have run, but
missed the inlet; luckily, however, a bay opening to the
south of the river being found convenient, in it they dropped
their anchor. A detachment of them, while exploring the
country, met with a Kamthaadle girl picking up eel-like
roots in the fields. She directed them to some huts, where,
just at that time a party of Kozaks had put up for the
purpose of collecting the tribute. These, on being sent to,
came and served them as guides and interpreters. The vessel
was brought to the mouth of the river Kompakova, which
they found a good birth to moor in, for the winter. Here
they had not been many days when a whale was thrown shore
by the sea; in the body of the fish was sticking a harpoon of European manufacture, marked with Roman
letters. If I could have furnished, continues Mr. Miller,
that the deliver who related to me this fact, had known of
the like accident that happened to the shipwrecked Dutch-
men on the coast of Korea, in 1673. (Wilken, ed. 2. p. 15.
"Voyage au Nord," tom. ii. p. 308.) I might have been led
to suspect, that he perhaps was amusing me with a tale that
had no other foundation than what he borrowed from the
former. This, however, was not the case. For he was a
completely illiterate man, could neither read nor write, and
clearly knew that there was such a place as Korea in the
world; consequently the fact is only the more confirmed by
two examples. The commander Sokolof, during the win-
ter, made a journey to Nishimi Kamthathkoi offtrog, whence
he returned to the ship in spring, and at the beginning of
May 1717, put again to sea. The sea, however, was so
full of ice, that on the fourth day from their departure they
were completely jammed in between some fields of it, where
they were obliged to remain fixed upwards of six weeks,
before they could proceed on the voyage. At the same
time they were in great want of provisones. Happily they
regained the Okhotikian shore, between the river Ola and
Tunilokioftriog, where they remained at anchor a few days;
and about the middle of July returned to Okhotik. From
this
this time a navigation has been uninterruptedly kept up between Okhotik and Kamtchatka.

While all this was transacting, governor prince Gagarin, in the year 1716, dispatched colonel Jacob Ageef in Yelthbin, formerly voivode at Yakutsk, with a considerable party of officers and people, to the same region, with orders to make diligent inquiries concerning Kamtchatka, and chiefly such as related to the object in question. Kofrefsky mentions, that ships from Japan came to the sixth of the Kurilli islands, Shokoki, for ores or minerals, which they carried back to their island. This, however, seems to be not quite correct, as differing widely from all the other accounts, which say, that the Japanese (probably when driven about by adverse winds and storms) used never to proceed farther than Matamai. Nor had any subsequent information confirmed what he advances. This therefore was one of the principal matters into which the colonel was instructed by the governor to inquire; he was likewise to proceed from Thukotikoi-nofs to the opposite islands, and thence to the main land. By his instructions also he was to gain accurate information about the islands of Saintary; to attempt to settle a regular traffic with the Japanese, and whatever else he could effect in consequence of his own observations; noting, however, of importance ensued from it. The governor had given the colonel, a Swedish lieutenant named Amborn Maly, who was to construct the vessels proper for the several enterprises at Okhotik. This man pretended that there was no timber to be found at that place fit for the purpose. (Seevol Strahlenberg, p. 17.)

Disputes arose now between the colonel and the voivode of Yakutsk, Ivan Vafilhef Rakinin, which likewise probably threw great impediments in the way of this expedition; and the disgrace of prince Gagarin happening soon after, the whole business came to nothing. The only benefit accruing from it was a voyage on foot by Yelthtin, in the year 1718, to the Shantar islands, and performed by the in bayarikoi Prokofey Philkief. This person was still living when Mr. Miller was at Yakutsk, and from whom he learnt the following particulars of his voyage.

Philkief was provided with able ferns, the better to enable himself, when they were out at sea, these men declared to him, that they were resolved to visit not only the Shantary, but all the other islands lying in those seas, as far as the Kurilli; which done, they would winter on the largest of the Shantar islands, which by way of eminence is denominated Shantar. This not being agreeable to Philkief, he caused himself, with a couple of Kozaks, to be put on shore at the mouth of the river Tugur. The rest accomplished their design, passed the winter on the isle of Shantar, and had a rich capture of fables. Having negligently, however, left a fire they had been using, the flames caught the trees, so that the whole forest of the island was in a blaze, by which they also lost their fables. The next summer they returned to the continent, where, intending to fish along the coast between the Tugur and the Amoor, the greater part of them were slain by the Giliaks. They computed the isle of Shantar to be from south to north about twenty versts, and three or four versts in breadth, without any mountain upon it. Now then were these islands to be seen from the mouth of the river U? This therefore seems to confirm Philkief's assertion, that they are situate in the proximity of the Tugur, and that it requires eight days to pass from the U to the Tugur, in lodkas or small craft. If we admit the situation of the coasts to be as they appear upon the maps, namely, as stretching directly south from Okhotik to the Amoor, then the difficulty is much increased; because in that case there must be several promontories projecting so far as to conceal these islands from the view. But various reasons may be found for believing that the coast from Okhotik to the river Ud runs south-westerly, and from the Ud to the Amoor south-easterly. If it is, as it is highly probable it will hereafter be found, that the Shantar islands may lie in such a manner as to follow one another in succession northwards from the river Tugur. There may be more of them than we imagine, since the number of them is by no means ascertained. In that case, the narrative may unquestionably be diversed from the river Ud.

In 1718, a tribe of Thukthiis came voluntarily to surrender themselves at the Anadikoi oftrog, declaring that they inhabited the promontory between the Andyr and the Kowynia; that they were in number about 3500 men; that this promontory was covered with rocks and mountains, but that the flat country consisted of curialand; that opposite to the cape was seen an isle of moderate dimensions, the inhabitants whereof bore a resemblance to the Thukthiis, but spoke a different language; that from the point they could go over to the isle in half a day; that beyond it was a large continent, which might be seen from the island in fair weather; that its inhabitants likewise resembled the Thukthiis, had a different dialect, numerous forests, &c., (giving an exact description of the great island mentioned above); that with their baidara, or boats, by coasting the promontory, they could make the voyage from the bottom of the bay of Andyr, to the extreme point of the promontory, in three weeks, and often in lost time.

Peter the Great, desirous of obtaining a more accurate knowledge of these parts and passages; and, unable to induce the Dutch East India Company to take up the matter, resolved himself to prosecute the design with vigour. Accordingly, in 1727, he sent two good ships, or geometors, to Kamtchatka. Of what they executed or discovered, nothing ever came to the ears of the public. It is only known, that on their return, the war gave them a very gracious reception; whence it may be presumed, that they acquitted themselves of their trust to his satisfaction.

In short, the war being resolved to satisfy his curiosity, by casting these latitudes to be explored, and, above all, to be certified whether Asia was contiguous to America on the north-eastern side, towards Thukthiis-nofs, since on the north side it undoubtedly was not; he made choice of Vitus Bering, an expert Danish mariner, for that purpose, to whom he joined lieutenants Spangberg and Thirikof. Peter had this business so much at heart, that, though confined to his bed by the disaise that put an end to his life, he converted with Bering, and even drew up with his own hand a set of instructions for his guidance, which paper was delivered to him five days after the demise of that great monarch.

He set sail the 14th of July 1728, from the river of Kamtchatka, and Reeder north-easterly, following the land as seldom to lose sight of it. Of this he drew a chart, so accurate as to be held the best extant.

The 8th of August, being in lat. 61° 52' 5 a halfe, having eight men on board, came up to his vessel. These proved to be Thukthiis, who told him that the coast was covered with the dwellings of their people, and gave him to understand, that not far off the land trended towards the west; they also pointed out an isle at no great distance, which Bering came up with on the 10th of August, and gave it the name of Saint Lawrence.

On the 15th of the same month, in 67° 18', lat. perceiving that, as the Thukthiis had said, the coast bent towards the west, and no longer to the north, it is said that he drew this
had taken the westward direction; it was impossible there could be a junction of Asia with America; and that he had fulfilled his commission. Mr. Müller adds, that he was mistaken, since he was only then at Serdzekamn, whence the coast indeed turns to the west, forming a large gulf; but that it afterwards returns to the north and north-east, as far as the great T'punkthii-sofs. On his passage back, the 20th of August, forty T'punkthii approached his ship in four baidars, and informed him, that their countrymen frequently went to the Koyyma by land, with merchandise, but never by water.

Afanasy Shellakof, colonel of the Yakuttoki Kozaks, having made several proposals to the senate, to render the obdurate T'punkthii tributary, it will be necessary to lay something of his expedition, as being of some consequence to the history of navigation. Shellakof was resolved to reduce not only the T'punkthii, but likewise the Koriaks, who dwell on the Siberian coast of the Penhinskian sea, and likewise inhabit both shores of the northern part of Kamtchatka, and were frequently in a state of rebellion, to obedience. He purposed to visit the country lying opposite to T'punkthii-sofs, and subject the inhabitants to the Russian authority. It was part of his plan likewise to make an attempt to discover the pretended land in the Frozen ocean; and, lastly, before his return, to explore the Shantarain and Kurilly islands. The obduracy, with which he accompanied the delivery of his project, gained him universal approbation, and high and low became interested in the success of his enterprise, all conceiving it extremely probable that great public benefit might accrue from it. Accordingly he was appointed commander of a particular expedition. The admiralty of St. Peterburg gave him a pilot, named Jacob Hens, with an affiant, Ivan Fedorof, a geodesist, Michael Gvozdof, a mineralogist, named Herdolai, and ten sailors. At Ekatarnenbourg, he was supplied with field-pieces and mortars, with all proper appurtenances. At Tobol'sk, a captain of the Siberian regiment of dragons, Dmitri Pavluzki, was ordered to join him, with four hundred Kozaks, under his united command; and they were farther empowered to increase their strength from all the garrisons, forts, and sloop, in the territory of Yakutk, wherever they should come, at their discretion.

These preparatives being made, Shellakof set out from St. Peterburg for Siberia in the month of June 1727. At Tobol'sk he arrived till the 28th of November, paused the winter in the upper regions of the Lena, and reached Yakutk in the summer of 1728. Here a violent quarrel arose between Shellakof and Pavluzki, which probably occasioned them to part, though they prosecuted their several purposes to the same end. Shellakof, in 1729, repaired to Okhotk, and there took to his use the vessels with which captain Beering had lately returned from Kamtchatka. Having dispatched his shipman, the lie boyarikoi Ivan Shellakof, on the 2nd of September, in one of them, the Gabriel, to go to the river Ud and thence to Kamtchatka, for the purpose of examining and describing all the isalnds he might meet with on that voyage; he sailed in the other vessel, the Fortuna, for Tavikoi oifrog, but had the misfortune to suffer shipwreck, and to lose the greater part of his people perishing in the bilows, with great difficulty saving himself and four other persons from sharing their fate. The 30th of September, he sent from Tavikoi oifrog a kozak, Ivan Olta- sief, in company with an elder of the Koriaks, forwards along the coast, with orders to proceed to the river Penhina, and, by kind words and fair promises, to persuade the refractory Koriaks dwelling in that tract, to submit to the Russian government. He himself followed, at the commencement of December, with the rest of his men, took up Oifrog by the way, and arrived within two days journey from the Penhina, where he fell in with a prodigious host of T'punkthii on their march to make war upon the Koriaks. Though the number of Shellakof's followers, Russians, Okhotkian Tungufes, L/>.arutes and Koriaks, all together conficted of not more than 150 men, yet he did not hesitate to rile a battle with the T'punkthi. This, however, had an unfortunate issue; Shellakof was struck by an arrow from the enemy, which deprived him of life, and those who escaped falling with him, were entirely put to flight. This happened the 14th of March 1730, near the island Ye-gath, which falls into the Penhinskian gulf between the rivers Paren and Penhina.

Three days prior to this disastrous event, Shellakof had sent an order to Tavikoi oifrog, directing the Kozak, Trypho Krupjhef, to proceed in one of the vessels to Bol'hotzoi oifrog, from thence doubling the southern point of Kamtchatka, to fail on towards Nihoi Kambathkoi oifrog, to continue his voyage in the same ship to the river Anadyr, and invite the inhabitants of the vast tract of country lying opposite, to pay tribute to Russia. In this dispatch he recommended Krupjhef to take with him the geodesist, Gvozdof, in cafe he were inclined to go, and to treat him with all possible kindness. Concerning what came of it, no accounts are extant. Only thus much is known, observes Mr. Müller, that the geodesist, Gvozdof, was actually, in the year 1730, between the 65th and 66th degrees of latitude, at a short distance from the country of the T'punkthii, on an unknown shore, situate over against the said country; that he even found people there, with whom, however, he was unable to converse for want of an interpreter.

During these transactions, the five boyarikoi Ivan Sheltakof, was calling on board the Gabriel to Kamtchatka, and, on the 19th of September 1729, arrived at Bol'hotzoi oifrog. For, though his instructions were to proceed north to the river Ud, he was prevented from doing so by violent adverse storms. The following summer, however, he made the voyage to the Ud, touched at Udiskoi oifrog, where he found people who had been sent thither by colonel Shellakof, and had built a vessel; but that not being fit for his purpose, he returned to Kamtchatka, having been both on his passage forwards, and on his way back, several islands, and at last made again the port of Okhotk.

While Shellakof was on his passage back to Okhotk, Jacob Hens, the pilot, received a dispatch from captain Pavluzki, who had come directly from Yakutk, by the common inland road, to Nifnei Koyymski Simov, or oifrog, informing him that he had heard, by way of Anadyri oifrog, of the death of the Kozak, colonel Shellakof; but that this would cause no impediment to the progress of the expedition: at the same time ordering the pilot Hens to go, with one of the vessels which captain Beering had left at Okhotk, round by Kamtchatka to Anadyr, whither likewise captain Pavluzki would proceed without delay. In pursuance of this order, Hens went on board the Gabriel, and failed for Kamtchatka. On the 20th of July 1734, he arrived at the mouth of the river Kamtchatka, intending, to purdue his voyage to the Anadyr, when a report was brought to him, that the same day a rebellious crew of Kamtchadales were come to Nifnei Kamtchatkoi oifrog, where, after murdering most of the Russians, they had set fire to the dwelling of the inhabitants. The few remaining Russians took refuge on board the vessel, and Hens sent a party of his people on shore to reduce the Kamtchadales
to obedience; in which they succumbed; but the event actually stopped the navigation of the river Anadyr.

In the mean time, captain Pavlovsky had arrived, the 3rd of September 1738 at Anadyrkoi offort. From that place, in the enforcing summer, he marched on an expedition against the refractory Thukhthi. Pavlovsky opened his campaign the 12th of March 1731, his force consisting of 245 Russians, 160 Koriaks, and 60 Yakagirs. He took the road across the sources of the rivers Ubera, Bela, and Ticherna, which fall into the Anadyr, advancing directly north towards the Frozen ocean, and leaving the head of the Anadyr to the left. Of the other rivers which he crossed, nothing is known, as there was nobody to inform him of them, or tell their names. After a course of two months, in which they could not proceed above ten versts a day, and that only by retreating at times, Pavlovsky came to the Frozen ocean, at a place where a considerable river d先行mogues into it, but the name of which he could not learn. He now proceeded fourteen days eastward along the coast, molly over the ice, without observing any mouths of rivers, as they were oftentimes obliged to keep out on the ice at a distance from land. At length they perceived a great troop of Thukthi advancing towards them, apparently intending to come to an engagement with them. Pavlovsky, by an interpreter, summoned them to surrender to Russia; which, on their peremptorily refusing to obey, he immediately attacked them, and had the good fortune to give them a total defeat. This happened on the 7th of June.

After retreating one week, Pavlovsky continued his march, and at the latter end of June came to two rivers that discharge themselves into the Frozen ocean, at the distance of a day's journey asunder. On the bank of the latter of these rivers, on the 30th of June, a second battle was fought, which terminated as happily as the former. They now lay still for three days, then proceeded to Thukotikons, resolving to go right across it to the Anadyrkian sea, when a third time they law advancing towards them a numerous army of Thukhti, collected together from both coasts. Here on the fourteenth of July was fought the third battle, in which the slaughter on the enemy's side was greater than the advantage on that of the Russians; as, notwithstanding their defeat, the Thukthi would hearken to no terms of submission or truce. Among the spoil were found many articles that had belonged to the Kokax, colonel Shellakof, and were lost in the engagement that happened near the island Yegath. That affair therefore was thus amply revenged; especially as in all the three battles, not more than three Russians, one Yukagir, and five Koriaks, were left on the field. It was affirmed, that among the killed of the enemy in the last encounter, one was found who had a hole in the upper lip on each side of the mouth, in which pieces of the walrus tooth were inserted.

Pavlovsky now marched triumphantly across Thukotikons, in which he had to climb over the summits of huge mountains, and at the end of ten days happily reached the other coast. Here he sent off some of his people by water in baidars; but remained himself with the greater part of his followers on shore, and kept along the coast, which there stretches south-eastward, so that every evening he received reports from the baidars. On the seventh day they came up to the mouth of a river, and twelve days after, to that of another, from which, at the distance of about ten versts, a point of land runs far out into the sea, which at first is mountainous, but terminates in a plain extending as far as the eye can see. This point is probably the same that obliged captain Beering to put back. One of the mountains is by the inhabitants of Anadyrkoi-orlorg called Serdzekamenn.

Pavlovsky hence turned in land, and returned to Anadyrsk the twenty-third of October, by the same way that he went out.

Mr. Miller speaks of the ardent zeal which M. Kerilof, at that time secretary of the state, manifested for the success of these discoveries in 1732.

Having related what information has been obtained from the Russians, and particularly from the indefatigable Mr. Miller, we shall now proceed to deliver, as briefly as possible, what we gather from other authors, more ancient.

Pere Avril was informed by a voyage, that the people dwelling about the Kovyma frequently went to the shores of the Frozen ocean to pursue the morse, for the sake of their teeth. M. Witien, justly celebrated for his persevering diligence, from about 1670 to 1692, in the discovery of these unknown countries, says, that "the great projecting point, which he calls Cape Tabin, extends near to America; that about fifty or threecour men, coming from the Lena, a little before 1692, put out to sea in the Frozen ocean; and, having turned to the right, came to the point against which the fields of ice driving from the north strike with their whole force, &c. It was therefore not possible for them to double this cape, nor to perceive its extremity from the mountains of the north-east of that point of Asia which is not extremely wide in that place; they remarked that the sea was free from ice on the other side, that is, the southern, whence it may be inferred that the land of that point extends so far to the north-east, that the floating ice, coming down from the north, cannot pass on the southern side."

Mr. Buache, from whom this passage is taken (Consider. Geograph. p. 105, 106.) corroborates and illustrates the account thus: "The first pieces of ice (he says) coming from the north, float at the island between the cape and America, and on the shallows which connect it to the two continents; these large flakes, accumulating on one another, form a sort of bridge; and it is only then, that the others which afterwards come down from the north, are unable to pass to the south, &c. On this point (continues M. Witien) are found men who wear little fomes and pieces of bone inserted in their cheeks, and seem to have a strong affinity with the North Americans."

Kempfer, in 1683, sparing no pains that might any way lead to the knowledge of the northern regions, was informed by several persons, that the Greater Tartary was joined by an illusus, composed of lofty mountains, to a neighbouring continent, which they supposed to be America. He was shown the first maps of the Russian empire, laid down some years before, without degrees of longitude. On them appeared several considerable capes on the eastern shores of Siberia; one of them, too large for being comprised within the border of the map, which was cut in wood, was abruptly shortened by it. This is the point spoken of by M. Witien; but at that time, it is said to have been thought more near to Ruffia than it really is.

Ibrahim Ides, from informations carefully taken in 1693 and 1694, speaks of Kamthkatka, as of a town, which, with the surrounding country, was inhabited by the Xusi and Karliki ('Thukhti and Koriaks); says, that the cape of ice is a tongue of land projecting into the sea, where it is intersected by several arms of water, which form gulls and islands above Kamthkatka; the sea has an entrance frequented by the fishermen; here are the towns Anadyrkoi and Sabatfia (on the map, and according to others Sabatha), inhabited by the two nations above mentioned. The inhabitants of Yakutik go to cape St. Sabatha, Anadyr, Kamthkatka, &c. in quest of the narval.

The Swedish officer, who was a prisoner in Siberia from
1709 to 1721, contending against the opinion of those who imagined that Asia was contiguous to America, positively affirms that the Russian vessels, coasting along the main land, ordinaril}y pass the Svertoi-nois, in order to trade with the Kamthathakias on the shore of the Eastero ocean, about the fifteenth degree of latitude: but for this purpose they are obliged to pass between the main land, and a great island lying to the north-out of Svertoi-nois, and that this is the north-west of America. Strahlenberg mentions nothing farther in his work than the facts already related, excepting that the Yakagirs are a people settled near the Frozen ocean, between the mouth of the Lena and Cape Tabin. It has been found, that in the part of the continent of America of which some knowledge has been obtained, opposite the cape, there is a large river, wafting down its current numbers of great trees, &c.

From all these, and various other documents and data, M. Engel endeavours to establish some important facts; such as, that the position of this pretended cape Tabin owes its origin to the direc of fixing that of Thiny spoken of above; and this motive having sufficed till within a few years past, or at latest, the idea of a finite term towards the north-east, it has been preferred, and some cape or other was to be found for this purpose. That the largest of all, that which extends farthest into the sea, and the most formidable, according to all accounts, is the double cape, called Serdtszakamen, or heart of stone, north of the Anadyr, which may in many years, at least, without difficulty be doubled; since it is not owing to its proximity to the pole, but to the occasional conjunction of vast bodies of ice, that renders it at such times impracticable.

M. Gmelin says: "There are even traces of a man who in a small boat, not much bigger than a fisherman's canoe, doubled the Shalaginsky cape, and made the voyage from the Kovyma to Kamthatha." It may be added, adds M. Engel, whether I am so credulous as to believe it? No: if I should grant what he means by that cape; since this man must have failed, according to the absurdities laid down in the chart, five or six hundred leagues. But if according to my system, we banish Cape Tabin into its proper nonentity, diminish the extent of the coasts, approximate the rivers, especially the Kovyma (for the supposed declination of the earth, and the greater proximity of the Fedirka and the Kovyma, are confirmed by various arguments); by doubling the Serdtszakamen, as the sole and real cape Shalaginsky, then it would be by no means impossible, in one of those years, when, as M. Muller allows, there are no mists of ice in its environs.

The authorities wherein M. Muller and the Russian geographers fix the longitude of the easterly extremity of Asia beyond the two hundredth degree from the first meridian of Ferro, or 180° 6' 15" from Paris, are derived from the observations of Jupiter's satellites, taken by Krafmlnikof, at Kamthatha and in several parts of Siberia; also from the expeditions, both by land and sea, of the Russians towards Thukotikoi-nois.

M. Engel disputes the accuracy of these observations, and deduces no less than twenty-nine degrees from the longitude of Kamthatha as stated by the Russians. M. de Vaugondy, however, fees no sufficient reasons for so extraordinary a subtraction; and contents himself with curtailing the continent of Asia of no more than eleven degrees of longitude. M. Bache differs from the opinions both of Engel and Vaugondy; defending the system of the Russian geographers on the authority of tables drawn up by M. Maraldi. It is certain that Krafmlnikof compared his stations with correspondent observations made at Petersburg, and the results were; on comparing an observation of an eclipse of the first satellite of Jupiter, taken at Okhotsk, Jan. 17, 1743; with an observation of an eclipse of the same satellite taken at Petersburg, Jan. 15, of the same year, the difference of longitude between Petersburg and Okhotsk appeared to be 7 hours, 13 minutes, 29 seconds; from a comparison of two follow not similar observations, the difference of longitude was found to be 7 hours, 31 minutes, 32 seconds; the proportional mean whereof, rejecting the half second, is 6 hours, 31 minutes, 34 seconds, the true difference between the meridians of Petersburg and Okhotsk according to these observations. Adding the longitudinal difference between Petersburg and Paris, which is 1 hour, 52 minutes, 25 seconds, we get the longitude of Okhotsk from Paris, 7 hours, 23 minutes, 56 seconds, differing only 26 seconds from the result of M. Maraldi. (See Nov. Comm. Petropol. tom. iii. p. 472.) So likewise the longitude of Bolsherkfti, from correspondent observations taken there and at St. Petersburg, appears to be 10 hours, 20 minutes, 22 seconds, differing from Maraldi about 2 minutes, 5 seconds. (1d. lib. p. 409.)

But the longitude of the haven of Peterpavlovsk, calculated in like manner by correspondent observations, disagrees with the longitude as computed by Maraldi, no more than 20 seconds. (Ibid.) Besides, the results deduced from correspondent observations of the eclipses of Jupiter's satellites taken at Bolsherkfti, and at the haven of Peter and Paul, by Krafmlnikof, and at Pekin by the Jesuit missionaries, evince by their near agreement the care and attention with which the observations must have been conducted; whereas there is great reason to suppose, that the suspicions of inaccuracy imputed to Krafmlnikof are delusive of any just foundation. (Oblerv. Altron. cal. Sat. Jovis, &c. Nov. Comm. Petrop. tom. iii. p. 452, &c. Oblerv. Altron. Pequini factae. Ant. Hallerlein. Curante Max. Hell. Vindibone, 1768.)

For supporting, however, in some fort, these suspicions, H. Vaugondy pretends, that the time-pieces and other instruments used by Krafmlnikof at Kamthatha, were greatly damaged by the length of the journey; and that the person who was sent to repair them was not expert in his business. But this opinion seems to have been too hastily adopted; for, though Krafmlnikof does indeed allow that his time-piece sometimes toppot, and that too, when he wanted to ascertain the true time of the observation; and farther admits, that consequently the observations taken by him under these disadvantages, when he was unable to correct them by former or subsequent observations of the sun or stars, are not to be relied on, and which he has therefore disdained by an alfarism; there are nevertheless many others not liable to any objections of this nature; and the observations alluded to above fall under this description. (See Nov. Comment. Petrop. tom. iii. p. 444.) However, the testimony of the late professor Muller, who was in those parts with Krafmlnikof, as to the sufficiency of the instruments, entirely removes that objection.

The best way of trying the accuracy of the Russian geographers in setting the longitude of Kamthatha, will be by comparing it with that of Yakutsk, which has been clearly established by a variety of observations taken at different times and by different persons. If therefore any error be in placing Kamthatha too far to the east, it is in the longitude between Yakutsk and Bolsherkfti.

Now, Krafmlnikof, on his return from Kamthatha, observed at Yakutsk several eclipses of Jupiter's satellites, from which it appears, on comparing them with calculations of the same eclipses made by M. Wargentin for the meridian of Paris, that the mean of the result is 8 hours, 29 minutes, 5 seconds. The observations of M. Isenief, taken at Yakutsk, &c.
kutik in 1769, whether he had been sent to observe the transit of Venus, received the function of the imperial academy of sciences. (Nov. Comment. Acad. Petrop. tom. xiv. pars iii. p. 268—321.) The longitude given by him to Yakutik is eight hours, 29 minutes, 34 seconds, a sufficiently accurate agreement with the longitude resulting from the observations of Krafftikof.

The longitude therefore of Yakutik from Paris being 8 hours, 29 minutes, 34 seconds, or 127° 16' 57"; and of Bolshertek 10 hours, 17 minutes, 17 seconds, or 150° 19' 15", the longitudinal difference of these two places, from astronomical observations, is 1 hour, 44 minutes, 42 seconds, or 27° 3' 6". The latitude of Bolshertek is 52° 55' 3", and that of Yakutik 62° 1' 50"; then the difference of their longitude being from the foregoing statement 27° 3' 6", the direct distance between the places appears on a great circle of the earth will appear by trigonometry to be 16° 57', or about 1773 versts, reckoning 104½ versts to a degree. This distance consists partly of sea and partly of land; and a constant intercurve is kept up between the two places, by means of Okhotik, which stands in the intermediate space. The distance by sea from Bolshertek to Okhotik is estimated by nautical reckonings to be 1254 versts, and the distance by land from Okhotik to Yakutik is 927, making together 2181 versts. The direct distance deduced by trigonometry, supposing the difference of longitude between Bolshertek and Yakutik to be 27° 3', is 1773, falling short of 2181 by 408; a difference naturally to be expected, on considering that neither journals by land, nor voyages by sea, are ever performed precisely on a great circle of the globe, which is the shortest line between any two places.

Such being the agreement between the distance thus estimated, and that deduced by calculation, admitting the difference of longitude between Yakutik and Bolshertek; to be 27° 3', it seems highly improbable that there should be an error of many degrees in the astronomical determination.

Since then the longitude between Ferro and St. Peterburg is conveniently 48°; that between St. Peterburg and Yakutik 99° 21'; and, as the distance in longitude between Yakutik and Bolshertek cannot be materially less than 27° 3'; it follows, that the longitude of Bolshertek from Ferro cannot be much short of 174° 23. How then are we to find room for so considerable an error as 29 degrees, which, according to M. Engel, on whom 200th degrees, according to M. Vaugondy, is chargeable on the Russian geographers in determining the longitude of Kamtchatka?

From the isle of Ferro the longitude of Yakutik is

<table>
<thead>
<tr>
<th>Yakutik</th>
<th>147° 0' 0&quot;</th>
</tr>
</thead>
<tbody>
<tr>
<td>Okhotik</td>
<td>160° 7'</td>
</tr>
<tr>
<td>Bolshertek</td>
<td>172° 13'</td>
</tr>
<tr>
<td>Peter and Paul</td>
<td>176° 10'</td>
</tr>
</tbody>
</table>

As no astronomical observations have been made farther to the east than the haven of Peter and Paul, it is impossible to ascertain with precision the longitude of the north-eastern promontory of Asia. It is nevertheless apparent, from Beering's and Synd's coasting voyages towards Thukhtikofes, as well as from other expeditions to those parts by land and sea, that the coast of Asia, in lat. 64°, stretches at least 23° 2' 30" from Por. Peter and Paul, or to about 200° longitude from the line of Ferro. But the accuracy of Krafftikof's observations at the harbour of Peter and Paul has since been confirmed by captain Cook, who places that harbour in lat. 53° 1' 10", long. 152° 55', east from Greenwich; Krafftikof stating it to lie in lat. 53° 6' 38", long. 176° 10'; from Ferro, or 158° 35' from Greenwich. The difference therefore is only twenty-two seconds in the latitude, and one minute in the longitude. Consequently, the assertion of Vaugondy, that the Russians had advanced the peninsula of Kamtchatka eleven degrees too much to the east; and of Engel, who supposes that error to be no less than twenty-nine degrees, is manifestly refuted; and the accuracy of the astronomical observations made by the Russian geographers is now incontestably ascertained.

The next point of land observed by our English navigators, was that promontory, by Beering called Thukhtikofeso, a name adopted by captain Cook, but which is sometimes denominated Anadyrso, from its situation on the bay of the river Anadyr. The application of the term Thukhtikofeso to this promontory, may perhaps occasion some confusion to future navigators and geographers, as that denomination has been usually given, and ought therefore to be appropriated to the eastern extremity of Asia, the east cape of Cook.

From Anadyrfo to, laid down by the English in lat. 64° 13', under the appellation of Thukhtikofeso, to cape Serdrekamen, in lat. 67°, the utmost extent of Beering's navigation to the north, captain Cook does justice to the memory of Beering, by observing, that "he has here delineated the coast very well, and fixed the latitude and longitude of the places better than could be expected from the methods he had to go by." (Cook's Voyage, vol. ii. p. 474.)

Within this track our great navigator has corrected the errors of the Russian charts, and ascertained the position of the real Thukhtkofeso, which Müller had erroneously conjectured to lie above the 70th degree of latitude. He gives the name of East-cap to this great extramity of Asia, and fixes its latitude in 66°, and longitude 190° 22; incontestably shewing, that the Russians were not wrong in alleging that the north-eastern extremity of Asia stretched beyond the 200th degree of longitude from the isle of Ferro, or 182° from Greenwich.

That remarkable expedition of Defnhef, in which, according to professor Müller, he failed from the mouth of the Kouryna, weathered Thukhtikofeso, or East-cap, and was shipwrecked in the sea of Kamtchats, was not only the earliest, but the most important of the Russian enterprises in these latitudes, as it first ascertained the separation of the two continents.

Defnhef's description of the north-eastern cape agrees in several material circumstances with that of the former promontory given by captain Cook. According to Defnhef, it "contains entirely of rocks." Cook says, that "it presents a steep rocky cliff, next the sea; and at the very point are some rocks like spires. The land about this promontory is composed of hills and valleys; the former terminate at the sea in steep rocky points, and the latter in low shores. The hills seem to be naked rock." (Voyage, vol. ii. p. 472.)

Defnhef adds, that, on the coast near the promontory, the natives had reared a pile resembling a tower, with the bones of whales." Cook likewise noticed these piles as very common on the coast of the Thukhtk. "Over the dwelling stands a kind of Sentry-box, composed of the large bones of large fish;" and again, "near the dwellings were erected flagged huts, such as before described." (ib. p. 451-472.) Cook also coincides with Defnhef in placing two islands directly opposite to the promontory; and captain King confirms another assertion of the Russian navigator, that the passage from the same promontory to the mouth of the Anadyr, may with a fair wind be performed in twenty-two hours. (I. vol. iii. p. 264.)
It has been objected to Defnecf's narrative, that Cook and Clerke were, in two successive years, prevented by the ice from pushing forward into the Frozen ocean; but in reply to this, it should be observed, that Defnecf failed in a small vessel, more easily worked than the English ships; and that the year in which he passed round is represented as more than usually free from ice. The reason also in which Defnecf doubled the great Siberian promontory, probably was more favourable to navigation in the Frozen sea, than the time of year adopted by the English. For, though he failed on the first of July, or June 90, S. yet he appears not to have arrived in the Eastern ocean till towards the end of September. Shortly after Anakimoff's ship-wreck on Tihutkotkoi-nofs, Defnecf mentions that he landed on the first of October, or September 20, 0. S. and skirmished with the Tihutkhi. Consequently, from the length of the interval between the day of his departure from the mouth of the Kojuma, to his entrance on the Eastern ocean, it may reasonably be inferred that he was waiting for an opportunity of getting through the ice, which he at length effected. Whereas Cook quitted that dreary region on the 29th of August; and Clerke so early as the month of July. The middle and the latter end of September are generally esteemed the most proper periods for navigating the Frozen ocean.

The sole aim of Defnecf being to fail from the Kojuma to the Anadyr, it was not incompatible with his plan to continue on the coast, and to pervére in expecting a favourable occasion for effectuating his purpose, without exposing himself to those difficulties and dangers which beam from more distant quarters must necessarily experience. Whereas the grand design of the English navigators being to ascertain the practicability of a north-eafern passage, and having incontrovertibly determined that important question in the negative, they accomplished the primary object of their expedition. They could not therefore, confidently with their views and instructions, by delaying their departure from those frozen regions, expel themselves to the hazard of being hemmed in by the ice, merely for the sake of evincing the possibility of getting round to the Kojuma.

These circumstances seem to prove that Defnecf actually performed this voyage; yet as he neither made any astronomical observations, nor traced a chart on the coast, his expedition, though it decided the long controversy concerning the separation of the two continents, contributed, however, nothing towards an accurate knowledge of the north-eafern extremity of Asia, for which we are indebted to captain Cook alone. (See Coxe's Russian Discoveries.)

In the year 1785, capt. Billings, an Englishman in the Russian service, was sent by Catharine II. on a voyage of discovery into those parts; and the results of his observations are found to agree with those of captain Cook, placing the easternmost extremity of Asia in lat. 66° 6', and ascertaining its longitude at 102° 22' from Greenwich.

The population of Asia, says Mr. Pinkerton, is by all authors allowed to be wholly primitive and original; if we except that of the Tihutkhi, who by the Russian travellers and Mr. Tooke are supposed to have passed from the opposite coast of America. A few colonists have migrated from Russia to the northern parts, as far as the sea of Kamt-hatka; and well-known European settlements are now being formed in the Ahofan, and the islands to the south-east; but the first serious attempt to colonize what is deemed a part of Asia, was the recent settlement at Port Jackson. With these and other trifling exceptions, Asia presents a prodigious original population, as may be judged from the following table, which will be found more clear than any prior disquisition on the subject.

**Linnean Table of the Nations and Languages in Asia.**

Of the three several appellatives, the first denotes *ordo*, the second *genus*, the third *species*.

1. Affryrians.--Affryrians, Arabians, Egyptians.--Chaldean, Hebrew, &c.
2. Sceymians.--Perfians, Sceymisans intra et extra Imaum, &c. Armenians. (The Parth and Zend are cognate with the Greek, Gothic, Latin, according to Sir William Jones. Indian Difcrt. vol. i. p. 206. The Pehlavi is Affryan or Chaldean. Id. 187, 188, 206.)
4. Seres and Indi.--Hindoos, northern and southern, &c.
5. Sine.--Chinese and Japanese. These have a Tataric form and face: they are probably highly-civilized Tartars, Mongolians, or Mandunars.

Barbaric Nations from north to south, and according to the degree of barbarism.

6. Samoyedes, Oltiaks, Yurals, &c.
7. Yakutes.--Yukagirs. (Expelled Tartars, according to Tooke and Leffeps.)
8. Koriaks.--Tihutkhi. (From the opposite coast of America. Tooke's Ruffia. The Yukagirs are a tribe of the Yakutes, around Yaktifik, and both are expelled Tartars. Tooke's View, ii. 80. Leffeps, ii. 312.)
9. Kamtihatbaks.--Kurilians. (These resemble the Japanese.)
10. Mandunars or Tungufes.--Lamatube. (Ruling people in China.)
12. Tartars or Huns.--Turks, Khafaes, Uzes, and Siberians. Nogays, Bafilkirs, Kirghiikaizaki or Kirghise Kaiszaks, Teleutes.

After the destruction of Attila's swarms, and the effects of unfortunate invades, the Huns became subject to the Mongolians, who under Zingis or Chingis khan, Timur, &c. constituted the supreme nation in Asia. The great share of population which Europe has received from Asia will appear from the following brief statement.

**Primitive Inhabitants.**

2. Fins (chief god Pammala).--Finlanders, Ethhonian, Laplanders, Hungarians, Permans or Barmians, Livonians, Voitkis and Chameriuflis, Vogules and Oltiaks.

Coloines from Asia.

3. Sceymians or Goths (Oluns).--Icelanders, Norwegian's, Swedes, Daes, Germans, English, Swifs, Frisic, Flemish, Dutch.

The inhabitants of France, Italy, and Spain, are also of Asiatic origin; and speak corrupted Roman, which, like the Greek, is a polished dialect of the Gothic, according to Sir William Jones, and other able antiquaries. The Heruli, Vende, and Lettes, used mixed and imperfect dialects of the Slavonic.

Besides these numerous original nations, the Malays and Asiatic islanders constitute another large and distinct class of mankind, with a peculiar speech, in the south of the extensive continent of Asia.
It appears that not above one quarter of Asia was known to the ancients; and this knowledge was little increased till Marco Polo, whose travels became well known in Europe in the fourteenth century, established a memorable epoch in geography, by passing to China, and disclosing the extent of that country, the islands of Japan, and a faint intelligence of other regions, illustrated and confirmed by recent accounts. The wide conquests of the famous Tingham-khan, commonly called Zingis, in the beginning of the thirteenth century, first opened the discovery of the distant parts of Asia; the Mongoles, whole sovereign he was, being situated to the east of the Hans, who had before diffused terror over Europe. The primitive feat of the Mongoles was in the mountains which give source to the river Onon; and at a short distance to the south-west was Kara-kum, the first capital of the Mongol empire. The victories of Zingis extended from Cathay to the northern part of China, to the river Indus; and his successors protected them over Russia, while they made incursions as far as Hungary and Germany. The power of the Mongoles, thus widely diffused, naturally excited an attention, never stimulated by a number of petty barbaric tribes; and at the same time facilitated the progress of the traveller, who, as in Africa at present, had been formerly impeded by the enmities of diminutive potentates. By force of arms the Mongoles also first opened the obscure recesses of Siberia. Shibli khan, in the year 1242, led a horde of fifteen thousand families into those northern regions; and his descendants reigned in the Tobolky above three centuries, till the Ruffian conquest. (Gibbon, ii. 424.) Two European travellers, Carpini and Rubruquis, being commissioned to inspect the power and resources of the new empire of the Mongoles, the latter found at Kara-kum a Parifian goldsmith employed in the service of the khan; and by Carpini’s relation it appears, that from their brethren in Siberia, the Mongoles had received some intelligence concerning the Samoyedes.

Thus the discovery of Asia, which had lain nearly dormant since the time of Ptolomy, began to revive in the thirteenth century. Yet after the publication of Marco Polo’s travels, little was done for two centuries; and the authenticity of his accounts even began to be questioned. From the map of the world by Andrea Bianco, the Venetian, 1440, it sufficiently appears that the discoveries of Polo had, even in his native country, been rather diminished than increased. (See Formacomi, faggia fula nautica antica de Veneziani, Ven. 1783, 8vo.) See also the description of Asia by pope Pius II., who appears not even to have seen the travels of Polo. One man indeed of great mental powers, was impressed with their veracity, and in consequence accomplished a memorable enterprise. This was Chriftofalo Colon, or as we call him, Christopher Columbus; who, led by the relation of Polo, conceived, that as Asia extended so far to the east, its shores might be reached by a short navigation from the western extremity of Europe. In this erroneous idea, when that great man discovered the islands now called the West Indies, he thought that he had arrived at the Zangofo of Polo, or Japan; and thus the name of India was absurdly bestowed on those new regions.

After the discovery of America and the cape of Good Hope, the maritime parts and islands of Asia were successively diffloled. Yet the recent voyages of the Ruffian navigators, of our immortal Cook, and of the unfortunate La Peyrouse, evince that much remained to be done. Concerning the interior of Siberia, scarcely any solid information was had till Peter the Great, after the battle of Pul- tava, sent many Swedish prisoners into that region; and Strahlemburg, one of the officers, published an account of Siberia; which, though extremely inaccurate and defective, opened the way to farther intelligence. The knowledge thus obtained was greatly improved and augmented by the well-known journeys of Pallis and the other academicians. Our acquaintance with Asia is still however far from being perfect, especially in regard to Daouria, and other regions near the confines of the Ruffian and Chinese empires; not to mention central Asia in general, Thibet and some more southern tracts; nor had even the geography of Hindostan been treated with tolerable accuracy, till major Kennell published his excellent map and memoir.

The religions of Asia are various; and the climate admits of every variety, from the equator to the Arctic sea. Though Asia cannot vie with Europe in the advantages of inland seas, yet, in addition to a share of the Mediterranean, it possesses the Red sea (the Arabian sea), and the gulf of Persia, the bays of Bengal and Nankin, with other guls, which diversify the coasts much more than those of Africa or America, and have doubtles contributed greatly to the civilization of this celebrated quarter of the globe.

The Red sea, or the Arabian gulf of antiquity, constitutes the grand natural division between Asia and Africa; but its advantages have been chiefly felt by the latter, which is entirely deficite of other inland seas; Egypt and Abyfiinia, two of the most civilized countries in that division, having derived great benefits from that famous gulf, which, from the straits of Babelmandel to Suez, extends about 20° or 1470 Ruffian miles; terminating, not in two equal branches, as delineated in old maps, but in an extensive western branch, while the eastern ascends little beyond the parallel of mount Sinai.

The Persian gulf is another noted inland sea, about half the length of the former, being the grand receptacle of those celebrated rivers the Euphrates and the Tigris.

The other guls do not afford such strong features of what are properly termed inland seas. But the vast extent of Asia contains seas totally detached, and of a different description from any that occur in Europe or other quarters of the world. Such is the Euxine, and likewise the Caspian, which extends about ten degrees, or 700 miles in length, and from 100 to 200 in breadth. Strabo and Phrygius supposed this sea to be a gulf, extending from the northern ocean; though Herodotus, many centuries before, had delivered quite notions of it. The Caspian, however, seems, at some remote period, to have spread farther to the north, where the deferts are still sandy and saline, and present the same shells that are found in the Caspian; yet that chain of mountains which branches from the head of the Ural to the north of Orenburg, and reaches to the Volga, must in all ages have restricted the northern bounds of the Caspian. To the east, this remarkable sea, in the opinion of most geographers, extended, in times not very distant, to the Aral. This sea, or lake Aral, a hundred miles eastward of the Caspian, is about 200 miles in length, and about 70 miles in breadth; receiving the river anciently called Iaxartes, more recently the Sitr or Sichon, and the river Gihon, the Ouxus of antiquity; both streams of considerable course, flowing from the mountains Belur Tag or Imus. The Aral sea being surrounded with sandy deserts, has been little explored; but it is salt, like the Caspian, having many small saline lakes in its vicinity.

Another remarkable detached sea is the Baikal in Siberia, or Ataritic Russia, extending from about the fifty-first to the fifty-fifth degree of north latitude, being about 350 British miles in length, though its greatest breadth is not above 35. The water is fresh and pure, yet of a green or tea tinge, commonly
commonly frozen in the latter end of December, and clear of ice in May.

Paffing by the other Aficic seas of inferior note, a few observations may be offered on the remarkable Strait that divides Asia from America. This Strait, which, as we have already seen, was discovered by Bering, and afterwards by Cook, is about thirteen leagues or near forty miles in breadth. Bering actually passed this Strait in 1728, probably in the utmost fury of the climate, without discovering land to the cast; but our great navigator gave the name of that Danish adventurer to these Straits, when he afterwards explored them with his usual accuracy. On the Aficic shore is the Eait-cape; and on the American that called Prince of Wales. The depth of water in the Strait is from twelve to thirty fathoms. To the north of these Straits the Aficic shore tends rapidly to the west, while the American proceeds nearly in a northern direction, till, at the distance of about four or five degrees, the continents are joined by solid and impenetrable beds of ice.

In the Aficic seas are numerous shoals or sand-bars; but few of them have been described as conducive to human industry.

The chief rivers of Asia are the Kiangsu and Hoang Ho, the Lena, the Yenifer, and the Obi, streams which rival in the length of their course any others on the globe. Next in confluence are the Amoor, and the Makanung of Laos, if the course be rightly delineated, the Samoq or Batram-pooter, and the Ganges; compared with all which the Euphrates and Indus are but moderate streams.

The Aficic mountains are reputed not to equal the European in height. The Uralian chain forms one of the boundaries of Europe; and the Alpian ridge may be classed among the most extensive of the globe, reaching from about the seventeenth degree of latitude north, to about the hundred and forty-third degree of latitude north, or about 5000 miles, thus riving in length the Andes of South America. But, as chains of mountains rarely receive uniform apppellations, except from nations highly civilized, the Alpian chain, beyond the sources of the Yenifer, is called the mountains of Sayanik; and from the south of the sea Baikal, the Yablonmoy mountains, branches thereof extend even to the country of the Thukhtih, or extreme boundaries of Asia. The chain of Siberia may perhaps be regarded as a part of the Alpian, branching to the south; while the Taurus, now known by various names in different countries, was by the ancients considered as a range of great length, reaching from cape Kebdoni, on the west of the gulf of Satiala, through Armenia, even to India; this last chain, however, has not impressed modern travellers with the same idea of its extent. To the south of the Alpian range extends the elevated desert Goby or Shamo, running in a parallel direction from east to west; and the high region of Thibet may be included in this central prominence of Asia. Other considerable ranges of mountains are Bogdo, Khanjab, Belur, those of Thibet, the eastern and western Gants of Hindoostan, and the Caucaian chain between the Enucle and the Cappadocia.

The Aficic governments are almost universally despotic; and the very idea of a commonwealth seems utterly unknown to that quarter of the world. The mildest syllabons are perhaps those found in Arabia. (See Pinkerton's Modern Geography, vol. ii.)

Asia, Proper, in Ancient Geography. Much perplexity has arisen among authors by the diverse acceptations of the term Asia; so as to render it extremely difficult for their readers to know what region was distinctly understood by that appellation; nor is it easy to reconcile the apparent inconsistency between the sacred and profane writers as to the provinces comprised under the denomination. The ancient geographers divided the vast continent that was known to the Greeks and Romans under the name Asia, into the Great or Lesser Asia. The Lesser, commonly termed Asia Minor, comprehended a great number of provinces; but that which included Phrygia, Mytilus, Caria, and Lydia, was designated Asia Proper, or Asiaproperly so called. Cierd (Cierd, pro. Flaco.), enumerating the regions confided to Asia Proper, makes no mention of Azokis or Ionia, though undoubtedly a district of it, as being comprehended partly in Lydia and partly in Mytilus. Lydias being the inland country commonly known by that name, contained also Ionia, lying on the sea bide, between the rivers Hermes and Meander; and Ionia, extending from Hermes to the river Caicus (Ptol. lib. v. cap. 2.), to the promontory Lestic (Strabo, lib. xii. p. 333.), the ancient boundary between Troas and the sea-coast of the greater Mytilus. Accordingly, Asia Proper comprehended Phrygia, Mytilus, Lydias, Caria, Azokis, and Ionia. This tract was bounded, according to Ptolemy, on the north by Bithynia and Pontus, extending from Galatia to Propontis; on the east by Galatia, Paphlagonia, and Lydias; on the south by part of Lydias and the Rhodesan sea; on the west by the Hellespont, by the Aegean, Scarnian, and Myrian seas. It lies between the thirtieth and forty-first degree of north latitude, and extends in longitude from 55 to 62. As Asia Proper is but a part of Asia Minor, so the Lydian Asia is only a part of Asia Proper. Asia, in this acceptation, comprehends Lydias, Azokis, and Ionia; and is that Asia whereof mention is made in the Acts, and the Apocalypse. Aristotle tells us that Smyrna was at first polissied by the Lydians (Aristot. lib. de poetica apud Plutarch in lib. de vita & poeno Homerii); and Scylax Coranendis reckon it among the cities of Lydia, as also Ephesus, Sardis, Philadelphia, and Thyatira, are reckoned by Ptolemy among the cities of Lydias, as is Laodicea by Stephanus. (Steph. de Urbib.)

That in ancient times Lydia was called Moeonia, and the Lydian Moeonians, is manifest from Herodotus, Diodorus Siculus, Dionysius Afer, Strabo, Plinius, Stephanus, and others; and that Moeonia was called Asia, is no less plain from Callinus, who flourished before Archilochus, from Demetrius Scopilus, contemporary with Ctesis, and Aristarchus the grammarians, from Erupilus, Suidas, the greatest etymologist; &c.; nay, that Lydia was formerly called Asia is expressly affirmed by the ancient schole of Apollonius Rhodius. From whence Lydia borrowed the name of Asia is altogether uncertain; some deriving it from a city of Lydia, seated on mount Tmolus; others from one Asia, king of Lydia, who, according to the Lydians, communicated his name to the whole continent. But, be that as it may, it is certain that Lydia has a better claim to the name of Asia than any other part of that continent.

Asia, in Modern Geography, falls into the following divisions: Tartary, China, India, Persia, Turkey in Asia. Tartary is divided into Chinese, Independent, and Russian; Chinese Tartary contains the country of the Mandins, and that of the Mongol Tartars; Independent Tartary contains the dominions of the khan of the Cears or Kalmukes, the country of the Uibets Tartars, the Ughet, Cernisia, and the tribes inhabiting mount Caranther; Russian Tartary contains the governments of Akkranhan and Kazan, and Siberia. China is divided into the northern provinces of Pechi or Kekin, Changhai, Xénéf, Honan, Canton, from cast to west, and the southern provinces of Nankin, Chekiang, Kiangsi, Fokiin, Hupeh, Quanton, Quangti, Quocheu, Yunnan, Suchuen, from cast to west. India is divided.
I

The Fabr., In eaft. is The fpecies Augustus's diilindl divided grey call. Aha. Japan, the It is very Natolia Bifnagar, the white the 161. Acts, In Georgia, the more Syria, The the 263.

Asi, in Mythology, was one of the nymphs, called Oceanides; and according to Diodorus, the wife of Japeus. ASIANO, in Geography, a town of Italy, in the princi- pality of Piedmont and Jordiph of Vercelli, four miles south of Vercelli.

ASIANTE, a country of Africa, eaitward of the Gold Coast, situated about N. lat. 5° 35', and the fame longitude with London.


The aarcha differed from the Galata reche, Syriarcha, &c.

ASIA, in Biography, is a surname given to L. Scipio, the brother of Scipio Africanus, after his defeat of Antio- chus king of Syria.

ASIA, in Geography, a part of Asia, which comprehended eight provinces that were governed by the vicar, or lieutenant of Asia, viz. Lydia, Caria, Phrygia, and the proconfural Hellepont.

ASIA, in History of Literary Establish- ments. See Society.

ASIA, in Rhetoric. See Style.

ASIATICA, in Entomology, a species of Chrysoloma, found in Siberia. The form is oval; colour brassy-green, very glossy; wing-cases blue. Fabr. Spec. Inf. Gmel. &c.

ASIATICA, an Asiac species of Blatta, described by Professor Pallis, It. 3. p. 263. It is of a grey colour, and oblong form; the wings and wing-cases are longer than the body, and narrow or pointed at the end. Gmel. &c.

ASIATICA, a species of Syrinx, found in the island of Antigua,
Inhabit with their hatch; and which, deprived of the name of the East Indian, feeds on fish.

ASIATIC, a species of Exereria, found in the East Indies, where it is called Cuckoo. We know very little of this bird; it is of small size, being about four inches and a half in length. Bill pale ovo-colour; head, neck, back, breast, and belly cinnamon, palest beneath; wings and tail brown, with paler edges; legs pale blue. Latham. In the Ind. Orn. it is described specifically, as being of a cinnamon colour; wings and tail brown.

ASIATIC, a species of Columba, that inhabits India. The colour is greenish ash; head ash; under side of the body white, and a spot of the same on the wings; quill-feathers black with a white exterior margin. The length of this bird is eleven inches; bill bluish at the base, and white towards the tip; tail greenish ash, dusky at the end; legs bluish; claws black. It is called the Indian pigeon. Latham. Ind. Orn.

ASIATIC, a species of Certhia, or creeper, that inhabits India. It is about four inches in length, and briefly described as being of a deep blue, with brown wings; black bill, and legs of the same colour. Latham. Ind. Orn.

ASIATICUS, a new species of Falco, described by Dr. Latham in the Supplement to his Synopsis of Birds. The length is twenty-one inches; and though smaller, it resembles the common buzzard. The bill is bluish black; breast cream colour, dashed down the shafts with dusky black; belly, thighs, and vent white; quills grey, barred with black; on the secondaries a bar of the same. In his Ind. Orn. this bird is thus specifically described: legs half-doway and yellow; body brown above, beneath white; breast streaked, tail-feathers silvery grey, with five obsolete bands on the exterior ones. Inhibits China, and is called in England the Asiatic falcon.

ASIATICUS, a species of Carpiulus, described by Dr. Latham, Sup. Gen. Syn. under the name of Bombay Gout-fucker. It is pale ash colour clouded with black, and ferruginous breast fuscated with ash-colour; a blackish streak on the crown of the head, a pale one on each side of the jaw, and a pale spot on the throat; length eight inches and a half. Inhibits India. In addition to the foregoing specific character, it may be observed, that the plumage of this bird is an elegant intermixture of ash-colour and brown; and that between the legs it is of a pale rufous; quills dusky, barred with rufous; four of the greater quills have a spot of white on the inner web; tail marked in the same manner as the quills, except the two middle ones, which are mottled like the back, and the two outer ones have the ends white for about an inch; the middle toe is greatly pectinated.

ASIATICUS, a species of Trogon, in Latham's Ind. Orna noticed by Gmelin. It is green; forehead, crown, and back of the neck red; throat blue, with a red spot; quill and tail feathers black. The length of this bird is nine inches; the red on the forehead is bounded by a white, and on the crown and neck is bounded below by a white line, and on the sides by a black one; legs green. Inhibits India.

ASIDEANS. See Chasideans.

ASIGRAMMA, in Ancient Geography, a town of India, seated on the Ganges. Polyb. Vol. III.
I and greafy race Geography, feeds fimilar town the 1 A and, Entomology, y an;! the and a At along town onagrus, out bits infefts in the kingdom (Geometra), quented Thofe Afiat'c many meaneft revcrfe they be over equus having the spots. Fabricius, Gmelin. Obj. This i PHALENA grefeoa of Wien. Schmetterl.

ASINDA, in Ancient Geography, a town of India, on this fide of the Ganges. Ptolemy.

ASINDO, or ASING, a town of Spain, in Batica, feated on a mountain, nearly eoft of Gades.

ASINDUM, a town of Spain, in the country of the Turdetani.

ASINE, a town of Greece, in the Argolid, diftance upon on the Argolic gulf, north-eoft of Hermione, and south-west of Epidaurus.—A town of Melifcrn, south-west of Meffen, founded by the Athenians, after they had been driven from their former city in the Argolid, by the Argives.—A town of the ifland of Cyprus.—A town of Asia, in Cilicia. Steph. Byz.

ASINELLA, in Geography, a river of Italy, in the kingdom of Naples, which runs into the Adriatic near Penac, in the Abruzzo citra.

ASINI, in Entomology, a fpecies of Pediculus that infects the afs. The head is porrected and obtufe; abdo- men ovate and flirted with brown. Fabricius, Redi, Rcf.

ASINIUS LAPIS, a name given by fome writers of the middle ages to a tone faid to be found in thofe places frequented by the wild afs. See BEZOBAR.

ASINIUS PALLAS, in Biography. See POLLIO.

ASINIUS, or ASS, in Zoology, a quadruiped of the Horse kind, or genus Equus in the Linnean fystem of animals; a native originally of the mountainous deferts of Tartary, of Arabia, Peria, and fome other fouthern parts of the Aftat'c continent, and Africa; and at prefent very generally domesticated throughout moft civilized countries.

In point of fize, of strength, and of beauty, the varieties of this fpecies, like other domeftic animals, have undergone many changes, and differ considerably from each other. Thofe of the eafther parts of the world, who continue to en- joy the advantages of a climate entirely congenial with their nature, are still offered to poffefs nearly all that activity, that energetic spirit and beauty of appearance which charac- terife this animal in a flate of independent wildnefs; they prefent a race of beings in almofl every reipct the very revere of thofe abijeft creatures, their degenerare offspring, which we are daily accustomed to fee employed in the meanest acts of fervitude in the norther parts of Europe. But although the shades of degradation are fo much more strongly marked in the latter kinds, than in the refi, all may be definitive traced to a few diftine varieties, and thofe again to the fingle fpecies, the primeval fstock from which they were at firft derived.

The character of the afs, as Linneus defines it, conflits in having the tail brifly at the extremity, and a black crofs over the fhoulers. To this his editor Gmelin adds, that the hoofs are folid; and that the black crofs on the fhoulers is peculiar to the male. According to Briffon Quad. it is an Equus with long fheathing ears, and fhort mane.

Gmelin divides the fpecies Asinus into four varieties, viz. ferus a., afinus fivelfris, domelficus b., malus q., and bimus d. The firft is the wild afs, onager of Pliny and other ancient writers; onagrus, onager, five afinus fivelfris of Gmelin: equus (onager) auriculis longis, juba brevi, pelle tabeboialis parvis (fabra of Briffon; laine fauvage of Marmol); af- and wilder efled of Pallas.—The domeftic, or fearch variety, varying much in different countries, is notwithstanding well known in Europe by the feveral names of common afs; Eng. pane, and Panaffe, Fren. Afno micio, f. micio, It. Afno horreco, f. horreco, Spa. Afno horreco, f. afera borra, Port. Efel, Germ. Exzel, Dut. Afsn, Swed. Afer, afer, Danifh. —Miinus, or mule, the third variety, it is almost uneceffary to remark, is the hybrid offspring of the male afs with a mare; and hinnus, the hinnay, a fimilar hybrid product of the male horse with the female afs, and, flightly speaking, ought not to be deemed varieties of the fpecies, afinus, but rather monfeters, as being out of the courfe of nature.

Wild afs were perfectly well known to the ancients; they are faithfully defcribed by Pliny and Poppian; and among the fared writings are frequent allusions to them. They uniformly attracted the notice of travellers in Asia and Africa; and profefor Pallas in particular has treated on them with his accustomed accuracy. The appearance both of the wild and tame afs in thofe parts of the world is al- together flirking. "It was with difficulty," says Adanfon, when speaking of the afses of Senegal, "that I could recog- nize this animal, so different did it appear from thofe of Europe; the hair was fine, and of a bright mouse colour; and the black hit that crosses the back and fhoulers had a good effect. These were the afses brought by the Moors from the interior of the country." From the belt authorities it appears, that in a natural state, the afs has a foft woolly mane; a forehead greatly arched; and ears long, erect, and pointed, particulars in which it differs most obfiously from the domefticated kind, which has the ears flouching, and the forehead flatfeft. The former flands afio higher on its limbs, and the legs are more flender in proportion. The colour of the hair is white or silvergrey; the upper part of the face, the fides of the neck, and body, inclining to a fraw colour, and the hind part of the thighs the fame; the fore part divided from the flank by a white line, which extends quite round from the rump to the tail: the belly and legs are alfo white; along the very top of the back, from the mane quite to the tail, runs a ftripe of bulky waved hairs of a coffee colour, broadfed above the hind part, and growing narrower towards the tail; another of the fame co- colour crosses it at the fhoulers, and forming a fimilar mark to that by which the fame afs is diftinguifhed. This is peculiar to the male, and is bounded on each fide by a line of white. Its winter coat is very fine, soft, and milky, much undulated, and not unlike that of the camel; greatly to the touch, and the flaxen colour more vivid than in the fummer. In its fummer dress, there are certain fhaded ftares that mark the fides of the neck, pointing downwards. These animals inhabit the dry and mountainous parts of the defferts of Great Tartary, but not higher than lat. 48°. They are migratory, and arrive in vast troops, to feed during the fummer, in the tracts to the eaf't and north of lake Aral. About autumn they collect in herds of hundreds, and even thou- fands, and direcf their courfe towards the noth of India, to enjoy a warm retreat during winter. But they more ufually retire to Peria, where they are found in the moun- tains of Cabin, and where part of them remain during the whole year. According to Barbago, they penetrate even into the southern parts of India, to the mountains of Malabar and Golkonda. The Kirghifes and Arabs hunt them, or take them in fnares, for the fake of their flefh. At firft when the animal is killed, the meat is hot and unfaftory; but if kept two days after it is boiled, it becomes exellent. The flefh of wild afses, it is well known, was esteemed an article of food among the ancient Romans.

The wild afs feeds chiefly on the moft famine or bitter plants of the deffert, as the kali, atriplex, chenopodium, &c. and also prefers the falteft and moft brackifh water to that which is freh. Of this the hunters are aware, and usually station
A SINUS.

flung themselves near the ponds to which they resort to drink. Their manners greatly resemble those of the wild hares. They assemble in troops under the conduct of a leader, or centaur; and are extremely shy and vigilant. They will however flop in the midst of their course, and even suffer the approach of man at that instant, and then dart off with the utmost rapidity. They have been at all times celebrated for their swiftnefs. Their voice resembles that of the common afs, but is shriller.

The Persians catch these animals alive for the sake of domesticking them, or improving the breed of tame afs; they feed, for this purpose, pits of a convenient size and depth, which they half fill with plants, both as a temptation to the creature, and to break its fall. The breed of afs in such high esteem in the east, is produced by crossing the tame kind with the afs reclaimed from a state of wildness. These animals were anciently found in the Holy Land, Syria, Arabia Desert, Mesopotamia, Phrygia, and Lycaonia; but they rarely occur in those parts at this time; and seem to be almost entirely confined to Tartary, some parts of India, and Africa.

It is said, that neither afs nor horses were found in America, although the climate of South America is perfectly adapted for them. Those which the Spaniards transported from Europe, and left in various parts of the New Continent, have greatly multiplied, and are found in troops in a state of nature at this period.

The excellencies and defects of the common or domestic afs have amply engaged the lively pens of several descriptive writers on the history of animals; and of none with more happy effect than thofe of the eloquent Buffon, and the ingenious abbé la Pluche: of the latter we shall speak hereafter: the former after entering minutely into a comparison between the horse and the afs, and endeavouring to prove that the two species are distinct (a fact which cannot well be doubted), concludes in a style of language so beautiful, so animated, and well calculated to enforce the tenor of his preceding arguments, that we cannot refrain infenting some few extracts from it.

"The afs is then an afs," says Buffon, "and not a horse degenerated, a horse with a naked tail. The afs is neither a stranger, an intruder, nor a battard; he has, like other animals, his family, his species, and his rank; his blood is pure and untainted, and although his race is less noble, yet it is equally good, equally ancient, with that of the horse. Why then is there so much contempt for an animal so good, so patient, so steady, and so useful? Do men despise, even among animals, those which serve them best, and at the smallest expense? We educate the horse, take care of, instruct, and exercise him, whilst the afs is abandoned to the power of the lowest servant, or the tricks of children; so that instead of improving, he must lose by his education, and if he had not a fund of good qualities, he would certainly lose them by the manner in which he is treated. He is the sport of the ruffians, who beat him with flacks, abuse him, overload him, and work him beyond his strength. We do not consider that the afs would be in himself, and, with respect to us, the most beautiful, best formed, and most distinguished of animals, if there were no horses in the world; he, however, holds the second, instead of the first rank, and it is from that only that he appears to be of no value. It is comparison alone degrades him; we look at, and give our opinions, not of himself, but comparatively with the horse. We forget that he is an afs, that he has all the qualities of his nature, all the gifts attached to his species, and only think of the figure and qualities of the horse, which are wanting in him, and which he ought not to have.

"He is naturally as humble, patient, and quiet, as the horse is proud, ardent, and impetuous; he suffers with conftancy, and perhaps with courage, chafftement and blows; he is moderate both as to the quantity and quality of his food; he is contented with the hardest and most disagreeable herbs, which the horse, or other animals, will leave with disdain; he is very delicate with respect to his water, for he will drink none but the clearest, and from rivulets which he is acquainted with; he drinks as moderately as he eats, and does not put his nose in the water through fear, as some say, of the shadow of his ears; as care is not taken to comb him, he frequently rolls on the grafs, thistles, and in the dust; without regarding his road, he lies down and rolls as often as he can, and seemingly to reproach his master for the little care he takes of him, for he never wallows in the mud or in the water; he even fears to wet his feet, and will turn out of his road to avoid it; his legs are also drier and cleaner than those of the horse; he is susceptible of education, and some have been seen sufficiently disciplined for a public show."

"When young, they are sprightly, handsome, light, and even graceful; but they soon lose those qualities, either from age or bad treatment, and become slow, stubborn, and headstrong. The afs is ardent in nothing but love; or rather when under the influence of that passion, he is so furious that nothing can restrain him; he has been known to exhaust himself by excessive indulgence, and die some moments afterwards. As he loves with a kind of madness, he has also the strongest attachment to his progeny. Pliny affirms us, that when they separate the mother from her young, she will go through fire to recover it. The afs is also strongly attached to his master, notwithstanding he is usually ill-treated; he will scent him at a distance, and distinguish him from all other men. He also knows the places where he has lived, and the ways which he has frequented. His eyes are good, and his smell acute, especially with regard to females; his ears are also excellent, which has contributed to his being numbered among timid animals, who, it is pretended, have all long ears, and the hearing extremely delicate. When he is overladen, he shows it by lowering his head, and bending down his ears: when greatly abused, he opens his mouth, and draws back his lips in a most disagreeable manner, which gives him an air of derision and scorn. If his eyes are covered, he remains motionless; and when he is laid down, and his head fiixed, that one eye rests on the ground, and the other being covered with a piece of wood, he will remain in that situation without endeavouring to get up. He walks, trots, and gallops like the horse, but all his motions are smaller and much slower. He can however run with tolerable rapidity, but he can hold it only for a small space, and whatever pace he ues, if hard pressed, he is soon fatigued."

"The horse neighs, but the afs brays; which he does by a long, disagreeable, and discordant cry, by alternative discords of sharps and flats. He seldom cries but when he is puffed by love or appetite. Thehorse has her voice clearer and more thrills." Buff.

"I confess," says the abbé la Pluche, "that the afs is not matter of very shining qualities; but then he enjoys those which are very solid. If we refer to other animals for distinguished services, this at least furnishes us with such as are most necessary. His voice is not altogether melodious, nor his air majestic, nor his manners very lively; but then a fine voice has very little merit with people of solidity. With him the want of a noble air hath its compensation in a mild and modest countenance; and instead of the boisterous and irregular qualities of the horse, which
which are frequently more incommodious than agreeable, the behaviour of the as is entirely simple and unaffected; no superciliations and self-sufficient air. He marches with an uniform pace, and though he is not extraordinarily swift, he pursues his journey for a long time, and without interruption. He finishes his work in silence; serves you with a steady perseverance, and discovers no ostentation in his proceedings, which is certainly a considerable accomplishment in a domestic. His meats require no preparation, for he is perfectly well contented with the first that presents itself in his way. He does not pretend that any thing is due to him, and never appears squeamish or discontented; he thankfully accepts whatever is offered him; he is not an elegant relish for the bed things, and very civilly contents himself with the most indifferent. If he happens to be forgotten, or is followed a little too far from his fodder, he investigates his master, in the most pathetic language he can utter, to be so good as supply his necessities. It is very just that he should live, and he employs all his rhetoric with that view. When he has finished his expostulations, he patiently awaits the arrival of a little bran, or a few withered leaves; and the moment he dispatches his meal, he returns to his business, and marches on, without a murmur or reply. His occupations have a tinge of the meanest of those who set him to work; but the judgments that are formed, both of the as and his master, are equally partial. The employments of a judge, a man of consequence, and an officer of the revenue, have an important air, and their habit imposes on the spectators; on the contrary, the labour of the peafant has a mean and contemptible appearance, because his drefs is poor, and his condition deplor. But we really make a false estimate of these particular. It is the labour of the peafant which is most valuable, and alone truly necessary. Of what importance is it to us when a manager of the revenue glitters from head to foot with gold; we have no advantage from his labours. I confess, judges and advocates are, in some measure, necessary; but they are made so by our folly and misbehaviour; for they would be no longer wanted, could we conduct ourselves in a rational manner. But, on the other hand, we could on no account, and in no season or condition of life, be without the peafant and the artisan. These people may be considered as the souls and sinews of the community, and the support of our life. It is from them we are constantly deriving some accommodations for our wants. Our horeses, our habits, our furniture, and our sufficiency, rise out of their labours. Now what would become of your vine-dressers, gardeners, nasonis, and the generality of country people, that is to say of two-thirds of all mankind, if they were destitute of either men or horses to convey the commodities and materials they employ and manufacture? The as is perpetually at their service: he carries fruit, herbs, coal, wood, bricks, tiles, plaster, lime, and straw. The most abject offices are his ordinary lot, and it is a singular advantage to this multitude of workmen, as well as ourselves, to find a gentle, strong, and indefatigable animal, who, without either expense or pride, replenishes our cities and villages with all sorts of commodities. A short comparison will complete the illustration of his services, and is some measure raise them out of their obscurity. The horse very much resembles those nations who are fond of glitter and hurry; who are perpetually finging and dancing, and extremely fluidious to set off their exterior, and mix gaiety in all their actions. They are admirable on some distinguished and decisive occasions; but their fire frequently degenerates into romantic enthusiasm; they fall into wild transports; they exhaust themselves, and lose the most favourable conjunctures for want of management and moderation. The as, on the contrary, resembles those people who are naturally heavy and solid, whose understandings and capacity are limited to hustled or commerce, and who proceed in the same track without discomposure, and complete, with a positive air, whatever they have once undertaken.

Of all animals that are covered with hair, it is believed the as is the least subject to vexation; and the authors of the Encyclopaedia Britannica have even ventured to say, that it is never troubled with lice. This opinion is altogether erroneous, and the more unaccountable, since a slight acquaintance with the entomological writings of Redi, Linnaeus, Fabricius, and several others, might have convinced them that it is not only infected with lice, but even with a species peculiar to itself, and for that very reason named asini, or hoste of the asis. Pediculus asini, Red. Exp. 21. Pediculus asini, Linn. Pediculus asini, capite porrecto obtuso albo-mine ovato. Ovato fucco. Fabr. &c. The skin of the as is extremely hard and very elastic, and is used for various purposes: such as to cover drums, make shoes, or parchment. It is of the skin of this animal that the orientals make the fagri, or, as we call it, thygreen.

At two years and a half old, the first middle incisive teeth fall out, and the others on each side coniue follow; they are renewed at the same time, and in the same order as those of the horse. The age of the as is also known by his teeth in the same manner. From the age of two years and a half the as is capable of procuring its kind, and the female will earlier. The females are in heat in May and June, which, when pregnant, soon goes off. In the tenth month, milk is found in its dug, and the brings forth in the twelfth, and very rarely has more than one foal. Seven days after the is capable of again receiving the male. At the end of five or six months the foal may be weaned; and it is even necessary, if the mother be again pregnant. The male as should be chosen from the largest and strongest of his species; he must at least be three years old; but should not exceed ten; his legs should be long, his body plump, head long and light, eyes bright, nostrils and cheeks large, neck long, loin's flabby, ribs broad, rump flat, tail short, hair thinning, foot to the touch, and of a deep grey.

The as, like the horse, is three or four years in growing, and lives also like him twenty-five or thirty years; it is said the female lives longer than the male, but perhaps this happens from their being often pregnant, and at those times having some care taken of them, instead of which the males are constantly worn out with fatigue and blows. They sleep less than the horse, and do not lie down to sleep, except when they are exceedingly tired. The male as also lives much longer than the female; the older he is, the more ardent he appears; and, in general, the health of this animal is much better than that of the horse; he is less delicate, and not nearly so subject to maladies.

There are among asses, as among horses, different races, though they are much less known, because they have not been taken the same care of, or followed with the same attention. Travellers inform us, that there are two forts of asis in Perse, one of which, being slow and heavy, is used for burdens; and the other is kept like horses for the saddle. The latter have smooth hair, carry their head well, and are much quicker in motion; but when they ride they rest nearer the buttocks than when on horse-ack. They are drenched like horses, and like them are taught to amble; and they cleave their nostrils to give them more room for breathing. According to Dr. Raffaelli, there are two forts in Syria, one of which are like ours, and the other very
very large, with remarkable long ears; but both kinds are employed for the purpose of carrying burdens.

The wild mule, the *hemionus* of Pallas, has no claim to consideration in this place. It constitutes a distinct species of *equus* from the species *symius*, in Gmelin's arrangement, under the same specific name, applied to it by Pallas; and will be noticed hereafter in the article HEMIONUS. The common mule, engendered between the male ass and mare, is much cultivated in Spain, and is little inferior in size to its female parent.

The ass was one of the unclean animals under the Jewish law, as it did not chew the cud; and it prohibited coupling an ass with an ox for draught: Lev. xi. 26. The Jews were sected by the Pagan of worshipping the head of an ass. See ASINARI.

The author of this history seems to have been Appian the grammarius; for he affirms (Josephus, contra Apion, i.ii.) that the Jews kept the head of an ass in the sanctuary; and that it was discovered there when Antiochus Epiphanes took the temple, and entered into the most holy place. Suidas also says (in *Dioscuri* and in *Judac*) that Damascenius, or Democritus, the historian, averred, that the Jews adored the head of an ass, made of gold, and sacrificed a man to it every three or four years, after having first cut him in pieces. Plutarch (Symp. l. iv. c. 5.) and Tacitus (Hist. i. v.) seem to have been imputed upon by this slander. They believed that the Hebrews adored an ass, from gratitude for the discovery of a fountain by one of these animals, at a time when they were exceedingly fatigued and parched with thirst in the wilderness. The fame absurd idolatrous worship was imputed by the heathens to the Christians. The *Cæcilius* (apud Minut.) says, "Audio Christianos turbamisse pecudum *signum* capita consecratum in aperte nescio quam perficuum veteranim." To the same purpose Tertullian tells us (Apolog. c. 16.), that some enemies to the Christians exposed to public view a picture, representing a person with a bank in his hand, dressed in a long robe, with ass's ears, and one foot like that of an ass, upon which was inscribed, "The God of the Christians has an ass's hoof." Learned Christians have attempted to investigate the origin of this calumny. The report of the Jews worshipping an ass, might originally have been derived from Egypt; to this country it is traced by Tanaquil Faber, who deduces it from the temple in Egypt called *Onion*, derived, as it is suppos'd, from *oxos*, an ass. To this purpose it may be added, that the Alexandrians hated the Jews, and were much addicted to raillery and defamation. And they might have been informed, that the temple *Onion*, at Helopoliis, was named from *Onias*, the high-priest of the Jews, who built it in the reign of Ptolemy Philomctor and Cheoptra, A. M. 5854, ante Chrifi. 152. Joseph. l. xiii. c. 6. Bochart is of opinion (De Animal. Sacr. l. ii. c. 18.) that the error took its rise from a pallace of scripture, "The mouth of the Lord hath spoken it," in the Hebrew *thau* or *thau*; *thau* or *thau*; *thau* or *thau*. Hence, as *piros*, in the Egyptian language, signifies an ass, the Alexandrian Egyptians, hearing the Jews often pronouncing the word *piros*, might believe that they called on their god, and thence infer that they adored an ass. Omitting other conjectures, we shall add, that M. Le Moine supposes, that the golden urn containing the manna, which was preferred in the sanctuary, was taken for the head of an ass, and that the ear, or aurum, of manna, might have been confounded with the Hebrew *hannah*, which signifies an ass. Calmet.

*Asinus Pissis*, in *Ichthyology*, a name given by some old writers, to the common haddock. It was also called onos. Willughby, &c.

*Asio*, in *Ornithology*, a species of *Strix* or owl, described by Linnaeus, the body of which is brown above, and white beneath; and the wings marked with five white dots. This is *le petit due de la caravane* of Bilston, *little soul* of Cateby, *red soul* of Pen. *Art. Zool.* and *red-sured soul* of Latham. Its native place is North America.

Cateby says it is about the size of a jack-daw. The bill and mase of a fashiun colour; tail brown; edge of the baird wing whith; on the quills a few white spots; legs covered to the toes with light brown feathers; toes brown; claws black. Balfin seemed to imagine this bird might be only a variety of the long-eared and American owls, both of which he deemed the same species.

*Asio*, is also a name given by Aldrovandus to the Italian eared-owl, and synonymous with otus: also five otus. Aldr. Ray applied the same name to the long-eared owl or horn-owl of Willyngale and Albin, and five otus of Linnaeus.

*Asiogaler*. See *Elinkogaler*.

*Asiofis*, in *Recent Geography*, a people of Asia, in Scythia, on the side of Imbris. Poikely.

*Asiret*, in *Geography*, a town of Peris, on the south of the Capric sea, in the province of Tabriana, eleven leagues east of Ferabad.

*Asisarath*, in *Ancient Geography*, a town of Arabia, in Mauritania Caesariensis, between the rivers Galus and Amphagus. Poikely.

*Asisha*, a town of Liburnia, the Ailesea or Afferia of Pliny, now in ruins. The traces of ancient magnificence determinable at Poegrea, the seat of Ablin, are numerous. Among the Liberians cities which attended the congress or diet of Scardona, Pliny mentions the free Afferians, who created their own magistrates, and were governed by their own municipal laws, and who were of course more opulent and powerful than their neighbours. The walls of this city appear to have measured in circumference 3000 Roman feet, and to have been constructed with Dalmation marble, some pieces of which are of large dimensions, and brought from a considerable distance.

*Asistium*, or *Asisium*, now *Aifib*, a town of Italy, in Umbria, was a Roman municipality, and situated to the eait of Aven. Pliny mentions the Afitsines. See *Asisi*.

*Asitchou Achashish*, in *Ornithology*, the name by which a species of grotsbeak is known in Hudson's bay and which Dr. Latham supposes to be the white-winged crosbill of his General Synopsis.

*Asita*, in *Medicine*, a lot of appetite, from *a*, private, and *ovis*, food. A symptom which occurs in numerous diseases.

*Asius*, in *Entomology*, a species of *Papilio* (Eq. *Tro*.) that inhabits South America. The wings are tailed, black, with a common white baid; base and tip of the posterior pair beneath spotted with red. Fabr.ics.

*Aska*, in *Geography*, a river of Japan.

*Asker*, in *Zoology*, a name used in some parts of England for the water-nest or *ef*.

*Asker-Mokrem*, in Geography, a town of Asia, on the ealler bank of the Tigris, in the Arabic Irac; called also Semnai.

*Askersund*, a town of Sweden, in the province of Norcia, on the Wetter fea, five miles from Orskro.

*Askeyton*, a market, and, till the union, borough town of the county of Limerick, in Ireland, seated on the small river *Deel*, near its junction with the Shannon; famous for its castle built by the earl of Desmond, and for one of the most beautiful and perfect abbeys in Ireland. Distance from Dublin 105 miles. Long. 8° 52' W. Lat. 52° 42'. 30' N.
ASKRIG, a town of England, in the north riding of Yorkshire, beautifully situated on the banks of the river Ure, at the upper extremity of Wensleydale. It has a weekly market on Thursday; distant 247 miles north from London.

ASLA, a river of Spain, on the northern coast, which falls into a bay in the bay of Biscay, where it forms a good harbour to the east of Cape Pinas.

ASLANI, in Comm. r., a name given to the Dutch dollar, current in most parts of the Levant. The word is also written corruptly, aslan. It is originally Turkish, and signifies a lion, which is the figure flamed on it. The Arabs taking the figure of a lion for a dog, called it abaf-leth. The silica is silver, but of a base alloy, and oftentimes counterfeit. It is current for 115 or 120 aipers. See Aiper.

ASLAPATH, in Geography, a town and district of Asia, in Armenia, near Nackhan, on the banks of the Aras. It is inhabited by Armenians; and the women are said to be so beautiful, that the king of Perse supplies his seraglio from this place.

ASLING, or JESSENIZE, a town of Germany, in Carniola, sixteen miles S. S. W. of Clagenfurt. In this town, which is not far from the river Saar, is dug a fine marble; and near it are lead furnaces, and other works, in which considerable quantities of iron and lead are smelted.

ASMER, a small town of Hindoostan, in the states of the Mogul, south-west of Agra, and in the extremity of the province of Bando, called Alto Aimer.

ASMOEROEA, a mountain of Asia, in the country of the Serees, inhabited by a people called Amorceans, who are dispersed through the province of Cataja, a part of Tartary. Alto, a town of Asia, in the same country, according to Ptomey.

ASMODAI, in Mythology, the name given by the Jews to the prince of demons; and, according to R. Elia, the same with Sammael.

ASMONEAN, in Ancient History, the name given to the Maccabees, the descendants of Mattathias, who, according to Josephus, was the grandson of Ammoneus; though others derive the appellation from Mount Amaran, placed by Josephus in the midst of Galilee, near Sephoris; and others again consider it merely as a title of honour given to Mattathias and his descendants, alleging that casedhuma-nim signifies in Hebrew, princess. However this be, the family of the Ammonianes became very illustrious in the latter period of the Hebrew commonwealth, and possessed the supreme authority and the high-priesthood from the commencement of the government of Judas Maccabees to the death of the Great, during a period of 120 years, or 126 years, according to Josephus, who reckons from the time in which Judas was established in the government by his peace with Antiochus Eupator, three years after he first assumed it. It was the practice of the Ammonian princes to impose their religion upon all the countries which they conquered, leaving to the vanquished no other choice, but either to become Jews, or else to have their dwellings demolished, and to seek new habitations.

ASMURA, or ASMURNA, in Ancient Geography, a town of Asia, in the interior of Hyrcania. N. lat. 39. 30'. Ptolemy.

ASNAH, in Geography. See Enakh.

ASNAUS, in Ancient Geography, a mountain of Europe, in Macedonia, between which and Oceropus was a valley, in which flowed the river Ocas.

ASNEV, in Geography, a lake of Sweden, in the province of Smaland, about North lat. 56° 36'. East longitude 14° 48'.

ASNID, a town of Asia, in the kingdom of Candalas, 23 leagues north of Salem.

ASNIERES, a town of France, in the department of the Upper Vienne, and chief place of a canton in the district of Bellac, 10 miles north-west of Bellac.

ASO, a town of Japan, in the province of Simodzake.

ASODES, in Medicine, a term applied to fevers accompanied with anxiety and oppression about the stomach and præcordia. It is derived from οδος, which, in its primary sense, means a loathing of food; but which is used by Hippocrates, and other ancient physicians, to denote great uneasiness and relieves, whether with or without nausea. It is sometimes written alosis.

ASOLA, in Geography, a town of Italy, in the territory of Brescia, on the river Chiave; which was formerly a fortified place, belonging to the republic of Venice.

ASOLO, a town of Italy, in the district of Treviso, situated on a mountain at the source of the river Mufon; small, but well-peopled. N. lat. 45° 49'. E. long. 12° 2'.

ASONIA, a river of Italy, in the marquisate of Ancona; which rises in the Appennines, on the frontiers of Umbria, and runs into the Adriatic sea, ten miles south-east of Fermo.

ASOPH. See ASOP.

ASOPIA, in Ancient Geography, a country of Peloponnesus, in Sicilyonia. Strabo.

ASOPUS, a town of Laconia, in which was a temple of Minerva Cyparissenís, south-east of Cypris. At the distance of twelve stadia was a temple of Xelcaspus, fennamed Phthibaus, the friend of the people. The citadel is now standing, and called by the sailors Cypel Rumano. Alfo, a river of Berothia, which had its source in Mount Citheron, north-west of Plataea; and passing east by north of this city, discharged itself into that part of the sea which separated the isle of Euboea from the continent over against Eretria, now called Asoppe. Alfo, a river of Sicilyonia, which rose to the south-east, on the frontiers of Arcadia, near Mount Cyllene, ran east of Sicylone, and discharged itself into the gulf of Corinth. Alfo, a river of Greece, in Thessaly, which had two sources in that part of Mount Oeta that was contiguous to Mount Pindus, and running eastward, emptied itself into the Malac gulf, north of Thermopylae. Alfo, a river of Aila Minor, which watered the town of Laodicca upon the Lycus. Phily.

ASOTUS, in Ichthyology, a species of Sildes found in Asia. It has a single dorsal fin, and four cirri at the mouth, two on the upper and two on the lower jaw. The teeth of this kind are numerous; the dorsal fin is dilated of spinous rays; first ray of the pectoral fin is serrated; and the anal fin is long, and connected with the tail.

ASOPAS, in Geography, a town of Persia, in the province of Farfian, twenty-three leagues north of Schiras.

ASP, or ASPIS, in Zoology, a species of Coluber, described by Linneus, as having 146 plates on the belly, and 46 scales on the tail. Dr. Shaw has some doubt concerning the Linnaean aspis, but concludes it is the serpent described under the name of aspis by the cœlant de Cepe, who informs us that it is a native of France, and particularly of the northern provinces of that country. The length is about three feet; the head rather large, and covered with small carinated scales; the scales of the body smaller, but of a similar structure. In the structure of its fangs it resembles the vipers, and is said to be equally poisonous. M. Latrille
is not willing to allow this to be the real Coluber apis of Linnaeus.

In addition to the specific character of the coluber apis (taken from the number of abdominal plates, and scales of the tail), Gmelin observes, that the nose is terminated by an erect wart; the body rufous, with figured streaks, which are alternately confluent, and the under side fleck-blue dotted with yellow. Dr. Shaw calls his coluber apis, the rufecent viper, with roundish, alternate, darkly, durial spots, subconfluent towards the tail; and states the number of abdominal plates to be 155, subcaudal scales 37.

The truth of the ancient seems to be entirely unknown. It is very frequently mentioned by ancient writers, but in such a careless and indefinite manner, that it is impossible to ascertain the species with precision. With the aps it is said the high-spirited princes Cleopatra effected her death, rather than submit herself as a captive to grive the triumphal entry of her conqueror Angilus into Rome. This trait of her rofin in that distinguished character is controlled. The indications of Cleopatra's having occasioned her death by means of an aps, were only two almost infinable punctures observed in her arm; and it is asserted by Plutarch, that it is unknown of what death she died.

Brown places the popular report of her death in this manner among his vulgar errors. Others are of a different opinion. Some have imagined it was the Egyptian viper, described by Haffelquist, which Cleopatra made use of on that occasion. Mr. Bruce is led to conclude, from various circumstances, that it might be the cerales, coluber cerastes of Linnaeus.

"I apprehend," says Mr. Bruce, in speaking of the cerales, "this to be the apis which Cleopatra employed to procure her death. Alexandria, plentifully supplied by water, must then have had fruits of all kinds in its gardens: the basket of figs must have come from thence, and the apis or cerales that was hid in them, from the adjoining desert, where they are plentiful to this day; for to the westward in Egypt, where the Nile overflows, there is no sort of serpents whatever that ever I saw, nor, as I have before said, is there any other of the mortal kind that I know in those parts of Africa adjoining to Egypt, except the cerales. It should seem very natural for any one, who, from motives of diet, has resolved to put a period to his existence, especially women and weak persons, unacquainted to handle arms, to seek the gentlest method to free themselves from the load of life, now become inappetible."—"It is not to be doubted," adds Mr. Bruce still further, "but that a woman, high-spirited like Cleopatra, was also above the momentary differences in feeling; and had the way in which she died not been ordinary and usual, she certainly would not have applied herself to the invention of a new one. We are therefore to look upon her dying by the bite of the cerales, as only following the manner of death which she had seen adopted by those who intended to die without torment. Galen, speaking of the apis in the great city of Alexandria, says, I have seen how speedily they (the apes) occasioned death. Whenever any person is condemned to die, whom they wish to end quickly and without torment, they put the viper to his breast, and suff ering him there to creep a little, the man is presently killed."—

Lord Bacon makes the aps the least painful of all the instruments of death; he supposes its poison to have an affinity to opium, but to be less disagreeable in its operation; which does not so well agree with the description of the symptoms given by Dioscorides and others. Immediately after the bite, the fight becomes drows, a sensible tumour arises, and a moderate pain is felt in the stomach. Matthi-
ner, leal bifid, conformable with the wings: Stau. filaments ten, united into a sheath, gaping longitudinally at the top, ascending, anthers oblong; Pfih, germ ovate, style simple, ascending, stigma sharp; Per. legume ovate, awnsfe; Seeds, generally two, kidney-shaped.

Ess. Gen. Char. Cal. five-cleft, upper divisions largest; Legume ovate, awnsfe, with about two seeds.

Cf. This genus is singular in having several leaves from the same bud, as a flabby plant.


2. A. "Leaves facieOed, bright, rough, includding a gunnaceaeous spine; Flowers lateral, scarcely longer than the leaves; legume small, ovate at the base, triangular, upwards drawn to a point, compresed like a lens, containing two seeds, one compressed kidney-shaped, the other globular. 2. A. *ser-".

3. plu. var. 1. "Leaves facieOed, filiform; buds wart-

4. A. A. 1. A. "Leaves facieOed, linear, sharp, flowers headed, bractes naked." A shrub two feet high, with large buds or warts; leaves deciOed, smooth, sharpish, an inch long; flowers lateral, shorter than the leaves, subdeOed; calyx pubescent, banner villoso.


ments of the calyx pubescent; keel of the flower archd and the length of the banner. 4. A. *glomerata*, glomerata A. "Leaves facieOed, linear, sharp, villoso bent towards, flowers headed, divisions of the calyx ovate, corollas smooth." This differs from the third, in having its leaves bent inward, the calyx ovate, and the corollas smooth. 5. A. *aflota*, flower A. Phuk. Mant. 88 t. 413. f. 3. Seba Mus. 1. t. 23. f. 6. "Leaves facieOed, pubescent, macronate, villoso, flower stellate." This has the appearance of juven."e; it branches very much, and the twigs are covered with hairy down, and loaded with a profusion of flowers.


7. Chamaelabes. Bray. Cent. 23. t. 1. 11. Seba Mus. 1. t. 23. f. 4. "Leaves facieOed, pubescent, macronate, rough with hairs, flowers headed, very biflora." A shrub about three feet high, with slender branches terminated by the flowers, which are yellow, collected in woody heads; the leaves are prickly like thistles of juniper. Cultivated in 1755, by Miller.

7. A. *albus*, white A. "Leaves facieOed, fubulate, filaky, spreading at top, branches of flowers scattered." Shrubby, roundish, and covered with brown bark, which is full of shining, lemon-like flowers; a fubulate, white A. flowers terminating in bunches, tomentoOe, small, of a filaky white; calyx pubescent. Introduced here in 1754, by Mr. Maffon. It flowers in July. 8. A. *thym flo-".

8. A. *thyrs flo-

flora, thyme-leaved A. Gen. minima, &c. Phuk. Mant. 88 t. 413. f. 1. "Leaves facieOed, subulate, unarm, smooth, very short, flowers alternate." This is a very small shrub; the leaves are crowded together and thinning, resembling those of thyme. 9. A. *ericula*, heath-leaved A. Gen. nesb, uniflora, &c. Phuk. Mant. 88 t. 413. f. 6. "Leaves facieOed, linear, unarm, hirlate, flowers alternate, calyxes lineares." A small shrub, very much branched, pubescent, or extremely indusia square; leaves minute; flowers lateral, scarcely longer than the leaves; banner villoso. 10. A. *nigra*, black A. "Leaves facieOed, linear, rather obtuse, flowers head-facile, pubescent. A branching shrub, three feet high, and twigs pubescent; leaves minute, and become black on drying; flowers terminally, pubescent, branches in pairs, caraOe." 11. A. *caes. f.*, hairy A. "Leaves facieOed, almost in linear obtuse, calyxes subpubescent, sharp, corollas smooth." About the height of the tenth species; branches naked; determinate; leaves pubescent, fleshy, branch in, smooth, four or seven together; flowers yellow, terminal, unarm; calyx bell-shaped; bractes three, ovate lanceolate. 12. A. *ciliata*, "Leaves facieOed, filiform, fea-".

13. A. *gentian*, brown-like A. "Leaves facieOed, filiform, pubescent, calyces pubescent, pendulous, which as well as the corollas are smooth." Shrubby, nine feet high, branching, with a reticulate bark, and white villosa buds; leaves roundish, half an inch long; flowers three or four, terminal, pendulous; calyces smooth, with short teeth; branches two, minute; corollas yellow; style protruding. 14. A. *hybride*,. purpurea A. "Leaves facieOed, filiform, rigid, spiny, flaky, flowers lateral, sessile, solitary, corollas villoso." This shrub differs much from the other species by its leaves resembling filky white spines. 15. A. *glanduleto, leaves facieOed, linear, pub-".


19. A. *pygmaeus*, leaves facieOed, fuscous, rather hairy; calyces half-shaped, the length of the corolla, solitary." A shrub much branched, with small pubescent warts where the leaves fall off; leaves pointed, thinly scattered with hairs; flowers solitary, fes-

20. A. *ferrica*, fuscous A. "Leaves facieOed, lanceo-

21. A. *acutiflora*, hoary A. "Leaves facieOed, pubescent, tomentoOe, fuscous, flowers lateral; branches pubescent. An erect, fuscous, hoary shrub, with alternate branches; leaves fuscous; flowers fuscous, at the sides of the branches; calyx bell-shaped, with pubescent teeth, shorter than the body of it; branches two, short, fuscous; corolla yellow; banner hoary. 22. A. *heterophylla*, various-leaved A. "Leaves of the branches facieOed, of the branchlets ternate, linear, hairy, spikel terminal; calyx and corolla villoso." Lower leaves in bunches, upper, ternate; spikes long, flowers yellow. This, and all the foregoing species, are natives of the Cape of Good Hope. 23. A. *indica*, small-flowered A. Phuk. Abru. 215. t. 201. fig. 2. (called Lotus, &c.) "Leaves quinata, fuscous; peduncle one-flowered." A fuscous shrub with alternate branches: leaves alternate; leaves obovate, obtus, blunt, smooth, broader towards the end; peduncles axillary, much longer than the leaves, but shorter than the ligumes; flowers of a pale red colour, which appear in May. A native of the East Indies, and in 1750, cultivated by Miller. 24. A. *cortic*, evergreen A. "Leaves trinse, wedge-shaped, smooth, lateral ones short; stipules obscure, flowers headed." About four feet high, with very flexible branches; leaves
leaves many, small, narrow, oblong, fleshy, evergreen, reflex at the edge, with a hard point, sometimes curled at the base; peduncles axillary; flowers of a pleasant smell, in two rows, yellow, very small; legume small, yellowish, containing a single round compressed flowering seed. A native of the Cape. 25. A. quinquefolia, five-leaved A. Pluk. Alm. 128. t. 273, f. 4. "Leaves in five, fertile; peduncles spiked." The leaflets are lanceolate, peltiled; a little hairy, mucronate; peduncles many times longer than the leaves, raceme-spiked; corollas tomentose. A native of the Cape. 26. A. tridactyla, three-toothed A. Leaves trine lanceolate, smooth; stipules three-toothed, mucronate, flowers headed." A native of the cape of Good Hops. 27. A. pilosa, hairy A. "Leaves in threes, linear villose; heads terminal, very hairy; corollas pubescent." Stems shrubby simple, a little hairy; leaves spreading, fleshy, acute, fimbriate; head of flowers protected by bracts and calyces, which have white hairs. A native of the Cape. 28. A. anthyllides. "Leaves trine lanceolate, equal subpubescent; stipules none, heads terminal." This shrub has a hirsute stem; the leaves are fleshy, rather fleshy, the upper ones somewhat hairy; heads solitary, fleshy, oblong; three bracts under each calyx. It has the appearance of a lotus or antyhyllus. Cape. 29. A. brevifolia, short A. "Leaves tern linear, villosi; flowers in bunches of five; calyx woody; flowers prostrate round. Sun fubulate, decumbent, round, fleshy, pubescent; branches alternate; leaves loose, on very short pedicels; flowers terminal, fleshy, no bracts; corolla smooth, yellow. Cape. 30. A. argentea, silver A. cytius, &c. Pluk. Mant. 63. t. 345, f. 2. "Leaves trine linear silky; stipules fimbriate much mucronate; flowers scattered tomentose." shrubby, four feet high, flowers sometimes in spikes, purple, downy. Cultivated by Miller in 1759. A native of the Cape. 31. A. callosa, callous A. Pluk. Mant. 63. t. 345, f. 4. "Leaves trine fimbriate equal; stipules roundish, callous; flowers fleshy, smooth." An underbush, having the branches covered with round calyces, occasioned by the falling of leaves, which are fleshy, with a calous base like those of juniper; spikes loose; brachis one-leaved; flowers yellow, smooth. Cape. 32. A. orientalis, Levant A. "Leaves ternate, lanceolate, pubescent; flowers in bunches of five; calyces subulate, hairs erectile, angular. Stems a foot high; leaves fleshy, resembling those of flix; corolla yellow, the size of those of laburnum; stamens connate. Found in the Levant by Tournefort. 33. A. macrostyla. "Leaves tern, polishes, branches acuminate; flowers in racemes. Stem smooth; branches remote, tapering to a point; leaves lanceolate, on short peduncles; racemes terminate, erec, on very short pedicels. Cape. 34. A. pinata, pineate-leaved A. "Leaves pineate-quinque-obtuse; peduncles headed;" leaflets five, close, a little hairy, tomentose underneath, on short peduncles; peduncle longer than the leves; corollas rather tomentose. It resembles A. quinqufolius, n. 25. Cape. 35. A. pelucnulata, small-leaved A. L. Herit. Ang. t. 26. "Leaves fimbriated, fimbriate, smooth; peduncles filiform, twice the length of the leaf." Found at the Cape by Maffon, and introduced into the Kew garden in 1775. It flowers in June. 36. A. candicans, fair A. "Leaves trine and fimbriated, filiform, silky; flowers sublateral, none naked" This was also found at the Cape by Maffon and introduced in 1744. 37. A. arborea, tree A. Lour. Cuchinque. 43. "Leaves pineate-quinque; racemes terminating." This is a middle-sized tree with a straight trunk, and weak reclining branches; leaves smooth, entire, fimbriate; flowers white, small, banner obcordate, broadish, ascending; wings oblong, equal to the banner; stamens all connate. Vol. 111.

Propagation and Culture. Few of these shrubs have hitherto been cultivated in Europe. They are to be propagated by seeds, which must be obtained from the country where they grow spontaneously, and should be sown in pots filled with light earth as soon as they arrive: if this happen in the autumn, the pots should be plunged into an old tan-bed whole heat is spent, when they may remain till spring, when they should be removed into a temperate hot-bed, which will bring up the plants. But when the seeds arrive in the spring, the pots in which the seeds are found should be then plunged into a moderate hot-bed; and in warm weather the glass must be flaked during the middle of the day, and the plants frequently refreshed with water. Thos. seeds that are sown in the spring, seldom grow the same year; therefore, in the autumn, the pots should be put into an old tan-bed as above directed, and the following spring put into a hot-bed. When the plants become strong enough to remove, they should each be planted in a separate small pot filled with light earth and plunged into a moderate hot-bed to promote their rooting again, and as soon as they are established in the pots, they should gradually be exposed to the open air, which they are to be removed into the summer, and remain in a shaded situation till autumn, when they must be placed in the green-houses, allowing them very little water during the winter. See Marty's Miller's Diet.

Aspalathus. See Robinia and Spartium.

Aspalathus Ebenus. See Americanum.

Aspalax, in Zoology, an animal mentioned by Aristotle, as being blind. The Romans and some moderns translating the term aspalax, mole, and knowing that this animal is not blind, have thought themselves warranted in denying the affirmtion of Aristotle. Olivier, however, has not long since brought from the Levant an animal actually blind, with its skin not so much as pierced in the place of the eyes. This animal lives under ground, and has all the characters ascribed by Aristotle to the aspalax. It is known to zoologists under the name of mus typhlus, or blind.

Aspalax, a species of Mus, called by Pennant and later English naturalists the Donarian rat; Laxmann names it Mus myosaphalus; and Pallis, Schreber, Gimelin, &c. Specifically describe it as having a short tail, uncinated and wedged fore-teeth, no ears, and claws of the fore-feet elongated. It is a native of the Altea mountains, and of the country beyond the lake Bajkal; like other subterranean or ground rats, it burrows with its snout and feet, raises numerous hillocks of earth in its progress, and feeds on bulbous roots. In respect of size, it varies considerably, being from five to eight inches and a half or more in length. Dr. Shaw observes that this species in form and manners of life agrees with the mus typhlus, or blind rat; but is in general of a smaller size and of a yellowish ash colour, and in some specimens a whitish line or longitudinal streak appears on the top of the head; the upper fore-teeth are naked, but the lower are covered with a movable lip; there is no appearance of external ears, and the eyes are extremely small and deeply seated; the head is flat and blunt; the body short and somewhat depressed; the limbs very strong, especially the fore-paws, the feet of which are large, naked, and well adapted for burrowing into the ground, having five toes, the three middle of which are furnished with long and strong fleshy curved claws; the hind feet are also naked, and have five toes with small claws; the tail is very short. Gen Zool.

Aspalucua, in Ancient Geography, a valley of the Pyrenees, now the valley of Afe, in which was the Gaba- rus, or Gave.
ASPARAGUS, a forest of Asia Minor, in the Tross, being a part of the forest of Ida. Strabo.

ASPARAGUS, in Geography, a town of Germany, in the archduchy of Austria, fifteen miles south of Eisen- furt.

ASPARAGI, in Botany, a species of CROSOMELA (Linn.), with a red thorax marked with two spots of black; wing-cases yellow, with a cruciform mark, and four spots of black. Geoffroy calls it le criocere porte croix de Pal-perge; it is attelabus asparagi of Scopoli; lemma asparagi of Fab. Ent. Syll. Supp.; cryptopetalus asparagi of Gmelin; and achemia asparagi of Marth. Ent. Brit. This Mitchelli- nous intruder into the kitchen garden, is but too well known by its depredations in the larva state upon the beds of aspara- gus; it is a little grub of a blackish-brown colour, that feeds exclusively on these plants; and, if neglected, will in the course of a few days leave nothing but the naked stalks of the asparagus remaining in those beds where they can once take up their residence. Donov. Brit. Inf. &c.

ASPARAGUS, in Botany (Astragaus, a young shoot, before its leaves unfold). Linn. g. 434. Schreb. 573. Gern. 16. Jull. 47. Chfis, alexandria monogynus. Nat. Ord. Sec. Gen. Char. Col. rose. Cor. petals fix, coloriing by the claws, oblong, erected into a tube, three alternately interior, permanent. Stam. filaments fix, fili- form, inserted into the petals, erect, shorter than the cor-olla; anthers roundish. Pfl. germ. turbinate, three cor-nered; style very short; stigma, a prominent point. Per. berry globular, umbilicated with a point, three-celled. Seed, two, round, angular on the inside, smooth. Olf. According to Dr. Smith, there are three stigmata; the flower appears as if it were monopetalous.


Species, 1. A. officinalis, common asparagus or sperage, Hud. 44. W. 340. Smith Brit. 359. Eng. Bot. 339. Flor. Din. 805. "Stem herbaceous, round, erect, leaves falcate; stipules uniform, subfoliculiferous." It grows wild in maritime places in the south of England, abundantly on the pebbly beach opposite the ferry going from Weymouth to Portland island. A variety 2. viz. A. maritimus caffrefo folio, (Dill. in Ray's Synop.) has been found in Anglesea. Root perennial, creeping, with very long, thick, simple fibres; stem erect, occasionally procumbent, round, simple, and bearing alternate scales (or stipules without leaves below) in the upper part, branching in a panicked alternate manner; leaves in tufts, very narrow, and brilly, but flexible; stip- pules solitary, membranous, triangular, acute, the upper ones ovate and jagged; flowers from the axilla of the branches on capillary simple stalks, drooping, white, none of the segments indexed, in some the flaminis, in others the pistillum occasionally abortive; style deeply three-cleft; berry red. It flowers in August. The above is a description of the plant in its wild state, in which its stigmas are usually about the size of a goat's quill, yet this is now well known to be the origin of our luxuriant garden aspara- gus, for the cultivation of which ample instructions are forthcoming. 2. A. declinatus, long-leaved A. Stem un- armed, round; branches declined; leaves falcate. This resembles the common iori, but it is higher, has more and much longer leaves; stipules solitary, lanceolate-fibuliferous, with a membraneous point at the base downwards; leaves seven or ten in a bunch, siphon, spreading. A native of the Cape. Introduced in 1787, by Mr. Matson. 3. A. falcatus, fiddle-leaved A. Burn. Flor. Zeyl. 36. t. 13. f. 2. "Prickles solitary, reverted; branches round; leaves enli- form, falcate." A native of Ceylon. 4. A. retrofractus, arch-leaved A. "Prickles solitary, branches round, reflected, and retrofracte; leaves falcate, facicide." Its branches are round dichotomous, parted at the divisions with a minute redding prick. The stipules are shrilly, crooked, irregular, eight or ten feet high; leaves long, narrow, in clusters like those of the iori. A native of the Cape. Cultivated by Miller in 1759. The leaves produce their verdure all the year. 5. A. ethipicus. "Prickles solitary, reverted; branches angular; leaves lanceolate-linear." This is nearly allied to A. falcatus, but the leaves are smaller, and about seven in a bunch. The stipules put forth a reverted spine. A native of the Cape. 6. A. aspicu- ticus, slender-tailed A. "Prickles solitary; stem erect; branches filiform; leaves facicided, facicide." It sends up many weak shoots in clusters, and armed with sharp spines at the sides and ends of the shoots; leaves in small clusters, and continuing green all the year. 7. A. albus, white A. "Prickles solitary; branches angular, flexufoe; leaves facicided, triquetrous, awnles, deciduous." Stems shrubby, covered with white bark, armed with thorns, three or four feet high, furnished with many branches, bearing short narrow leaves. These continue green all the winter, if screened from the frost. A native of Spain and Portugal; cultivated here in 1640. 8. A. acutifolius, acute-leaved A. "Stem unarmd, angular, shurby; leaves needle-shaped; rather rigid, perennial, mucronate, equal." It has white, crooked, shrubry stalks, four or five feet high, without spines; leaves like those of larch, but short, and end in prickles. It resembles A. aphyllus, from which it differs, in usually having seven leaves together, which are much smaller. A native of Spain and the Levant. Cultivated by Miller in 1759. 9. A. borridus, thorny A. "Leafles, shrubby, pentagonal; prickles four-cornered, compressed, flattened." The spines are about the length of the finger. A native of Spain. 10. A. ophillus, prickly A. "Stem unarmd, angular, shrubby; leaves subulate, liriated, unequal, diverging. Stems weak, irregular, furnished with stiff, short spines, instead of leaves; flowers small, of an herbaceous colour; berries very large, and black when ripe. A native of the South of Europe. Cultivated here in 1640. 11. A. capenfis, cape A. "Spines in fours; branches aggregate, round; leaves falcate." Pluk. Alm. t. 78. f. 3. Root tuberous; frums fruticoso, filiform, flexufoe; branchlets from the axilla of the spines, filiform, loofe, unarmed, deciduous; leaflets facicided, acute, short. A native of the Cape. Cultivated in the royal garden Hamps- ton-court, in 1691. 12. A. farmentofus, linear-leaved A. "Leaves solitary, linear-lanceolate; item flexufoe; prickles recurved." It rises five or six feet high; and its shoots are so closely beft with short crooked spines that it is diffi- cult to touch the branches. The roots, which are long and fuliform, are cates with broth or milk by the inhabi- tants of Ceylon, who are very fond of them. Cultivated in 1714, by the duchefs of Beaufort. 13. A. verticillaris, whort-leaved A. "Leaves verticillate." Found by Tourn- fort in the Levant.

ASPARAGUS, in Gardening, comprehends one of the most valuable eculent vegetables of the kitchen garden; it has erect, herbaceous stalks, three or four feet in height, and very fine brilly leaves; it is a perennial fibrous rooted vegetable, the roots being of many years duration, but the tops or stalks annual. The plants being raised from seed, after having acquired a period of three or four years growth, produce proper fixed asparagus, of which the fame roots furnish an annual supply for many years, continuing to rise in perfection for fix or eight weeks in the summer season, the
the shoots afterwards run up to stalks and flowers, and perfect seeds in autumn.

But besides the crop raised in the summer season, it may also be obtained in perfection during the winter, and early in the spring, by the aid of hot-beds, in the manner explained below.

Propagation of the Plants. It is observed by the authors of the Universal Gardener, that the propagation of this plant is by seed only, which may be easily obtained from seed-shops. It should be sown in February, or any time in March, in a four feet wide bed of rich earth, either broad cast on the surface, and directly raked in, or in drills long-ways six inches aunder, the ground being afterwards raked.

In six weeks or thereabouts, the plants will generally appear; they should be kept clean from weeds all the summer, and in winter a little short flake litter spread on the ground to defend the crowns of the roots from frosts; and in the spring following they will be fit for transplanting where they are finally to remain, and in two or three years afterwards, as has been just observed, they will produce asparagus fit to gather.

Asparagus is always three years at least from the time of sowing the seed before the plants obtain strength enough to produce shoots of due size for the table; that is, one year in the feed-bed, and two after being transplanted, though it is sometimes three or four years after planting before they produce good full-sized shoots. But the same bed or plantation will continue producing good asparagus ten or twelve years, and even endure fifteen or twenty years; however, at that age the shoots are generally small, and the whole annual produce inconsiderable; a new plantation should therefore be made every eight, ten, or twelve years, as may be judged necessary. When new plantations of asparagus are required to be raised in the quickest manner for use, it should be done by purchasing ready-raised year-old plants of the nurseriesmen or kitchen gardeners, as in this way a year may be gained.

The belt season of the year to make a plantation of these plants is in March, in common light ground, or at the latest, the first or second week in April; but in cold moist soils, from about the twentieth of March to the fifteenth of April.

In regard to soil and situation, the plants succeed tolerably well in any that is light and mellow, and that is sufficiently rich; but it is eligible to allow them a spot that is rich and light; in one of the open quarters of the garden, that is exposed to the free air and full sun, as this is of much importance. Dung must be added six or eight inches thick at least; the ground is then to be trenched one or two fads deep, as may be necessary, burying the dung regularly in each trench, observing that where the trench is but one fadpe depth, the dung be buried well in the bottom; but if two fadspe depth, betwixt the first and second pit, or about ten or twelve inches below the surface. Where the trenching is performed in winter, or any considerable time before the planting season, it is proper to throw the ground into ridges to meliorate and improve by the weather into better preparation for planting, as well as for the benefit of the young plants. When the time of planting arrives, it is to be levelled down, which will be a further improvement. See Trenching and Ridging of Ground.

The space of ground necessary to plant for private use is generally from about four or five to twenty rods, according to the extent of the family; and the proper quantity of plants to a rod, exclusive of the alley, is about 250; one year old plants are to be preferred to such as are older; as those of that age will establish themselves sooner and more effectually than older roots. The plants at the time of being put into the beds, consisting usually of only roots, are at the proper time to be taken up from the feed-bed with a dung-fork as entirely as possible, and the strength sorted out for use, but not trimmed, only such parts as are broken or bruised being cut off.

In planting, they are to be placed in rows a foot asunder, and formed into beds, each bed to consist of four rows ranging lengthways of them, and planted in drills, or in small narrow trenches, as explained below, allowing three feet and a half interval between every four rows, two feet of which to be afterwards allotted for an alley between the beds, and the rest to be annexed to the beds, which, as well as the alleys, must be regularly laid out in their proper dimensions, four feet and a half for the beds, and two feet for each alley between bed and bed. Or they may be at first marked out and formed into beds and alleys regularly and of their respective dimensions; the beds four feet and a half, and the alleys trodden out between the different beds two feet wide; then four spaces a foot asunder marked out for four rows lengthways of each bed, the two outside rows of each nine inches from the edge; stretch a line tight along the length of the bed in the first outside row, and with the spade held in an erect position, the back being towards the line, cut out a small nest trench along close to the line about six inches deep, forming the side next the line upright, turning out the earth evenly to lie close along the edge of the trench, ready to earth in the roots as planted; this being done, proceed to planting the row, placing the plants in the trench close against the upright side ten or twelve inches asunder, with the crowns upright about two inches below the surface, spreading the roots both ways, and drawing a little earth up to those of each plant as they are put in, just so as to fix them in their places till the whole of the row is planted; then directly rake the excavated earth into the trench over the roots and crowns of the plants evenly; which done move the line a foot further for the next row, and cut out another trench as above, and plant it in the same manner, directly earthing over the plants as in the first row; and thus proceeding regularly with the rest till the whole is completed. Having finished the planting in either of the above methods, the bed and alleys may either be laid out now regularly, or deferred until the winter and spring drilling, though where the beds, &c. are formed previous to the planting, it may be eligible to line them nectly in their proper dimensions as soon as planted, making the edges of the beds full and straight, and the alleys level and even.

In the other method, either forming the beds and alleys now or afterwards, as hinted above; observing that the wide intervals of three feet and an half between the beds, two feet only are to be allowed for alleys, the other eighteen inches must be added to the beds, which will make each bed four feet and a half wide, nine inches on each side wider than the outside rows; and noting that in either method, if the beds, &c. are formed as soon as planted, the alleys at this time are only to be trodden out gently the proper width, without calling out any of the earth upon the beds, so as to flatten in the alleys, and lightly to rake the bed even, drawing off any large loones and lumpy clods, so as to leave a smooth surface.

In performing the above, if you have occasion to make the moat of every part of the ground, a thin crop of onions may be sown the first year on the same plat as soon as the asparagus is planted; but in this case, sow the seed moderately thin, raking it in regularly with a light and even hand, so as not to displace any of the asparagus plants.

The asparagus being planted in this manner, it requires the following culture.—The shoots mostly appear above

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ground the beginning of May, commonly not much bigger than straws; all such must be permitted to run wholly to stalk. During summer, they must be kept clean from weeds by small hoeing or hand weeding them three or four times in the course of that season; and if there be a crop of onions, thin them in the usual way, cutting out all such as grow immediately close about the asparagus plants. In October, when the asparagus stalks decay, cut them down, and clear off all weeds from the beds into the alleys, and then dig the alleys two feet wide, burying the weeds therein, and spread some of the earth over the beds. See Winter Dressing.

This is all that is necessary to be done until March, at which time the beds should be deeply hoed, and raked smooth, permitting all the shoots to run as in the first summer; and in October, cut down the decayed haulm as before, and land up the beds; in the spring following, being the second after planting, slightly fork-dig the beds, and rake them level. See Spring Dressing. In this spring, as the shoots rife of some tolerable substance, begin the first gathering of the largest plants in the first fortnight, but do not practise any general gathering till the third year. See Gathering Produce.

Winter Dressing, or landing up the Beds.—From about the middle of October to the latter end of November, is the time to give the asparagus beds their winter dressing. This consists in cutting down the decayed stalks of the plants annually at the above time, and clearing the bed from weeds, digging the alleys, and spreading some of the earth over the top of the beds, which is called landing up the beds. It is done in the following manner. —The decayed stalks, or haulm, are cut down with a knife close or within an inch or two of the ground; then with a sharp hoe cut up all weeds, drawing them off at the same time into the alleys to be buried; after this, proceed to line out the alleys, stretching the line along the edges of the beds about nine inches from each outward row of plants, the flakes that are to be placed at the corners of the beds, or otherwise the thumps of the flakes, will be a guide; then with a spade chop the ground along by the direction of the line, by which you will form each bed four feet wide, and the alleys two feet. The alleys are then to be dug one spade deep, and a good portion of the earth spread over each bed two or three inches thick. As soon proceeded in digging, let the weeds drawn off the beds be trimmed into the bottom, and buried a due depth, observing to land the beds all a regular thickness, so as to make them about six or eight inches higher than the level of the alleys, forming the edge of each bed full and straight. This work must be repeated every autumn. It may be supposed by some that in annual landing of the beds, they may in several years be considerably raised; but by the spring forking and raking, together with the repeated hoeings and clearing off weeds in summer, and at the time of preparing for landing up in autumn, a considerable part of the earth is annually drawn off again into the alleys.

After thus performing the winter dressing of the beds, a row or two of cabbage plants may be planted in each alley, or a piece of shelter during winter, by which they will be forwarded for early spring coleworts; or a row of mazany dwarf or other herbs may be planted in November or December in the warmest side of each alley, for an early crop; or occasionally, where ground is scarce, some of the bed might be occupied during winter by planting a crop of cabbage lettuce on it for spring use, which being all gathered, or transplanted into other places, by the beginning of April, are supposed to do little harm. It must, however, be done with great care, and such crops not suffered to remain long, otherwise they may injure the asparagus plants in a high degree.

Spring Dressing the Beds.—The spring dressing consists in fork digging the beds annually at that season to a moderate depth, to loosen the soil, that the bulbs may freely advance and swell to their due size. The time for performing this work is any time in March, but not later than the first or second week in April, because many of the beds will then be formed; and, in forward seasons, begin to advance in growth. This work is usually performed with a short flat three-pronged fork. In the first spring dressing after planting, it is proper to loosen the surface only with a hoe, or two or three inches deep, and then rake the beds smooth. But the general spring dressing is to be annually performed by fork-digging all such beds as have been planted more than one year, three or four inches deep, with the asparagus fork; being careful to loosen all the earth as deep as the surface of the roots, having regard however not to wound the crowns of them; and afterwards all the beds should be neatly raked, to break clods, clear off stones, and form a level smooth surface, drawing off all rough earth, &c., into the alleys, which afterwards also rake up in a neat order.

Manuring the Beds.—These should be enriched with an addition of good rotten dung, once every two or three years at furthest, the benefit of which will be evident in the quality of the roots; as well as in the size and quality of the produce; the season of applying this manure is at the time of winter dressing or landing up the beds. The dung for this purpose should be perfectly well rotted, as the dung of old cucumber and melon beds, or any other of similar quality, which should be applied after the stalks and weeds are cleared off; spread two or three inches thick over the surface of each bed, and a double portion in the alleys; the beds being then slightly fork-digged to bury it; after this dig the alleys in the usual way, and spread a portion of the earth evenly over the beds. In this way the winter rains may wash the enriching quality of the manure into the beds and the roots, from the vegetation of the spring.

Gathering Produce.—As asparagus plants sometimes, in very rich ground, afford tolerably large buds the second year, here and there, one of the largest that happens to appear the first week or fortnight may be cut, afterwards permitting the whole to run to stalk; but in the third year, a more general gathering may be practised, and continue a month or six weeks; and in the fourth year the general produce will rise in its utmost perfection. Then, and every succeeding year, gather all the buds arising from every plant during the season of cutting. The proper size of the asparagus for use, is when the shoots are about two or three inches above the surface of the earth, while the buds remain compact and plump. The principal season of cutting them, is from the latter end of April, or beginning of May, according to the forwardness of the season, till the middle or latter end of June. They might, however, be obtained a month or two longer in the season, by continuing to cut all the buds, according as they attain proper size; but this would be a very wrong practice, as the roots would thereby continue filling up a fresh supply, till they in a manner exhaust their vegetable food, as would be apparent by the inconconsiderability of the future crop, and short duration of the plants. The principal gatherings should therefore be terminated generally towards the latter end of June, especially as by that time there will be plenty of young peas to be used as a substitute in its place at table.

In cutting the asparagus for use, it is necessary to be furnished with a straight narrow-pointed knife, the blade fix or eight inches long, toothed on the edge like a saw, which is
to be slipped down close to each separate bud, in order to cut it off planting, three or four inches within the ground; being careful not to injure any of the young buds rising in succession, as there are generally several from the same root, advancing in different stages of growth.

Forcing Asparagus.—As asparagus is frequently required in winter, and early in spring, another method must be practised for obtaining it in its season. This is by means of planting the roots in substantial hot-beds, covered with frames and glades. When it is intended to have a constant succession of asparagus during the winter and spring, a new hot-bed must be made, and planted with fresh plants every time or four weeks, as these roots when forced in hot-beds do not continue to yield any tolerable produce longer than that period of time, when they will in a manner be quite exhausted, and are not fit for that or any other purpose afterwards; therefore, for this purpose, a fresh quantity of plants must be kept in readiness for every new hot-bed. These are raised in the natural ground to a proper age; they must be three or four years old, the plants being raised from seed, as directed for the natural ground asparagus, and when they are one year old, transplanted into beds of rich earth, as directed also for the natural plantations, in rows a foot or more; but they need not be more than nine inches distant in each row, forming them in beds of six rows each, with only two feet alleys, just to go in to clean off weeds, &c. as the beds need not be laid up in winter, as in the natural asparagus; but when the plants have had two summers' growth, they will, in good ground, be fit for forcing, though they are in greater perfection if permitted to stand three years. During the time they remain in the natural ground, none, or very few, buds should be gathered, the whole being permitted to run to a flower each summer. It is also necessary, when intended to force asparagus annually, that some seed should be sown every spring, and a due quantity of plants transplanted as before directed, so as to have three different pieces of ground always employed at the same time with plants for the above purpose; that is, one piece with seedlings in the feed-beds, the other two with transplanted plants, one to be of a year's growth before the other; by which practice, after the first five years, an annual succession of plants fit for forcing may be procured. But where it is intended to watch the flowering of the plants in this manner, they may be furnished by most of the kitchen gardeners in the neighbourhood of great towns, when raised to proper growth for this purpose, they commonly fall by measurement of the ground they grow upon, generally fall from six to ten fillings per rod, according to the age and size of the plants, and fullness of the crop.

Mr. Nichol, in his Forcing Gardener, observes, that plants for this use should not be older than seven or eight years, nor younger than four years, and that they should be covered with litter or straw, in order to have access to them during frosts. The necessary quantity of plants for hot-beds is (he says) considerable, since about as many as grow upon three rods of ground, are requisite for a bed intended for a common three-light garden frame. The common allowance of the London gardeners is about one rod to a light; for the plants are to be placed close as they can possibly stand to one another, to the amount of five, six, or seven hundred, or more, according to their size, in a three-light frame, otherwise a bed would not supply a quantity adequate to the expense and trouble incurred in the culture of these plants in hot-beds; for, from a bed of the above dimensions, we commonly expect about three hundred large buds or ware, besides five or six, weekly, and in the whole, about eight or nine hundred good asparagus, and near as many small ones, in three weeks, in which period of time, the roots will have exhausted their strength, and produce very little more. Therefore, in raising or procuring plants for the above purporses, the quantity must be proportioned to the number of lights you intend working, and the succession of asparagus required. The reason for beginning the above work, is according to the time the asparagus is required for use; as for instance, if you would have good asparagus at Ch. times, it is proper to make the hot-bed in the first or second week in November, and so on in proportion to any other time in winter or spring it is desired to have it fit to gather. The rule is this: if a constant succession is required from about Christmas till the time when the natural asparagus come in, a new hot-bed should be made every three weeks or a month from the beginning of November until that of March; but some begin about the latter end of September, in order to obtain asparagus about the second week in November. The proper materials for this form of hot-bed are, according to the authors of the Dictionary of Gardening, a sufficient quantity of horse stable dung, fresh and full of heat; for one or more three-light frames, two feet and an half or a yard high; also some to line the sides of the bed, when the heat declines, a quantity of good kitchen garden earth, and one or two three-light garden frames to place over the beds, and some large garden mats, to cover occasionally in nights and bad weather; the dung being previously prepared as directed under the article Hot-beds. The bed situations for the hot-beds are some of the warmest and most sheltered compartments of the kitchen garden near the melon or cucumber ground if there be room; though the London gardeners, when they make a considerable extent of asparagus hot-beds, often form them in or near some of the large quarters of the kitchen ground, where the soil is rich and light, for the convenience of having plenty of good proper earth at hand for earthing the beds, banking up the outside plants, and moulding at top, &c. The exposure should be open to the full southerly sun, and well defended from the northerly winds. The beds may be made either wholly on level ground, or occasionally in a hollow trench, four or five feet wide and fix or eight inches deep, or if intended to make them in any of the quarters of the kitchen ground, a trench might be formed as above, in which to make the beds for the sake of the earth being laid ready for earthing the beds and plants, and to save the trouble of bringing it from a distance, especially for beds of considerable length; but otherwise they may be made, as has been just seen, entirely on even ground in the most convenient situations. As to the general dimensions of the beds, they must be in proportion to the width and length of the intended frames, or rather a little wider and longer, to allow from three or four to five or six inches clear on each side and end, whereon to back up some earth against the outside roots, &c. and they should be about a yard high, earthed at top about six inches thick for the exception of the plants, before the frames, are put on, keeping them within the compass of them upright and as close as they can stand, as directed below. The clear space from a few inches on each outside end, is as suggested above, to receive a small bank of earth against the outside roots, both to defend them from the weather, and for the support of the frame; the latter of which, on account of the first violent heat, is not put on till some time after planting the roots; these, as soon as planted and banked up on the outsides, are earthed over the crowns of the plants an inch deep, which should be increased to five or six when the beds appear through the first earthing, at which time, as the heat of the bed will be moderate, the frame and glades should be placed on. See General Culture.
The author of the Scotch Forcing Gardener, however, suggests that the forcing of asparagus in flued pits, is by far the most eligible method, as such pits may answer several other purposes; besides the grass is of a much better colour and higher flavour than that produced on a dung hot-bed. Such a pit is represented at fig. 1, in Plate 1. Gardening, will completely answer the intentions of the cultivator. As it frequently occurs in large families, where much company is kept, that this elegant is wanted in a hurry, the convenience of a pit will be found to be a great relief in this respect; as it is much easier (by aid of flies) to forward or arrest the growth of the plants here, than in the common hot-bed; on the one hand, if the plants are advancing too rapidly, you are, it is observed, under the necessity of cooling the bed in a certain degree; and on the other, if they are not advancing so fast as you could wish, you are under the necessity of applying linings, which is attended with trouble and loss of time. The author says, that a pit twenty-five or thirty feet long, and six wide, and which one fire can perfectly command, is sufficient to force asparagus to serve a large family from November to May, in a constant and regular succession; after which it may be advantageously employed in raising a late crop of melons or cucumbers, or in starting young pine-apple plants, &c. The tilling and furrowing up of bed, even where it is most valuable, is unnecessary, because the plants of asparagus, French beans, fallacks, &c. at an early season, from building so useful a compartment in the forcing garden. If, continues he, a scrupulous attention is paid to the design in general, particularly to the construction of the fire-places and flues, it will give more satisfaction to the gardener than any other hot-bed whatever, and in the end be a paying to the proprietor. In the construction of this kind of pit, as is shown by the plate, the first course of the flue runs along the front, the bottom of which is about the ground level, and as the outer wall of the flue is only a brick in bed, it is obvious that early cylinder, carrots, lettuces, radishes, cauliflowers, &c. &c. soon on a well-prepared border about two feet broad, immediately adjoining the breach of the pit, would reap infinite advantage from the flue. At the time of any operation within the pit, a board or plank, supported by bricks, &c. would defend the border from injury. The pit is about four feet in the back and three in the front, deeper than the bottom of the flues; which great depth is made on the presumption that it may be frequently used for pine-apple plants; but where it is used for asparagus alone, half the depth would be sufficient. It is immaterial whether the pit is entirely filled with tan or not; the author frequently used three-fourths of flable dung, prepared in the same manner as for a hot-bed, with equal lucers; but has always found that dung is worse to manage than the tan, as it is more liable to heat violently; besides, from the nature of the building, there is not a possibility of drawing off the rank heat, as in a hot-bed; for which reason, if dung is to be used, it ought to be sweated in a more careful manner. It is added, that a very small degree of bottom heat is sufficient for the purpose; and that if the pit has been previously employed with young pines, it will require no preparation whatever for asparagus roots, excepting to level and put a few inches of very rotten tan upon the surface. But if melons were the last thing the pit produced, it will be necessary to fill up the bed about two feet deep, and add a little new tan or dung; then level the surface with old rotten tan, as before. In either case the surface should be levelled in a flowing manner to the sun, about six inches above the bottom of the flues, allowing so much for the tan settling; the roots are then to be placed in and covered, as directed for the common hot-bed. If the pits are from twenty to thirty feet long, one half will be sufficient for a time; and, to keep a constant succession, the other half may be filled in about fifteen or twenty days, which will begin to come up before the first is all used; after which, once a month or six weeks, according to the size of the pit and conflagration of the family, may be sufficient, till it be fit for cutting in the open ground. It is recommended that no fires be made if the thermometer stands as high as forty-eight to fifty degrees; but, if necessary, covered with mats at night; also to admit plenty of air through the day, if the weather will permit. When it is necessary to make fires, it should be done with caution; a small one made in the evening will serve the whole night, and it will be unnecessary to make any in the morning, unless it be a great storm. He has, however, sometimes found it convenient to make a small fire in the morning, that he might have it in his power to admit air, and at the same time keep up a proper degree of heat. It is added, that warmth will here be required in a more plentiful degree than recommended for hot-beds; but due observation of the state of the tan and the health of the buds should always determine the warmth that may be necessary. In filling the front end of the pit a second time with fresh roots, it will be unnecessary to fill up the tan, &c. and perhaps it may be so even at the third filling; but by keeping a thermometer plunged in the bed, or watch-beds, you will be best enabled to judge; at all events, there will be no necessity for adding fresh materials, as he has always found that trenching the bed to the depth of two feet or so has answered the purpose for the whole season. If dung or oak leaves are used, the bed should be turfed; and at least a foot of very rotten tan or light mould laid on before the roots are placed in. This precaution is unnecessary, he says, when tan alone is used, in which case, however, not more than an eighth part of new tan ought to be trenched in.

Method of making the Beds, planting the Roots, and Culture. When the first method is followed in the situation and exposure above described, it is advised by the authors of the Universal Gardener, to mark out the place of the hot-bed, of the proper width and length proportionately to that of the intended frame or frames, whether one, two, or more; and if a trench is intended, to dig out the cavity, only one moderate spit deep, and the width as above; then wheel in the dung, and with it form the bed of the proper width and length, either on level ground or in a trench, as just directed, raking it regularly of the same dimensions, about a yard high, especially in winter; but for the final spring beds, two feet and a half depth of dung may be sufficient, working the whole upright and firm in the usual manner.

Mr. Nicol, however, recommends that a sufficient quantity of flable dung be shaken up to heat and sweeten, and that after it has lain six or eight days, it be turned over and shaken well up again, in which state it may lie for four or five days more; by which time it will be ready for building the bed; this must be done in the common way, to the height of four feet in the back and three in front, and about a foot larger than the frame all round; it is then to be well levelled, the whole covered with squares of turf, cut to as to join again exactly, which are to be laid the green side down, and smoothed well with the back of the spade; then place the frame thereon, which should be thirty inches deep in the back, and twenty in front, in which dry well-reduced old tan should be laid to the thickness of six or eight inches; which also level, and gently smooth with the spade. Where old tan cannot be procured, he advises a light sandy earth, with a fourth part of good vegetable mould. The bed will begin to heat in twenty-four hours, and must then have air admitted to pass off any steam that may arise, which will
will however in general be inconsiderable; the only reason of tiring the surface is to prevent the steam, which, if care-fully done, will have the desired effect. Yet, it sometimes happens, that there will be a little, especially if the dung did not undergo a proper fermentation; but until the grafts begin to appear, it is of no great consequence if there is a little steam in the frame, nor, provided there is not much steam, whether it has any air admitted or not. But, from the moment the buds begin to peep through, the greatest attention must be paid to prevent steam, which is sure to give the grafts disagreeable flavour and bad colour.

In order to prevent the grafts from drawing up weak, a large portion of air must be admitted every day, if the weather be not stormy; and a little air should be let in at night; while the bed has a rank heat in it, Fahrenheit's thermometer should not stand above 59° at any time, unless in sunshine, and then not above 62°. By the above rule, it will easily be seen, whether matting at night is necessary, and to what extent, but it must be attended to, till it entirely disappears.

When the beds are formed in the first method, they are advised in the Dictionary of Gardening to be directly earthed at top for the reception of the plants, with finely broken earth six inches thick, to the full width and length of the beds, the surface being raked level and smooth. Then imme-diately proceed to place the roots, for no time must be lost in asparagus hot-beds, in waiting for the temperature of the heat; previously to planting the roots, mark out on the surface of the beds the exact width and length of the frames, so as to have a clear space on each outside of a few inches width, to receive the banking of earth against the outside roots. As before mentioned; then begin at one end, and raise a small ridge of earth across-ways upon the surface, five or six inches high, against which lay the first row of roots, then having the roots which are not to be trimmed, place the first course close against the above ridge, and entirely upon the surface of the bed, with the crowns upright, and as close to one another as you can possibly place them, either wholly upon the top of the earth, or only draw a little to the lower ends of the roots, or insert the ends a little into the earth, though they are often planted without either drawing any earth about the fibres, or inserting them therein; and when one course or row is thus placed, lay another against the first in the same manner; and so proceed, laying them one against another, every way as you can possibly crowd them, from one end of the bed to another, being careful to place all the crowns of such an equal height, that the whole may form as it were a level surface, keeping the whole rather within the measure of the frame, for they will unavoidably swell out a little on each side. If more frames than one are intended for the same bed, then, at the termination of the length of each frame, raise a crofs ridge of earth, as at first, about six inches in height; so proceed laying the roots as before; and when all the roots are thus placed the whole length of the bed, directly bank up some earth on each side and end as above hinted, against the outside roots, raising it an inch higher than the crowns; then cover the crowns all over evenly with finely broken light earth an inch deep, which finishes the work until the buds appear; for the roots must not till then be earthed deeper, nor the frame and glasses placed upon the beds till the violent heat has subsided, because they would confine the burning heat, and occasion the bed to heat too vehemently to the destruction of the plants.

In forming the above beds, they sometimes, where necessary to the savoy of dung, are only made the exact width of the frame, so as to secure the outside roots; but for the support of the frame, raise a bank of earth quite from the ground, six inches broad at bottom, drawing it in gradually to the top, banking it close against the sides of the beds; and that of the outside roots, raising it an inch higher than the crowns at bottom of them, so earthing them all over the top an inch deep as before observed; which method of banking quite from the ground may also prove effectual in preferring the temperature of the bed, by defending the dung from driving rains, snow, and piercing winds. As soon as the beds are made and planted in either of the above methods, in order to judge of the temperature of the heat, it is proper to thrust some sharp-pointed sticks, two feet long, down between the roots into the dung of the bed, and by drawing thee up daily, and feeling the lower part, you will be able to judge of the degree of heat, whether too violent or weak, which is to be regulated accordingly.

The beds being made and planted, the roots will soon after be bound forth fresh fibres into the earth, and even in time into the very dung, and the buds of the asparagus begin to appear in a fortnight or three weeks; but till that period, as the heat will probably be very strong, the bed is to remain unframed and uncovered, except being occasionally defended at top; or at least, if the frames are placed on the beds, the glasses not fully put on, only using them occasionally, if very inclement weather should happen at that time, just to protect the bed and crowns of the plants from excessive wet or rigorous frosts; or the bed may be occasionally defended with long litter or garden mats from violent rains, snow, and severe frothy weather; observing, however, to use only occasional covering just to preserve the heat of the bed and the crowns of the plants till the buds begin to appear, and the heat becomes quite moderate, as at this period too much covering would increa-se the heat to a violent degree, and scourch or flame-scald the roots, which, in strong beds, must be particularly guarded against. The temperature of heat must therefore be every day examined by the trying-flick; and if it is found to be as yet too violent that you judge the roots are in danger of scorcheing, the remedy is to bore with a large raker-handle, &c. the fides of the bed quite through in several places, both in the dung, and betwixt the top of the dung and the earth, that the rank steam and burning quality may evaporate at the holes; at the same time the free air may have access, and in two or three days the bed will be reduced to a moderate temperature. On the other hand, it should likewise be observed, that if the bed in a week or two after being made does not heat kindly, or seems rather to decline, it may be proper to lay dry or warm stable-litter round the sides and over the top, which will forward and revive the heat more effectually. When the asparagus begin to appear, they are then to have their final earthing of four or five inches depth of additional mould all over the crowns of the roots, and the frame and glasses put on. At this period prepare some light, rich, finely-broken earth, sufficient to mould them the above depth; at the same time, in order to secure the outsides of the had final earthing, it is proper to form a sort of wreathing or em-pallement round the top of the edges of the bed four or five inches high, which is done either with a thick straw-band, or by raising the outside banking an additional four or five inches; either of which, as just observed, is neces-sary, not only to secure the sides and ends of the said final top covering of earth, but also to support the frames when finally placed on the beds.

The beds being now finally earthed, the frame, and the heat
heat become moderate, the glasse or lights are to be kept constantly upon the frame, which in the night should be covered with mats, or dry long litter, but must be uncovered every day, except in uncommonly severe weather; for it is of importance, when the asparagus shoots begin to advance, to admit much light and freedom, to promote a green colour in the tops of the buds; and as to the admission of fresh air, if the heat is moderate, the glasse need only be shoved a little open in fine days, especially if you require the plants to be drawn up quick; but by admitting a large portion of air, the buds rise faster, and will acquire a larger size and greener colour; on which consideration you may sometimes, in the spring-made beds, take the glasse entirely off a few hours in fine mild dry days, particularly when the heat of the bed is considerable at the first appearance of the buds after the bed is framed.

This is also the proper period to examine the temperature of heat in the beds. When they have been made about three weeks, if but small beds, the heat will probably begin to decline considerably, which should be renewed by a lining of hot dung applied to the sides, if this is not to be omitted, particularly when the buds begin to appear through the half covering of earth, if there seem occasion for it; though beds of more considerable length seldom require lining till after the first breaking, or gathering of the buds, then adding good linings, they will maintain the beds in the due temperature from fifteen to eighteen days longer, which is generally as long as the roots continue yielding any tolerable produce. Mr. Nicol has however remarked, that he has seldom found it necessary to line asparagus beds; yet that sometimes in a form it may be requisite. This, when necessary, should therefore be done with caution; and never more than one side of the beds at a time. Let the dung for this purpose, say he, be prepared in the same manner as for a bed at first; then cut, with a sharp blade or dung knife, the part you intend to line, perpendicularly by the side of the frame; reject the tan and slat, and use the rest along with the new dung, unless very much wasted; from twenty-four to thirty inches will be a sufficient breadth for the lining; raising it to about six inches above the bottom of the frame, and observing to tread it well towards the old dung, giving it a considerable slope on the outside, which naturally makes it lean that way. If the lining should raise too great a heat in the bed, or cause a smear, draw it off as directed above; and when it has done subduing, let it be turfed in the same way as the bed was. In respect to water, he says, he has frequently produced a whole crop of asparagus without either earth or water. This, however, is not always the case, nor is it definable; as if a little water is not required, the dung must be in too moist a state, and consequently too much noxious vapour must have attended the whole process. It will be advisable, however, to keep the beds, from the little fun there is, to be sparing in the use of that element at this season of the year.

The asparagus is mostly in a situation to be cut about five or six weeks after the planting of the beds, or when the plants are advanced five or six inches above the surface of the earth with which the beds are covered. In gathering the shoots in hot-beds, it is the best method to break them off as close to the bottom as possible, by thrusting the fingers and thumbs down into the beds.

Asparagus Draca. See Dracaena.
Asparagus Scandens. See Mediola.

Asparagus was also used, by the ancient Greeks, to express not only the young shoots of the plant of that name, but any other young sprouts of an eatable plant. The sprouts of the several kinds of cabbage were particularly expressed by this word, or sometimes by the compound term cram- afaragur.
Conjunction, and opposition, are the two extremes of the aspects; the first being the beginnings, and the second the highest or ultimate term.

The aspects are divided, with regard to their supposed influences, into benefic, malefic, and indifferent.

The quadrature aspect and opposition are reputed malefic, or unfriendly; triune and textile, benefic or friendly; and conjunction, an indifferent aspect.

To the five ancient aspects, the modern writers have added several more; as decile, containing the tenth part of a circle; tridecile, three-tenths; quintile, a fifth part of the circle; and biquintile, three-fifths, or two-fifths.—Kepler adds others, as he tells us, from meteorological observations; as the semi-textile, containing the twelfth part of the circle; and quindecile, containing five-twelths. Lastly, to the astrological physiognoemies we owe, albile, containing one-eighth; and virile, containing three-eighths.

The angle intercepted between two planets is the aspect of conjunction, if the two planets be on the same side of the interplanetary space, or if the one be behind and the other before the planet being considered. If the planets are on the same side of the interplanetary space, and the one be behind and the other before, the aspect is that of opposition.

The angles, or intervals, are reckoned on the secondary circles, or according to the longitudes of the planets; so that the aspects are the facts, whether a planet be in the ecliptic, or out of it.

The aspects are also divided into partile and platoe.

ASPECTS, Partile, are when the planets are just so many degrees distant, as is above expressed. These alone are the proper aspects.

ASPECTS, Platoe, are when the planets do not regard each other from those very degrees; but the one exceeds as much as the other falls short. So that the one does not seek its rays immediately on the body of the other, but only on its orb or sphere of light.

Aspect, Double, is used in painting, where a single figure is so contrived, as to represent two or more different objects, either by changing the position of the eye, or by means of angular glises.—Influences hereof, see under the articles Anamorphosis, Catoptric, Cistula, and Miroere.

Aspect, in Gardening, is used for what we otherwise call exposure.

Aspect, in Military Language, is applied to a country and to an army thus; a country is said to have a military aspect, when its general situation presents appropriate obstacles or facilities for an army's acting on the offensive or defensive. An army is said to hold a menacing aspect, when by advanced movements or positions it gives the opposing army reason for apprehending offensive operations. An army is said to have an imposing aspect, when it appears stronger than it really is; and this aspect is assumed for the purpose of deceiving an enemy, and serves as a kind of feint in war.

ASPEN-TREE, in Planting, a species of the poplar, having small roundish leaves with an angular incisure, and smooth surfaces on both sides. According to Marshall the leaves of this tree stand upon long, flat, slender footstalks, which render them liable to be shaken by the least wind; whence it has been called the trembling poplar or aspen-tree. This tree will grow on most kinds of soil, but may be cultivated to the greatest advantage on such as are inclined to be moist, without having much stagnant surface water. In such situations, they will sometimes grow to a considerable size. They may be raised in the same way and with equal facility as the common poplar. The wood of the aspen-tree is light, porous, and open; consequently of little value as timber.
timber. From its lightness, it might however probably be used to advantage for the purpose of common field-gates, hurdles, and other similar uses. In Mr. Marshall’s Treatise on Planting, it is represented as wholly unfit for being let in such grounds as are intended to be kept for pleasure, on account of the great number of succours that are annually thrown up by it. See Populus.

**ASPENII**, in Ancient Geography, a people of Pamphylia, who inhabited the town of Apseus. They fortified their town in order to dispute the payment of the tribute which they had promised to Alexander; but he marched against them, and compelled them to submit; and afterwards doubled the tribute which he had at first demanded.

**ASPENDUS**, a town of Pamphylia, situate upon the Euremedon, at the distance of 60 stadia from the sea, according to Strabo, who says that it was well-peopled, and that it had been founded by a colony from Argos. In M. D’Anville’s map, it is placed between Perga and Sida.

**ASPER**, or **SPIRITUS ASPER**, in Grammar, denotes a character, or accent, in form of a η, placed over certain letters, in the Greek tongue, to shew they are to be strongly aspirated, and that the breath is here to supply the place of an η as ηευς water. The spiritus affer, or that mark which corresponds to the letter Η, was undoubtedly in use among the ancient Greeks. Their Η was at first a spiritus affer, and was taken from the Hebrew ת, and was retained in the same figure Ӄ in Latin. The Greek Η was used in ancient monuments, instead of a spiritus affer, and the same letter stands for 100, because they wrote the word ἵκατον, thus, HEKATON. Nevertheless, the ancient Greeks did not judge it necessary always to express this aspiration upon their monuments. Thus upon a medal of the Tyrians we find 1ΕΠΑΚ. Hence it is very doubtful, whether this aspiration was in common use in the time of the apostles; and it becomes much more doubtful, when we consider, that the most ancient versions so frequently confound ηευς with ηευς, that both words seem to have been written without an aspiration. Martin’s Michadis, vol. ii. p. 522. See ASPIR.

**ASPER, or ASPER**, in Commerce, signifies a small Turkish silver coin, wherein most of the grand signior’s revenues are paid.

The affer may be estimated at 6 deniers (one farthing). — The only impression it bears is that of the prince’s name under whom it was struck. — The pay of the janizaries is only distributed every three months, and has a progressive increase from 3 aper to 99; and 99 aper are equivalent to 391 sous, or about two-thollings and three-farthings. But from an estimate made of the respective currency, the course of exchange reduces it to 39 sous 6 deniers (13, 7d. ¾); though this calculation is much above the intrinsic value of this coin.

**ASPER**, in Conchology, a species of **Murex** described by Martin, (Conch. 4. 1. 1525.) It is the largest oyster, and, when fresh, is a large, white, shiny, oval shell, with a red, brown, or black body. In the Gmelinian Syllaena Nature, there is also another species of **Murex** under the same name, which is a native of Guinea; the whorls of the siren are fulcated transversely, inflated, and muralcous; and the tail (or beak) ascending. The colour is milky white, with rows of brown dots; solid, with from twelve to fourteen furrows; aperture rather oval; and a single piait on the pillar lip. Gmelin.

The first species belongs to the section Caudigeria, cauda tubularia cauda recta elongata, tertia inermis (or murices, with tubulate, straight, elongated, and closed beak, and shell margin); and the second to turriti sphen; cauda breviflora (murrices tapering, tubulate, and furnished with a very short beak).

**ASPER**, a species of **Trochus**, figured by Chemnitz, the native place of which is unknown. The shell is oblong; whorls round, with many rows of tubercles, fulcated and inflated transversely; pillar-lip dentated; aperture lunated. This kind is of the middle size, chesnut, or taffaceous; lip plaited and rugose within.

**ASPER**, in Entomology, a species of **Cerambyx** (Stenocerus Fab.), a native of Italy, and figured by Sulzer. It is black, rough, thorax armed with two spines; wing-cases tuberculated in the middle. Sulzer, &c.

**ASPER**, a species of **Scarabeus** found in Europe; the head and thorax are grooved transversely; wing-cases spined. Fabricius, &c.

**ASPER**, a species of **Cancer** found on the British coast. The thorax is heart-shaped, spinous; two spines on the prothorax; legs and arms spinous.

**ASPER**, in Ichthyology, a species of **Perca**. It is falcated with yellowish, and has thirteen rays in the second dorsal fin. Johnston, Ray, and others, call this asper plicculus; and asper plicculus, gobioincus fundus.

**ASPERA ARTERIA**, in Anatomy. See Arteria Asp.

**ASPERSA**, in Conchology, a species of **Tellina**, about an inch and three quarters in length, and three inches in breadth. This shell is pointed at one end, yellowish within, and externally radiated, and rough, with transverse lines. Gmelin. Country unknown.

**ASPERRANA**, in Entomology, a species of **Phalena** (Trionix), found in the vicinity of Hamburg, and other parts of Europe. The anterior wings are white at the base, brown at the tip, and rough. This insect belongs to the Tortex section in the Linnaean and Gmelinian arrangements; in that of Fabricius to the section Pyralis.

**ASPERRILLA**, an European species of **Phalena**, of the *Tinea* tribe. The anterior wings are whitish, emarginate at the tip, with two common black spots. This is phalena linea alba albidis; macula communis feca, apicibus nigro punctatis reticulatis of Linn. *De Inf.*

**ASPERVERAE**, in Geography, a small town of Holland in the country of Gorkian or Arkel, seated on the Linge, two leagues north-east from Gorkum, and five south from Utrecht.

**ASPERSIONELLOS**, in Botany, the name given by Micheli to that genus of mosses called by Dillenius and others, *bifflis*.

**ASPARGILLUM**, in Antiquity, a long brush made of horse-hair, fixed to a handle, whereby the fuital water was sprinkled on the people, in lustrations and purifications. Horrey Brit. Rom. lib. ii. cap. 1.

This is also denominated *aspergile*, and *asperforium*. The ancients, instead of a brush, made use of branches of laurel and olive. It is also used in Ecclesiastical Writers, to denote the instrument, in Romish churches, wherewith holy water is sprinkled.

**ASPERSIFOLIOUS**, in Botany, one of the divisions or classes of plants in the Fragmenta Methodi Naturalis Linnaei; so denominated, because they are usually rough-leaved. According to Mr. Ray, these plants make a distinct genus, the characters of which are, that the leaves stand alternately, or without any certain order, on the flanks; the flowers are monopetalous, but they have the margin cut into five divisions, sometimes deep, sometimes shallow; and the upper spike or top of the plant is often curved back, something like a scorpion’s tail.
In the place of each flower, there usually succeed four seeds; Mr. Ray supposes the cerinthe the only plant of this genus that hath less than four seeds at the base of each flower; this indeed hath but two.

To the clafs of herbs alpephilofia, referred in the Linnean system to the monopetalous tetrapermous dilinition, under the clafs of pentandria and order of monogynia, belong the pulmonaria, cyngofloum, borage, anchula, echium, heliotropium, lathifpernum, cerinthe, heliotropium, mylotus, symphytum, onofia, aperugo, lycopsis, paran, tournefortia, and melchioria.

They all possess the fame general virtues, and are called glutinous and vulnerary.

ASPERITY, implies the inequality or roughness of the surface of any body; by which some parts of it are so much more prominent than the rest, as to hinder the hand, &c. from passing over it with ease and freedom.

Asperity, or roughness, stands opposed to smoothness, evenness, politure, &c.—From the asperity of the surfaces of contiguous bodies arises friction.

According to the relations of Vermaufen, the blind man is famous for distinguihing colours by the touch, it shou'd appear, that every colour has its particular degree and kind of asperity. He makes black the roughest, as it is the darkest of colours: but the others are not smoother in proportion as they are lighter; i.e. the roughest do not always reflect the least light: for, according to him, yellow is two degrees rougher than blue, and as much smoother than green. See Colours.

ASPENATA, in Entomology, a species of Phalena, of the geometra family, described by Linnaeus. The wings are whiti; anterior margin subferrugineous. Inhabits Europe. Muf. Leil. Gmel. &c.

ASPEROSA, in Geography, a town of European Turkey, which is a bishop's see, seated on the north-east of the Archipelago, and not far from the island of Taffo, opposite to the northern point of which is a cape of this name. N. lat. 40° 58′. E. long. 24° 20′.

ASPERRIMUS, in Conchology, a species of Murex. The shell is brown, varied with yellow and white, and ribbed; whors oblique, with a tuberculated margin; a brown band in the middle, and another of white; tail short, dilated, and acceffing; length about two inches. Gmelin, &c.

ASPERSA, is a species of Helix that inhabits Italy. The shell is subimperforate, rather globose, pale yellow, with four rafous bands interrupted with white spots; lip white. Müll. Gmel. This kind is from an inch to an inch and a half in diameter; fibroflage, with minute impreffed dots; rarely white; whors four, and the aperture elongated. The synonyms, quoted by Gmelin, are very doubtful, if not incorrect.

ASPERE, in Natural History, a species of Ascidia, described by Müller, Zool. Dan. as a native of the Norway sea. This is rather compreffed, and somewhat rough, white, bag spotted with red. Adheres to sea-weeds; is heart-shaped; skin peUucid, and smooth within; bag yellow.

ASPERSED, in Heraldry, a term sometimes used instead of powdered or flowered.

ASPERISION, formed of the Latin apergere, to sprinkle; of ad, to, and spergo. I scatter, the act of sprinkling with water, or some other fluid.

Some content for baptism by aperfor, others by immersion.

ASPERSEIRICH, in Geography, a town of Germany, in the archduchy of Austria, five miles to the south-east of Peyrbach.

ASPERSTORFE, a town of Germany, in the archduchy of Austria, two miles north-east of Sonneberg.


Species. i. A. proculum, procumbent aperugo, or German madwort. Hud. 82. With. 231. Smith Brit. 220. Flora Dan. 552. Eng. Bot. 651. “Calyx of the fruit flat.” Root annul, small, attenuated; flas procumbent, angular, rough, leafy; leaves opposite, ascending, oblong, rough; flowers axillary, solitary, pedunculated, fmall, blue; calyx of the fruit large, comprefied, fhoie, reticulated, with a fetaeous margin, concealing the feeds. It grows among rubifh in roads, &c. flowering in April and May. Small wild buglows, or borrago, great goode-grafs, are alfo names under which it has been known. 2. A. egypfiato, Egyptian aperugo. Jacq. Hort. v. 9. t. 21. “Calyx of the fruit, swelling.” Root annul; flas eight inches high, with diverfifying hispid branches; leaves broad-lanceolate, alternate, befet with rough hairs; flowers yellow, all directed the fame way, on thick falks. A native of Egypt, flowering from June till August.

Propagation and Culture. The fecond, or Egyptiania species, may be raised from seeds fown in a temperate hot-bed. The plants will flower in the open air in fummer, but they muft be houfed in winter.


Species. i. A. odorata, fweet woodruff or woodroof. Hud. 66. With. 185. Smith Brit. 172. Curt. Lond. f. 14. t. 15. Flor. Dan. 562. Eng. Bot. 755. “Leaves eight in a whorl, lanceolate; flowers fpacefied, pedunculated; fruit hispid.” Root perennial, creeping; flas erect, fimpie, fMOOTH; leaves fen, nine, but most commonly eight in every whorl, elliptic-lanceolate, rough at the edge; panicles terminal, trifid, or dichotomous; flowers white, fometimes sweetfented, about four; fruit rouf, with fetaeous hairs. When recent, the plant is notorious; but on being dried, it is very fragrant like vernal grafs. It grows in woods, flowering in May. 2. A. arvenfis, blue woodroof; “leaves fix in a whorl; flowers fimple, terminal, aggregate.” Root annual, fponder; flas a foot high, roughfhit, jointed, dichotomous; leaves linear-lanceolate, beneath whitifh with hairs; a close umbof of fiffle flowers terminates the fem and branches; flowers blue. A native of the south of Europe, flowering in July. It was introduced here, in 1772, by M. Richard.
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Richard. 3. A. turina, broad-leaved woodrood; "leaves four in a whorl, ovate-lanceolate; flowers in terminal branches." Root perennial, woody; stems a foot high, branched; leaves hairy, serrated; peduncae one or two; bracts elliptic. A native of the mountains of Switzerland and Italy, flowering in June. It was cultivated by Miller in 1739. 4. A. cristatella, thick-leaved woodrood; "leaves four in a whorl, oblong-lateral, revolute, blimth, pubescent." Stems alternately branching; leaves the length of the internodes; the whorls on the branches more remote, and leaves narrower, unequal; flowers few, in upright terminal branches, pubescent on the outside. A native of Crete and the Levant, flowering in June. Introduced here by Moss. Thunb. in 1775. 5. A. calabria, Calabrian woodrood, L'Herit. fl. & fr. nov. 2. 63. t. 32. "Leaves four in a whorl, olivoid, obtuse, smooth, and even." A much-branched, a cubit high, glabrous, deciduous. Leaves linear-lanceolate, one-served; there is a short sharp upright fimbria between the leaves, half embracing the stem; flowers three or four, in terminating corymba; bracteae two-leaved, acute, enclosing a little below the germ. A native of Syria. The fimbria of this sufficiently distinguishes it from the other species. 6. A. inornata, narrow-leaved woodrood; "leaves linear, the lower six, the middle four, in a whorl; stem fuscous; flowers generally trinod." Stem branching, procumbent, three feet in length; leaves resembling those of wild thyme; peduncles from the axils of the leaves, forming little umbels; flowers white; seeds smooth. The roots are used in Gothland for dying wool of a red colour. A native of Sweden, Germany, Switzerland, &c. Cultivated by Mr. James Gordon in 1764. 7. A. pyrenaica, Pyrenean woodrood; "leaves four in a whorl, lance-oblong-linear; stem erect; flowers generally trinod." Root perennial; stems fix or seven inches high; leaves keeled, acute, smooth; lower ones shorter, more obtuse, lanceolate; upper and floral leaves opposite, broader; flowers red. A native of the Pyrenees, and about Basil. 8. A. cynanchica, squinancy-wort, or small woodrood. Huds. 66. With. 186. Smith Brit. 175. Eng. Bot. 33. Rubicola vulg. &c. Ray Syn. 225. "Leaves four in a whorl, linear; the upper ones very unequal; flowers all quadrifid; fruit smooth." Root perennial, fibrous; lower leaves in fours, on the branches obovate; upper leaves linear, and those near the top very unequal, so that the intermediate pair seem diminished into fimbriae; umbell terminal; corollas of a fresh colour, marked with red lines, fragrant; fruit smooth. It grows in England on warm banks, affecting a calcareous soil. 9. A. crista,i, or cristate woodrood; "leaves linear, rather flatter; lower ones four in a whorl, flowers suberect awned." Stem upright; flowers pale, yellowish, placed parallel, divisions bluntly awned. A native of the south of Europe. 10. A. pectinata, thinning woodrood; galium rotundifolium, Jacq. Adl. i. 58. t. 94. "Leaves four in a whorl, elliptic, terete, smooth, pinnate deciduous, trichotomous; seeds roughish." Stem fimbriae, smooth, spreading; leaves subpetiolate, obtuse; flowering branches horizontal, bifid; flowers two, small, lanceolate; flowers white, usually in twos. 11. A. hexaphylla, fix-leaved woodrood, Alston Ped. i. 77. "Leaves fix in a whorl, linear; flowers umbellated, terminal, subumbellate." Root perennial; stems generally fimbriae; leaves acuminate, flat; umbels accompanied with ten or twelve leaves; corollas purple, white within; segments a little revolute; seeds oblong, compressed. It grows in the fillures of rocks near Tarentum. Propagation and Culture. All these plants being perennial, except the second, may be increased by the roots as well as by the seeds. The first will prosper under the shade of shrubs in wilderseas quarters. The fifth must have the protection of a green-house, and does not continue many years; but may be increased both by seeds and cuttings. The eighth growing naturally in chalk, and most of the others being natives of rocks, must have a dry open situation. Marien's Miller's Diet.

ASPERSUM, in Conchology, a species of Buccinum, about an inch and an half in length. It is figured by Liiter, but its habitat is unknown. The whorls of its spire are ribbed, and fringed transversely; the siphon is gibbous, and the tall (or beak) rather prominent. Cinem, &c.

ASPET, in Geography, a town of France, in the department of the Upper Garonne, and chief place of a canton in the district of St. Gaudens; two leagues south-east of St. Gaudens. The place contains 3295 inhabitants: the territory includes 259 kilometres and 18 communes.

ASPETYLLA, a town of Spain, in the province of Guipuscoa, seven leagues from St. Sebastian.

ASPHALITES, in Anatomy, the fifth vertebra of the loins. It is thus called, because conceived as the support of the whole spine of the loins; from the privative α and σπαλλε, I supplant.

ASPHALITIC LAKE, in Geography, a lake of Palatinia, so called from the great quantity of bitumen, called asphaltum, which it produces. It has also been called the Dead Sea. From a supposition that no fishes will live in it, and that birds, which have attempted to fly over it, have been suffocated. From its situation, it has been denominated the Salt Sea; and distinguished by other appellations, as the Sal The, the Sea of Sodom, the Sea of the Desert, and the Sea of the Plain, by the sacred writings. Its origin has been ascribed to the submersion of the vale of Sihon, where once stood, according to common report, the three cities which perished, in the miraculous conflagration, with those of Sodom and Comorrah. These cities have, on account of their number, been called Pentapolis. Strabo, however, on the authority of an ancient and received tradition, reckoned thirteen of these cities, of which Sodom was the capital; and he adds, that they were overthrown by a violent earthquake occasioned by subterraneous fire, that threw up this great and sulphureous lake, in which all those cities were swallowed up. Josephus likewise affirms, that in the overthrow of Sodom, this vale became the lake Asphalite. It has been said, that the ruins of these cities are still to be seen in clear weather; and we likewise read of apples that grew about it, fair without, but bitter to the taste and filled with ashes, which added to the deadly nature of its water and fumes, afforded another evidence of the divine indignation. Some of the circumstances that have been recited concerning this lake, and which have long obtained credit, have been contradicted by the testimony of more modern travellers. Although it was long thought that nothing would sink in the waters of this lake, and that no animal could live in it, yet Dr. Pococke affirms us, that much as their specific gravity is augmented by the salt with which they are impregnated, several periwinkles, and among others this writer himself, swam and dived in this lake, and birds have flown over it with safety. It is possible, indeed, that the specific gravity of the water of this lake may have been diminished since the experiments made by Vepianus, and recited by Pliny (N. H. i. v. c. 15), because great quantities of the bitumen have been collected and removed, and this lake has been supplied with copious streams of fresh water. Mr. Kirwan says (Analysis of Mineral Waters, p. 144.), that the heaviest water of which he has met with any account is that of this lake. Lavoisier found...
found it 1.24c; and that it contained 44.4 per cent. of fatty matter, of which 62.75 parts were common fat, and 51.78 a kind of bituminous matter and glutinous magnesia. See Merian, 1778, p. 65. From these facts the water derives its bitter taste; and the bitumen which floats upon the surface of this lake, and which arises from its borders or its bottom, does not communicate to it any quality. As to the fact which it produces, the Arabs furnish themselves with large quantities by digging pits about the shore of the lake, filling them with water, and leaving them to be crystallized by the sun. As to the bitumen, which gave name to this lake, it is said to have thrown up great quantities of it, and that it is much valued by the Egyptians and the inhabitants of other countries for the purpose of enclosing dead bodies. Indeed Josephus affirms us, that Remondus in unis was so anxious without its head, and even of a larger size. Mr. Maundrell says (Journey, p. 84.), that there was no bitumen in the place where he happened to be; but that it is gathered near the mountains on both sides in great plenty. Pococke, however (Travels, p. 56), observed it to float on the surface of the water, and after windy weather to be found on the shore, where the Arabs gather it for the purpose of applying it to the same use with common pitch; and Dr. Shaw (Travels, p. 34.) informs us, that he was assured that the bitumen is raised at certain times from the bottom of the lake in large bismuthes, which, as soon as they touch the surface, and are acted upon by the external air, burst at once with great smoke and noise, like the pulvis fulminentum of the chemists, and divide themselves into a thousand pieces. This, he adds, only happens near the lake; for in great depths, the eruptions are supposed to discover themselves in such columns of smoke as are now and then observed to arise from the lake. This bitumen is described by the Arabs under the name of bitumen, and not to be distinguished from it except by its fulminating and solid smell, occasioned either by friction or by being set on fire. Some persons have confounded it with a blackish combustible stone thrown on the shore, and sometimes called "Mofab's stone," which held in the flame of a candle, will soon burn, and emit a smoke and intolerable stench. Whilst its weight is much diminished, it retains its bulk, and becomes of a whitish colour. Dr. Pococke observes, that these stones are found about two or three leagues from the shore; and he supposes, that a fragment of this kind of stone under the lake is probably one part of the matter that feeds the subterraneous fire, and causes the ebullition of the bitumen.

Mr. Maundrell informs us, that he saw several birds flying about and over this sea without any visible harm; and he supposes that the tradition which reports, that no animals can live in these waters is false, as he observed among the pebbles on the shore two or three shells of fith resembling oyster shells, which were cast up by the waves. He surveyed the waters with attention, in order, if possible, to discern the ruins of the abandoned cities, but he failed in his attempts to discover them; he was told, however, by two aged persons, not defective of understanding or probity, that they had once actually seen one of these ruins near the shore, and the waters being shallow, they went to it, and found there several pillars and other fragments of buildings. As for the apples of Sodom, Mr. Maundrell neither saw nor heard of any; nor was any tree to be seen near the lake from which such kind of fruit might be expected. A late traveller, Mr. Vinney (Travels in Egypt and Syria, vol. i. p. 210.) says, that this lake contains neither animal nor vegetable life. Nevertheless, when here perceived on its banks, nor are fish to be found in its waters; but it is not true, adds the writer, that its exhalations are pestiferous so as to destroy birds flying over it. It is very common to see swallows skimming its surface, and dipping for the water necessary to build their nests. The red crust which deprives it of vegetable and animal life is the extreme depth of the water, which very much exceeds that of the sea; the fall of it, is so great, that it is impermeable to vegetation, and hence proceeds the deathly aspect which reigns around this lake. The origin of this matter (says Mr. Volney) may be only discovered; for on the south-west there are masses of fossil块, which are fitted in the sides of the mountains extending along that border, and which have, for time immemorial, supplied the needful burning fuels, and even the city of Jerusalem. On this lake are also found fragments of flight of bitumen, which the Arabs convert into a useful article of commerce. There is also found a fort of rock, which, with fritillary, is a curious smell, burns like bitumen, works as a pitch like white lead, and is used for the purposes of course and East red sand, may likewise be used for a black ink, which has been made for months and centuries, and which puts up ignorant and supposititious stories for monuments of the invention of Lord, wife. Dr. Shaw well informs us that on the west side of the sea is a small crater, from which issued the monument of Lord's invention, but that part of which, as he was told, was visible at this time. But he had neither faith enough in the report of his informer, nor sufficient leisure for examining the truth of this fabulous relation. One remarkable property of this lake remains to be mentioned; and this is, that though it receives the Jordan, the brooks of Jabesh, Kibron, Annon, and other springs, which rush down from the adjacent mountains, yet it never overflows; this circumstance has led some naturalists to imagine that there is a subterraneous communication between this lake and the Mediterranean, or the Red Sea. But no gulf of this kind has been discovered; nor, indeed, is it necessary to recur to any hypothesis of this kind; since it has been demonstrated by accurate calculations that evaporation is more than sufficient to carry off the waters with which the lake is supplied. This evaporation is, in fact, very considerable, and frequently becomes sensible to the eye by the foggs with which the lake is covered at the rising of the sun, and which are afterwards dispersed by the heat. This lake is included on the east and west by very high mountains; on the north it is bounded by the Kalm of Jericho, which side it receives the waters of Jordan; on the south it is open and extends beyond the reach of the eye. De Bell. i. liv. c. 13. De Bell. i. liv. c. 15. This lake the length of 500 furlongs, from the mouth of Jordan, to the town of Seor or Zehel on the opposite shore, or about twenty-two leagues; and a breadth of about 150 furlongs, or five leagues; but Mr. Maundrell ubi supra, p. 84) says, that it is twenty-four leagues long, and six or seven broad.

ASPHALTUM, in Mineralogy, denotes a kind of bituminous stone, found near the ancient Babylons, and lately in the province of Neufchatel; which, mixed with other matters, makes an excellent cement, incorruptible by air, and impermeable by water; this was supposed to be the mortar so much celebrated among the ancients, where with the walls of Babylon, and the temple of Jerusalem were cemented.

It yields an oil which defends ships from water, worms, &c. much better than the ordinary composition; and which is also of good service for the cleansing and healing of ulcers, &c. See Mineral Parvus.

ASPHAX, in Ancient Geography, a nation of the Isle of Cyprus, Steph. Byz.

ASPHODELUS, in Botany, asphodel or king's-spear.
SPECIES. 1. A. latens; yellow asphodel, or king's-spear, Jacq. Hort. 1. 52. t. 77. "Stem leafy, leaves three-sided, lined." Root composed of flaky long thick tubers; stalks round, simple, about three feet high, and wholly covered with long triangular boat-shaped leaves. The upper part of the stalk is crowned with yellow star-shaped flowers, which open in succession, about the beginning of June. Peduncles one-flowered, arising from the axil of the bracts, which are membranaceous, thin, whitish. The corolla has a sweet smell, and is so deeply divided as not to seem monopetalous, and the divisions or petals are alternately narrower. It is a native of Sicily. 2. A. ramans; branched asphodel. Villar's Dauph. 2. 255. Murray in Com. Gott. 1776. 37. t. 5. 2. A. albus. Mill. Dict. n. 3. "Stem naked, leaves eniform, keeled, smooth." Root composed of many tubers and fibres; leaves long, flexible, sharp at the edges, growing in irregular clusters from the crown of the root; stalks three feet high, budding off naked branches, from the upper part of which arise many star-shaped flowers, which are white, with a longitudinal purple line along the outside of each segment. A native of the south of Europe. 3. A. filifolia; onion-leaved asphodel. Gertr. Fr.rec. t. 68. Gourn. Hort. 174. "Stem naked, leaves stiff, tubulat, striated, subflabulat," annual; roots consist of many flaky yellow fibres; leaves in a large cluster from the crown of the root, convex on their under side, flat above and hollow. Flower stalks rise immediately from the root, and grow to the height of two feet, dividing towards the top into three or four branches, which are adorned with white flary flowers, having purplish lines on the outside; these come out in July and August, and their roots ripen in October. A native of the south of France, Spain, and the island of Crete. Sopolli has described and figured another species, which he named aphodesibus libertinus; it has yellow pendulous flowers, flecked with five brownish lines, and has flaxen-coloured filaments. It was found in Iberia by Mygind. See Flor. Carn. n. 411. t. 12. The three former species were cultivated by Gerard in 1596.

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PROPAGATION AND CULTURE. The first species multiplies very fast by roots, and will soon overgrow a large border, if suffered to remain undisturbed. The second does not increase very rapidly by roots, nor should it be often transplanted, for that will weaken it; therefore the best way is to propagate it by seeds. These asphodels are pretty ornaments in a garden, and requiring very little trouble to cultivate, are rendered more acceptable. They may be propagated by seeds which should be sown soon after they are ripe, on a warm border of light fresh earth; in the spring the plants will appear, when they are to be carefully cleared from weeds, and in dry weather frequently watered, by which means the plants will be in a proper state to be transplanted the Michaelmas following. A bed must then be prepared in the overseer nursery of fresh earth, into which you should plant the roots, at about six inches distance, and so deep that the top of the roots may be three or four inches under the surface of the bed; and some old tan or dung spread over the bed to keep out the frost. In this bed they are to remain one year, by which time the roots having acquired strength enough to produce flowers the following year, they should in autumn, when their leaves are decayed, be carefully taken up and transplanted into the flower garden, observing to place them in the middle of the borders among various kinds of flowers, where being properly intermixed, they will make an agreeable variety, and continue a long time in flower. The third kind is an annual, and can only be propagated by seeds which should be sown in autumn, and not removed till they have put out four or five leaves, when they are to be transplanted into the places where they are to remain. If the seeds of this plant are permitted to satter, they will come up without care, and those which are not removed will be the strongest, and produce a greater number of flowers. See Martyn's Hiller's Dict.

ASPHYLIA, in Medicine, a term which, in its literal sense, signifies a want of pullulation, being derived from a privative, and ἁπλος, sparse. It is used to denote apparent death, or those stupors which are produced by Cupid. a sopor and syncope; but in the system of Sauvages they constitute a distinct genus, under the above name. The last-mentioned nosologism has been too minute in his subdivision of this, as well as of many other diseases. The following appear to us to be the only legitimate species; viz. A. subf stimuli, apparent death from Drowning; which fee. A. jufp sinus, apparent death from Hanging; which fee. A. conglaterata, apparent death from exposure to extreme cold. This we shall notice here, as the most convenient place. In the northern latitudes, frequent instances occur, during the winter season, of persons being frozen to death. Before this event takes place, they are seized with a general numbness, and an irreducible propensity to sleep, followed by stupor, and insensibility. In this apparently lifeless state they lie for several hours, more or less, according to the intensity of the cold, and the previous condition of the body. They are, however, yet recoverable by proper treatment; which consists in taking off the person's clothes, and rubbing the body all over with snow, or dashling cold water upon it. The friction should be continued for many hours, until signs of life appear; when the patient should be wiped dry, and put into a cold bed, in a room without fire; he should have but few clothes upon him at first. When the power of swallowing is restored, a small quantity of white wine and water (two parts of water to one of wine) should be given in a tepid state; but on no account any spirituous liquors, such as brandy, rum, &c. Afterwards he may have tea, with a large proportion of milk, increasing the quantity of nourishment gradually. He should avoid a heated room for a day or two, as well as all strong drinks and seasoned food; otherwise a fever, or dangerous local inflammations, will be excited. Travellers or others who are about to be exposed to extreme degrees of cold, should be cautioned against the use of spirituous liquors, and every effort should be exerted by their companions to prevent them from falling asleep. For the treatment of partial injuries from cold, see the article Frost-Bitten. A. a carbonic (A. carbonica, as we would term it), suffocation from the fumes of charcoal, from the gas thrown out by fermenting liquors, &c. (i.e. suffocation from the carbonic acid gas.) See Suffocation. A. necy torum, apparent death of new-born infants. See Midwifery.

ASPICA, in Ancient Geography a river of Italy, in Picenum, north-call of Auxitium.

AS PIC,
ASPIC, Fr. in Artillery, a piece of ordnance, weighing 4250 lb., and carrying a 12 lb. shot.

ASPIC, in Botany, a plant which grows in plenty in Languedoc, in Provence, and especially on the mountain of St. Julian. It is a kind of lavender, nearly like what grows in our gardens; both with regard to the figure and colour of its leaves and flowers. The botanists call it made lavender, because it is a species of Lavandula, or spike nardus, Pseudonardus, &c.

ASPIC, Oil of. See Oil of Spikes.

ASPIDO, in Geography, a river of Italy, in the marquisate of Acasia: it rises near Polveriga, and runs into the Mulana, a little above its mouth in the Adriatic Sea.

ASPIDOPHORE, in Ichthyology, the name of a new genus of fishes in Lacépède's arrangement. This genus is composed of two species of Cottus, in the Linncean syltes called Calaphrubius japonicus, the former of which M. Lacépède names Pseudophorus armé, and the latter Pseudophorus lifrea. See Cottus.

ASPIL, in Aust. of Geography, a powerful people of India, whom Alexander defeated in a pitched battle near the river Euaphla. He had previously crossed this river, as well as the Choe; and after the battle he passed through the territory of the Garezi, and crossed the river Garezu, supposed by insig. Rennell to be the Kameh or Cabul river. This ingenious geographer conjectures, that the nations of the Apitl, Thyrei, and Aunasei were inferior divisions of the modern Cabul, and situated between the rivers of Ghizini and Cabul, at the height of Ijrab and Dukkham. Mem. p. 172.

ASPING, in Zoology, a name given by the inhabitants of Smoland to a venomous small snake, not more than six inches long, found in Oieties and Willow-holts, the bite of which is frequently fatal, and which is much dreaded by the Smolanders. It is the Coluber Chersea of Linnæus, with 150 abdominal scuta, and 34 subcaudal scales.

ASPIRAN, in Geography, a town of France, in the department of Herault, and chief place of a canton in the district of Lodève, two leagues north of Pezenas.

ASPIRATE, ASPERATIO, in Grammar, a character used to denote an aspiration. The aspirate, by the Greeks called spiratus aspiratus, and marked over their vowels, seems to be of a very different nature from the letters, but is nevertheless a true letter, as well as the reët, and a real consonant.—By letters we do not mean the characters of the alphabet, which are changeable according to the languages and the people, and among the same people, according to time and custom; and even according to the fancy of particular persons. Thus, some for instance, write the aspirates, or letters aspirated, which by others are omitted; though both the one and the other pronounce alike; as in haume, baume, an Italian word frequently written onoma, onomini. But by letters we mean articulate sounds, marked by them, and formed by the organs of speech, viz. the throat, mouth, tongue, palate, teeth, &c.

These sounds are of two kinds, the one simple, and the other compound, or modified. Simple sounds are those pronounced by a single motion of the organ, such are the vowels. Compound sounds are those same simple sounds modified by a motion of the organ, superadded to the motion necessary to pronounce the simple sound; of which kind are the consonants.

Now an aspirate is an effect or consequence of a motion made by some of the organs of speech; and therefore it must either be a vowel or a consonant. The former it cannot be, as not being a simple sound, it is impossible that it may be pronounced by itself. It must therefore be a modificative, or consonant; and in effect it has all the properties of one.

For, 18, It results from a motion of the organ, which of itself produces no sound. Thus the spiritus of the Greeks, our h aspirate, as well as that of the French, and other people, has no more found of itself than b, c, d, &c. and the same thing may be observed of the alphe, eth, and cep, of the Eastern languages.

20. On the contrary, our t, the spiritus of the Greeks, and the other aspirates just mentioned, are pronounced with all the vowels, in the same manner as consonants are. They modify those vowels, and are effects of a motion of the organ superadded to the motion necessary to form the vowel. Thus, to pronounce ha, two motions of the organ are required as well as for ba, or ca, &c. one for a, which itself is a sound; the other for b, which yields no sound, no more than h; but adds something to a which modifies it, and makes that h a not mere a, nor ba, nor ca, &c. and this must hold still more sensitively in the stronger aspirates, as those of the oriental tongues t, d, s, t, &c., in all which there are evidently two motions, the one to express the vowel, and the other to modify it: now this being the nature and essence of a consonant, it follows, that let them be denoted in what manner they will, whether as our t, as the oriental t, i.e. by proper characters in the course of the words themselves; or, as the Greeks do some of theirs, by a sign of aspiration placed over the vowel, it matters not. The aspirate is no less a consonant in 

{34} than in 

{35}; in 

{36} than in 

{37}; and so of others.

The third and last reason urged by form is, that the Eastern languages, which, according to them, do not express the vowels, do yet express the aspirates. This kind of argument feems, however, to be grounded on a mistake; since it is more than probable, that the 

{38}, 

{39}, 

{40} of those languages, should be ranked among the vowels, and were so used.

Add, that the aspirate is frequently changed into a consonant, and expressed by a consonant. Thus of is made for of the Hebrew 

{41} for the Hebrew 

{42} making no difference between 

{43} and an aspirate. Hence it follows, that aspirates are real consonants; and that we ought not to exclude the b in our language, out of the number of letters.

Other grammarians contend, that the b is founded only by a strong emission of the breath, without any conformation of the organs of speech, and consequently is no letter. See H.

ASPIRATION, the act of aspiring, i.e. of pronouncing any syllable, or word, strongly; with a good deal of breath, and vehemence.

This we do, for instance, in those words which have the letter b before them; as banogue, book, Holland, here, &c. whereas the like syllables are founded much softer and easier without the b; as car, cat, &c. See H.

ASPIS, in Ancient Geography, a town of Spain, north-west of Tircis and very near it on the same river.—Also, a town of Africa Propria, in 23° 20' N. lat. according to Ptolomy. —Another town of the same country, about 20° 20' N. lat. according to Ptolomy. Strabo places it in the Greater Syrtis, and says it is the best port of that coast. —Also, a hill or territory of Africa, in the promontory of Tapnitis, according to Strabo. —Also, a town of the Carthaginians, called Clypas. M. d'Anville thinks this to be the same with the former; but Ptolomy distinguishes them. —Also, an island of Aia, upon the coast of Aia Minor, between Tenedos and Teos. It was called, according to Strabo, Arconnis. —Also, a promontory of Ethiopia, near Egypt. —An island in the vicinity

ASPITHRA, a town of Achaia, in the country of the Sines. Ptolem. — Alto, a river of Achaia, in the same country.

ASPIUS, in Ichthyology, a species of Cyprinus, that inhabits the fresh water streams in most of the northern parts of Europe. Linn. in his Fauna Sueciae, describes it specifically as having fifteen rays in the anal fin, and the lower jaw longer than the upper one, and recurved. It grows to the weight of twelve pounds; is blackish above, and bluish-white on the sides; feeds on vegetables, worms, and little fish; spawns in March; flesh white, soft, fat, and well tasted. This is Cyprinus rapix ovatus subcompressus cardinalis, &c. of Leeb. Laccisculus argenteus, &c. of Klbh. and range of Gefner.

ASPLEDON, in Ancient Geography, a town of Bactria, north-east of Orchomenus, from which it was separated by the farn river Meaxis.

ASPLENIUM, in Botany, spleenwort (said to be derived from a and πημε, because it was supposed to dry upon the spleen). Lin. p. 172. Schreb. 1611. Lingua cervina, trichomanes Tournef. Clas. cryptograma filices. General Char. Fructifications dispersed in right lines along the under side of the frond.

"Frond simplicissimis foliis." Speciosus, t. A. Athophyllum. root-leaved spleenwort, Phyllitis Phlik. Alm. 154. t. 105. f. 5. Morr. Hill. 2. 537. 9. f. 14. t. 1. f. 14. "Fronds cordate-ovatif undivided, top frill, rooting." Root fibrous; fronds triangular acuminate, point long hairs; at the base followed, varied, on long fructstocks; fructifications irregularly dispersed over the whole disc of the leaf in oblong spots; the ends of the fronds bent down to the ground, and there frisking root. A native of North America. Introduced here by Mr. Bartram in 1764. 2. A. leniolius, whole-tongue spleenwort. Lear, Cochbn. 667. "Fronds simple, cordate-lanceolate, frill-edged, entire; frills smooth and even." It riles about six inches in height, and nearly resembles No. 1. (tart-tongue), but the longitudinal diameter of the frond nearly exceeds the transverse one; the frills are slender in tufts; the lobes of the fronds are sublinear, unequal; fructifications in oblique lines. A native of the south of Europe. Introduced here in 1779. 3. A. fistuliferum, tart-tongue spleenwort. Hudf. 451. With 2. 51. Lightf. 660. Curt. Lond. t. 67. Bolton Fil. t. 13. t. 11. Wood. Med. Bot. t. 272. The varieties are &c. phyllitis crista. Bach Hill. t. P. F. Lingua cervina maxima, umbilifolium angulo perfin. Phlik. phyt. 2. Lingua cervina, multifo. f. Bach. phyt. 1. P. F. Lingua cervina, minor crista, f. multifo. f. Bach. Phlik. phyt. "Fronds simple, cordate-lanceolate, quite entire; frills hirsute." Root black, hard, hairy, furnished with numerous fibres; frills and lower part of the mid-rib covered with chaffy scales; fronds from four inches to a foot long, and from an inch to two inches broad, lanceolate, rounded, and hollowed at the base of a stem tough texture, and at a shining green on the upper side, and more or less waved at the edges; fructifications in parallel lines; these are at first covered with a pale brown involucre, which bursts when the capsules fall; they then appear globular and brown, and each is furnished with a yellow oblong ring, by which the seeds when ripe are forced out of the capsule and dispersed to a considerable distance. It grows commonly on old walls, rocks, and in shady places. This plant, like some others of the same genus, was formerly used to strengthen the viscera, relieve haemorrhages, and abuse flexes, expel gravel, and open obstructions of the liver and spleen; but its medicinal qualities are now little valued. It is one of those termed the five capillary herbs. 4. A. nidus, bird's-nest spleenwort; "fronds simple, lanceolate, quite entire, smooth." Leaves two feet long, broad, thin, thick, smooth, thread-like; fructifications in parallel lines, extending one-third of the breadth of the leaf. It roots into the top of trees; the leaves come out in a circle, and form a kind of umbel, in the middle of which birds make their nests. A native of Java and the Society isles. 5. A. foratum, furred-leaved spleenwort. Phyllitis, &c. Sloan. Fam. t. 72. n. 5. "Fronds simple, lanceolate, furred, subacute," Root composed of brown fibres, which send forth eight or nine fronds about three inches long, gradually broader near the end, which is formed into a blunt point. A native of woods in the island parts of Japan. 6. A. plan- tigynum, plantain-leaved spleenwort, Brown. Jan. 92. "Fronds simple, ovate-lanceolate, subacute, frills quadrangular." The fronds rise from a thick fibrous root to the height of ten or twelve inches, with an even margin and a smooth frill. A native of Jamaica. 7. A. brownsi, lance-leaved spleenwort, Thumb. Japon. 335. "Fronds simple, elliptic, entire, frillis lanceolato; frills ovate-lanceolate; lines of fructification near the edge of the leaf, which is lanceolate. A native of Jamaica. 8. A. lirippe, double-leaved spleenwort, Lingua, cern. &c. Plm. fil. 116. t. 133. "Fronds pinnate; leaflets lanceolate, subulate, ciliate," Fronds all double, or composed of two equal similar leaflets, united at the base by a common membrane; the common peduncle forks a very little above the base, and forms the mid-rib. A native of South America.

"Frond pinnatissimus.


"Frond pinnatissimus.


13. A. trichomanes, common maid's-hair. Hudf. 452. With 2. 51. Bolton t. 22. t. 13. Wood. Med. Bot. 254. Eng. Bot. 556. "Fronds pinnate; pinnae roundish, crenate." Fronds about five or six inches long, lanceolate; frills and rachis smooth, glossy, blackish, purpl.; pinnae fifteen or twenty pairs, the lowest most remote, of an irregular oval figure, largest below; sinuate lines oblique to the mid-rib, three, four, or five in number. It grows in the crevices of rocks and walls, and in shady places among rocks. The leaves have been used in disorders of the breast proceeding from an acidity of the fluids, and also to promote the expectoration.
expectoration of tough phlegm, and to open obstructions of the viscus. They are usually directed in infusion or decoction, with the addition of a little liquorice. A syrup prepared from them is common in our shops, both as made here and imported from abroad; this latter has an admixture of orange-flower water. A little of these syrups, mixed with water, makes a very pleasant draught. 14. A. viride, green spleenwort. Hudf. 453. With 3. 52. Lightf. 663. Bolton Fil. 24. t. 14. Trich. colia viride, &c. Rain Syn. 119. 2. Trich. fol. eleganter incis. Tournef. Infl. 539. t. 350. f. 10. "Fronds pinnate; pinnas roundish, crested, truncate at the base." Pinnas eighteen or twenty pairs; leaflets sometimes alternate, rhomboidal, or trapezium-shaped. It is found on rocks in mountainous situations in the north of England. 15. A. ehrenbergi, ivory-tinted spleenwort. Ait. Hort. Kew. "Fronds pinnate; pinnas lanceolate, subfalcate, ferrate, crenated, ferrate, at the base; rile very glossy, simple." A native of North America. Cultivated by Dr. Pethergill in 1779. 16. A. dentatum, tooth-leafed spleenwort. Brown Jam. 93-5. Plun. Fil. t. 101. Pot. t. 2. f. 15. "Fronds pinnate; pinnas wedge-shaped, obtuse, truncate, entire." A native of South America, and the West Indies. We learn from Swartz, that the A. pygmaea L. is nothing more than the young plant of this species. 17. A. maximus, sea spleenwort, or dwarf sea fern. Hudf. With. Lightf. Bolton. 26. t. 15. Eng. Bot. 592. "Fronds pinnate; pinnas obovate, ferrate, gibbose, above obtuse, wedge shaped at the base." Fronds from three inches to a foot in length, but commonly five or six inches; riles smooth, reddish-brown; pinnas usually about twelve pairs, nearly rhomboidal, sometimes lanceolate, sharply crenate; lines of fructification four or five on each side of the nerve in an oblique direction. It grows on rocks on the sea coast. 18. A. calceolifolium, fiddle-leafed spleenwort. Plun. Fil. 42. t. 59. "Fronds pinnate; pinnas fiddle-lanceolate, galanthaceous, from the base downwards angulate." A native of Martinico. 19. A. echinosporum, Swartz. Obs. 399. Brown Jam. 92. Plun. alm. 9. t. 273-4. "Fronds pinnate, rooting at top; pinnas ovate, repand, somewhat crenated; very small ones remote, entire." About ten or twelve inches in length, with the top bending to the ground; the old plant is bipinnate. A native of Jamaica. 20. A. monanthum, one-celled spleenwort. Smith in ed. 3. 73. "Fronds pinnate; pinnas trapezium-shaped, obtuse, ferrate, entire; line of fructifications." Fronds numerous, linear-lanceolate, a foot high, often twilled; leaflets numerous, rather alternate, fiddle, line of fructification fiddle. The younger Linnaeus has conformed this plant with A. rectum. A native of the Cape. 21. A. rata moraria, wall-race, tent-wort, white spleenwort. Hudf. 453. With 3. 53. Bolton Fil. 28. t. 16. Eng. Bot. 150. "Fronds alternately decapomposed; leaflets wedge-shaped crenulate." Fronds three or four inches high, furnished at the end with two, or more commonly three alternate pinnas; they are short, broad, and somewhat of a rhomboidal figure; fructifications appear in two or three white dots on each side of the nerve. It grows on fillures of walls and rocks. 22. A. alterifolium, alternate-leaved spleenwort. Jacq. Mif. 2. 51. t. 5. f. 2. "Fronds simply pinnate; leaflets alternate, wedge-shaped, gahted above." Linnaeus regarded this as a variety of the preceding species, from which it differs in having the flens more simple, black at the base, with one or two short divisions only, having three leaves lobed and two-lobed; the other leaves are foliary; in the lower part of the leaf are two or three lines of a longish form. A native of Switterland and Austria. 23. A. odiuncum nigrum, black maidenhair. Hudf. 454. With. Bolton 30. "Fronds subtripinnate, leaflets alternate, pinnas lanceolate, galanthaceous, galanthaceous, galanthaceous, galanthaceous, galanthaceous, galanthaceous. Vol. III.


The following eight species are from Swartz.

wedge-shaped, pinnulas crose, toothed at the tip. 39. A. cicutarium. Swartz. 130. "Frons pinnae, very smooth, the upper one pinnatifid, leaflets lanceolate, entire." The fix last species are natives of Jamaica.
The following Species are from Forslender, and are all Natives of New Zealand.

41. A. lucidum. Forl. n. 427. "Frons pinnae; leaflets opposite, oblong-oblong, acuminate, verticillate. 42. A. po-

Propagation and Culture. Whoever is defirous of cultivating any of these ferns, must have walls or mounds or heaps of flou to set the hardy species in, or pots may be filled with humfy unduged earth, or sand gravel and lime rthritis for that purpose, placing them in the shade. Hart's-tongue, however, has been raised in pots; but all the pots may be increased by parting the roots. Some of the foreign species must be placed under a common frame in winter; and it is evident that such are natives of the West Indies and other hot climates, require the protection of a floue.

Asplenium. See Acrostichum, and Meniscium.

ASPOE, in Geography, a small island of Sweden, in the Baltic, two miles south-west of Carlston.

ASPOLA, in Ancient Geography, a municipal town of Aia Minor, in Galatia, in the road from Ancyrato Cefarea, according to Antonius's Itinerary.

ASPRONUM, a district of Aia Minor, near Per-
garamus; which, according to Strabo, was barren and flouy, and in which was a temple dedicated to the mother of the gods, called Apromis.

ASPAGGOMountain, in Geography, a high land of America, that lies on the promontory which separates Mahone from Margaret's bay, on the coast of Nova Scotia. This land, which is seen at a distance, is that which is generally made by the ships bound from Europe and the West Indies to Halifax. Its summit is about 500 feet above the level of the sea.

ASPA, a town of Italy, in the territory of the church, upon the river Aja, between Tivoli and Terni. It was formerly in the district of the Sabines, and called Cafferi, and Caffereta.

ASPRED0, in Ichthyology, a species of Silurus that inhabits the rivers in America. This kind has a single dermal fin, with five rays, and has eight cirri. Oml. The back is carinated, and the tail forked. Klein names it sauropa.
rises in Grafton, Worcester county, Massachusetts, and runs northward into Merrimack river.

ASSACANI, or Assaci in Ancient Geography, a people of India, who inhabited a country situated between Bazar, now Bijow, and Peacebottom, corresponding to the present Puckhool. The government of the country, when Alexander invaded it, was possessed by a woman, as Phatarah, Curtius, and Jullin agree; she was, as they say, the wife of Assacenus, and, according to the latter, her name was Cleophes. The Assaci, when they were attacked by Alexander, had, according to Arrian, (l. iv. c. 24, 25.) 20,000 Horse, 30,000 foot, and 30 Elephants, ready to take the field. Their capital was Maffaga, called by Curtius Magna, by Strabo Magosa, and by Diadomus Maffax, which Alexander took by assault, though he was wounded on the occasion, and repeatedly repulsed; and he then proceeded to.fummon Bazar, the capital of the next adjoining territory. After the capture of the rock Aornus, Alexander made a second expedition into the country of the Assaceni, in order to get possessions of some elephants which were fent thither that they might not fall into his hands. These elephants were at last found in the patares near the Latus, and sent off by land to the grand army. The country of the Assaci, afterwards called Asfagenus, answers, fays major Rennell, (Mem. p. 173.) to the present Sewad or Sowad; or at least Sewad was one of the divisions of Asfagenus. See Afsenagur, and Swad.

ASSACH, or Assath, in Antiquity, a kind of purgation, anciently used in Wales, by the oaths of three hundred men. It was abrogated by 1 Hen. V. c. 6.

ASSAD, in Zoology, the name by which some Arabic writers call the lion.

ASSA-DULCE. See Asa-Dulce.

ASSAFA, or Assaphenis, in Ancient Geography, an episcopal see of Africa, in Mauritania Sitifensis.

ASSA-FEITIDA, or Asa-Foitida, in Pharmacy, Teuffel's Drech, Ger. (Devil's Dung.)

This curious and valuable article of the Materia Medica is a gum resin procured from the root of a large umbelliferous plant, growing in the mountains of several provinces in Peru, and on the borders of the Persian gulf, and called in the language of the country bingfish. For the botanical description of this plant, see Ferula Asa-Foetida.

The Asa-fœtida is brought over in maffes of various size and form, of a yellow brown, or bluish colour, intermixed with roundish pieces, white in the inside, which are the Asa-fœtida in tears, and the purest.

The taste of this gum is bitterish, acid or biting, and very permanent on the tongue; when chewed, it becomes plastic, and soon dissolves in the saliva into a white milky liquid. Asa-fœtida is principally distinguished (as its name imports) by its exceedingly strong fœtid smell, somewhat reeking that of garlic; which is extremely offensive and permanent. The odour, however, is not of a sickening or very oppressivf quality, and so ready can the organs be accustomed to it, that this gum makes a favourite feathing for food in many countries of the East.

By chemical analysis, asa-fœtida is found to consist of an essential oil, a resin, and a gummy substance, so that it is with great propriety reckoned among the gum resins. Trommsdorff obtained about fifteen or sixteen grains of essential oil from an ounce of the gum, which in one experiment swam upon the water with which it was diffused, and in another partly sunk to the bottom. The remaining gum yielded 108 grains of resin, and 292 grains of gum. The analyses of Neuman and Cartheufer exhibit the same ingredients, but in different proportions. Both spirit and water diffused off this gum resin are strongly impregnated with a strong fœtid smell. If asa-fœtida be digested with warm water, the liquor presents a whitens, and by long standing the whole is reduced into a soft pulpy mass of a dirty yellow, owing to the solubility of the gumma part. By triturating with water, this gum is entirely dissolved into a milky liquor which remains uniformly turbid for a considerable time. It is partly soluble in expreced oil, but scarcely in the essential oils.

The following curious and authentic account of the method of collecting the asa-fœtida is given from circuit diary by Kempfer, who visited the country in the year 1677. The plant which yields this valuable gum resin (and called in Periv kinezif) is found abundantly on the mountains around Hormut, the capital town of the province of Chorani, and in the province of Laer, which extends from the river Curru to the town of Cono on the Persian gulf. Beyond this, on the Arabian side, the plant is said to be found of its strong odour and acid quality, so that greats brown upon it with great delight and advantage. The rinds the soil, the more valuable is the gum. The principal harvest of this substance is made on the mountains around the small town of Disgumum, in the province of Laar.

The root of the kinezif grows for many years increasing in size, till sooner or later it sends forth the flowering umbelliferous stem, after which, on the succeeding year, the whole plant perishes. The crop of gum therefore is procured from the root before the time of flowering. When the root is four years old, it is about the thickness of a man's arm, and of considerable length; it seldom yields any gum before this age, and the older it is, the greater is the quantity of product. The root is heavy, smooth externally, when growing in a rich soil; but lealy in a sandy soil. It is often found bifurcated or further divided at about a foot below the surface. The upper part, which rises above the soil, is thickly beset with short fibres flapping up like hairs. The rind of the root is easily separable when fresh, the substance within is smooth and moist, consisting of a tough fibrous part, including a pulpy cellular portion, full of an oily white juice, of a most intensely fœtid smell, which when exposed to the air becomes first clammy and yellow, and at last hardens into the gum asa-fœtida. The intensity of the smell is the test of the goodness of the gum, and the odour of the fresh juice or recent gum is beyond all comparison more fetid than that of the gum as it is received by us. Hence in the gathering season, the whole town of Disgumum smelles of it; a single ship is exclusively devoted to transporting the bulk of this commodity to the ports in the Persian gulf; and in carrying smaller parcels they are tied to the top of the mast to prevent their infecting every thing on board. In a short time, however, this intensity of smell goes off.

The whole gathering of asa-fœtida is performed by the inhabitants of Disgumum in four different journeys to the mountains. The demand for the article in foreign countries being first ascertained to be sufficient to indemnify the trouble of collecting, the gatherers divide into companies of four or five each, and proceed to the mountains about the middle of April, when the leaves of the plant are turned yellow and decaying, a sign that the root is in a proper state to yield the juice. The first operation is to remove the soil for a hand's breadth from the plant, and to strip off the leaves and the hair-like fibres, leaving the root perfectly bare and smooth, which is again earthed round and covered with a bundle of its own or any other leaves at hand, to screen it from the sun. These bundles of leaves are confined by a large stone, left the wind should blow them off; for without this precaution, the leaf of the sun would
would destroy the roots in a day's time, and the juice would be spoiled. Each party of four or five men take to themselves about two thousand plants, and when several myriads of roots are thus prepared, the whole company return home.

In about forty days, or towards the end of May, the parties return to the mountain, and there at day break. The implements which they employ are a sharp knife for cutting the root, a broad and flat iron scoop for feraping off the dried juice, a small pan fastened to the thigh for receiving the contents of the scoop, and a double backet suspended at each end of a pole which is slung across the shoulders in order to carry the whole crop when they return home. They now uncover the root, remove the earth to a little depth from the top, and with the knife they cut off a small transverse slice. The root, in which the juice that has been collecting for forty days, has been made to flagrant by the previous operation of stripping off the boughs, now bleeds copiously; and it is immediately again covered with the umbrella of leaves as before, taking care that these do not actually touch the surface of the root and rub off the juice. On the ensuing day it is sufficiently concereted to be scraped off, after which another thin slice is cut off from the surface of the root, which bleeds afresh, and is allowed time to concture as before. This process is performed on half the roots on alternate days, that the employment of the gatherers may be more uniformly divided. After this collection has been twice made from each root, a third slice is cut off, the root is covered with its umbrella, and the whole company leave the mountain bringing home their first harvest, which to each party of five or six men is about fifty pounds weight of Affa-foetida. This first gum is reckoned of rather inferior strength to the subsequent crop, and is called Sirpur.

In about ten days the company again return to the mountain, making their third excursion, and they find on the top of each cut root a quantity of very fine and pure Affa-foetida, which having had time to concture very slowly, is esteemed the best and most powerful, and is called Pipas, and falls at a much higher price than the Sirpur... This latter, however, appears chiefly to owe its inferiority to a quantity of earth with which the gatherers adulterate it while yet in a very soft and semimollied state, whereas the Pipas being concreted into a hard gum is not liable to this abuse. After this latter is collected, two more succuface incisions are made, the juice is scraped off as before, the root is again cut and covered over, and the company return home.

The fourth and last excoration is made after an interval only of three days, for the root, which is exhausted by so many repeated bleedings, is now on the point of perishing. The Pipas, or first feraping, is again collected, and the root will bear about two or three more incisions, after which it is quite exhausted, and is left to die by the heat of the sun, which happens in a single day.

Each root of the four-year-old plants will bear ten or eleven succuface cuttings, but the large roots of twenty years' standing or upwards, such as are sometimes found in the less accessible parts of the mountain, will yield the gum much oftener, though not with such ease, so that the harvest from these is not facilitated till about the end of December.

It is not quite ascertained whether the ancients were acquainted with this gum rufa. Some authors have suppos'd it to be the σαφόνα, o' τον εισαφόνα, of Dioscorides and Hippocrates, and the Laferfium of Pliny, but of this there is considerable doubt. It may be mentioned that the root of a plant abounding in a milky juice exactly similar to the Affa-foetida was sent by professor Rallis to Dr. Guthrie, and transmitted by the latter to Dr. Hope, who succeeded in cultivating it in the botanical garden of Edinburgh some years ago. The botanical character of this plant, however, was far different from that given by Kömper (whose accuracy is much to be depended on), as to make it probable that there may be more than one species of plants which yield this fetida gum.

The ufe and virtues of Affa-foetida are very considerable. In many parts of Arabia and Persia it forms an important article of the Materia Medica, and is employed largely as a condiment for food. In its native country, the common people resort to it as a sovereign remedy for dropsy, flatulent and colicky pains in the bowels, and even as an external application to wounds. In the above disorders, its strongly stimulant and anti-paifonic power renders it peculiarly valuable, but the factor which transpires from the bodies and evacuation of those that use it is far excessive, as to be most intolerable even to the organs of the natives. The Banians (who, not using animal food, have always recourse to the strongfit and molten acid condiments, employ Affa-foetida liberally in their cooking, and even rub their mouth with it before they eat to whet their appetite. Another use common to this, as to all other stimulating and heating substances in the East, is to excite the veneral appetite. With us, Affa-foetida is considered as a most powerful nervine, anti-paifonic, carminative, and anthelmintic, though the potency of its odour, in which probably consists a large proportion of its medical virtue, prevents its ufe in a variety of cases in which it might prove highly beneficial. It is of the greatest service in hypochoondriac affections, in which the flate of the bowels is always torpid, and digestion liable to be deranged. For the true tympanites, a difter of two drams of Affa-foetida dissolved in water, thrown up once or twice a day, is an excellent remedy. Dr. Millar has introduced the ufe of this gum with great effect against the epistanic asthma, and the epistonic flate of hooping cough. The dose of the solution, even to children, should be larger; and it is worthy of remark, that the difgust excited by the strongly foetid remedy is much fooperfuelned than might at first be imagined, nor, when it is in the flemach, does it ever excite fickness. The flatulent colic attending hyferic affections is much relieved by this gum, exhibited either by the mouth or in gyllers. On account of its heating quality, it should be avoided when general fever is present. The vermifuge property of this gum appears to be very considerable. Kömper relates, that the leaves and falk of the fresh plant in Persia, are laid in the channels through which the water runs for irrigating gardens, and that frutefces and plants are thus preferred from all kinds of vermin. Probably its penetrating odour much incommodes the animals, and it has long been known both in the East and in Europe as a very powerful anthelmintic, especially when combined with the stronger purgatives, or given in the form of gyller, and followed by them. Hufeland has employed this gum internally as a very good remedy in venereal exofiiis, and caries of the bone, after the constitution has received as much mercury as it will bear.

Affa-foetida enters into some of the compound plasters for external application, and in this combination is reckoned to be ftemulant and refolvent.

The pharmaceutical preparations of Affa-foetida in actual ufe, are the following:

Lac Affa-foetida (P. Lond.); a milky solution of two drams of the gum in half a pint of water, formed by the allination of tritturation.

Tinctura Affa-foetida (P. Lond.); made by adding two ounces of Affa-foetida to a pint of rectified spirit of wine.
The fame in the Edinburgh Pharmacopoeia, but a quarter of a pint more of the spirit is used. Rectified spirit is employed, for the dilute or proof spirit, though it dissolves more of the gum, and makes a turbid solution; whereas the tincture with the former spirit is quite clear. It may be given in doses of from ten to sixty drops. The tinctura Eugeniae of the former Pharmacopoeia, now difcarded, was made with wood foot, affa-fetida, and proof spirit; but the foot is properly omitted, as it does not appear to add to the virtue of the medicine, and needlessly increases its nauseous odour.

Aquarius Ammoniæ fetida (P. Loud. and Ed.) prepared by diluting the spirit of ammonia with affa-fetida, whereby it is strongly impregnated with the peculiar odour.

Pilulæ Galbani composœ (P. Loud.), composed of several heating and gravelly gums, viz. galbanum, opoponax, myrrh, fagapenum, and affa-fetida. The proportion of the latter is one-ninth of the whole. Pilulæ Alfa-fetida composœ, formerly Pilulæ gummosœ (P. Ed.), composed of affa-fetida, myrrh, and galbanum, of each one ounce, and one drachm of oil of amber.

Emulsiferæ Alfa-fetidae, formerly Emulsiferæ antiphletiriæcum (P. Ed.), composed of litharge plaster and affa-fetida of each two parts, and of yellow wax, and strained galbanum, of each one part.

The smell of affa-fetida, and along with it its peculiar virtues, are liable to be lost and injured by long and careless keeping, but a considerable latitude may be allowed in the doing, without much danger of risk or injury to the patient. Kempfer Amet. Exot. — Murray Appar. Med. — Bergi Mat. Med. — Ph. Transact. vol. 75, &c.

ASSAI, in Geography, a town of Japan, in the province of Oomi or Omi. ASSAI, in Italian, is an adverb of augmentation generally in the superlative degree, which is added to another muntal term to increase its force: as Preffo affar, Aliter affar, very quick; Largo affar, very slow.

ASSAILANT, one that assaults or acts upon another. See Assault.

ASSAM, in Geography. See Asam. ASSAN, a town of Asia, in the province of Diarbeir, forty miles from Diarbeir.

ASSANCALÈ, a strongly fortified town of Armenia, on the river Aras, surrounded with walls, and guarded by a garrisoned citadel, in the road to Erzeroum, and a third day’s journey from it. It has hot-baths that are much frequented.

ASSANUS, in Ancient Geography, now Isser, a river of Africa, in Mauritia Cæsarica, which by its junction with other rivers formed the ancient Siwa, or present Sit. ASSAPÔRÎ, in Natural History, a name given by the people of the East Indies to a peculiar species of fly which they used in medicine, reducing it to powder, and fusing this on burning coal, that the sick person may receive the fumes of it. It is principally used for children, when they are disordered by taking cold. The fimbri of it while burning is very offensive.

ASSAR, in Geography, a river of Abyssinia, which is the southern boundary of Agossa, as Kelti is the northern. This is the largest river which Mr. Bruce saw, except the Nile; it was about 170 yards broad, and two feet deep, running over a bed of large stones, though generally through a flat country; its course is rapid, and after much rain it is fearfully passable, owing to the height of its source in the mountains of the Agossa. Its course where Mr. B. forced it was from south to north; but it soon turned to the north-east, and, after flowing five or six miles, joined the Nile. Below the ford is a cataract above twenty feet high, and eighty broad. The whole river falls in an undivided sheet of water with incredible violence and noise: but below this cataract it becomes much narrower, till it loses itself in the Nile. Bruce’s Trav. vol. iii. p. 562.

ASSARA, in Ancient Geography, a river of Africa, in Mauritania Cæsariæna, Poloeum.—Alfo, a place of Aftirs, is the department of Mopotamia. — Alfo, a river of Afgir, which discharges itself into the Mediterranean, in the Gulf of the great promontory, Poloeyi.

ASSARABACCA. See Assaraccæ.

ASSARACCE, in Ancient Geography, a people of Africa, in the interior Libya, placed by Poloei, east of mount Aranga.

ASSARIUM denotes a small copper coin, being a part or diminutive of the as.

The word is used by Suidas indifferently with κάλαμον and μυρρος, to denote a small piece of money; in which he is followed by Cujiacius, who defines σώζων, by minimus aris nummus.

The affaron, or imperial as., was worth one half-penny English. This division of the as began to be called affaron as soon as its size was reduced to half an ounce, and it was then always struck on copper. Its size regularly corresponded to that of the dupondius, and declined oil at the close of the reign of Gallienus, it became what is called small brass, and weighed only about the eighth part of an ounce. In the time of Diocletian, it was about the twentieth part of an ounce; and in that of Julianus, it was the same with a ferris, pœna, or the smallest coin, excepting the sippus, nummus. The Greek affaron kept pace with the Roman. Pinkerton’s Ed. on Medals, vol. i. p. 121.

We find mention of the affaron in the gospel of St. Matthew, chap. x. ver. 29.

ASSARLI, in Geography, a town of European Turkey, in the province of Rumania, 44 miles E.S.E. from Filippopoli. ASSARON, an ancient Jewish measure of capacity, equal to the tenth part of the ephah. Exod. xvi. 16. The affaron is the same with what is more frequently called oner or gomer.

Josephus calls it ορατός; in the Hebrew it is also written αφαρίτως. Calmet and Arbuthnot.

ASS ART, ASSARTUM, derived either from afferre, Fr. to make plain, or, as Spelman supposes, from aferse, pulled up by the roots, for it is sometimes written afferre. In Latin an offence committed in the forest, by pulling up by the roots, woods which serve as thickets and covert for the deer, and making them plain as arable land. This is the greatest trespafs that can be committed in the forest, being more than a wake. For whereas wake of the forest is but the felling and cutting of the covert, which may grow again; affar is a total extirpation. What we call affarton, is elsewhere termed t-tracking. Assart was also used for a parcel of land affarred. See Assart.

Assart-orts were those formerly paid to the crown for forest-lands affarred. Stat. 25. Car. II. c. 6. See Kent. ASSAII, in Ichthyology, a species of Balistes that inhabits the Red Sea. The body is mirculated with brown spots; and a triple row of black ones on the tail. Port. Arab. Length about six inches, brown, belly white, vent black, surrounded by a fulvous ring. The flesh of this kind is edible but inipid.

ASSASINS, in Ancient Geography and History, the name of a people of Phurnia, who inhabited the mountains of Libanus, to the north-east of the city of Tyre, and who pretended to derive their origin from the family of the Arafacide.
Arfacide, the founders of the Parthian empire. To a cor-
rupption of Arfacide into Aflaffins some have ascribed the
etymology of the appellation by which they were distingui-
shed; whilst others suppose it to have been formed from
Hussain, in reference to the piousness, which was their cus-
tomary weapon. It is said that they were a sect of Moho-
metans, who arose in the year 891, when Carnat, or Karmat,
a pretended prophet in Arabia, drew after him many follow-
ers. He failed, and laboured with his hands, and prayed
fifty times a day. He promised to re-establish the family of
Ali, and to dethrone the caliphs. He released his disciples
from the most troublesome oblations of their religion,
permitting them to drink wine and to eat any kind of food.
By this indulgence, joined to the hopes of plunder, he col-
clected a great army, and ravaged the dominions of the cal-
iph. This Carnat had a series of succourers, of whom the
most famous was Abu-Thaber or Asma-Darrah. These
Carnatians, or Karnatiens, being entangled, kept their
religion concealed, mixed themselves with the Mahometans,
and were dispersed over various parts of the east. About
the year 1090, they were settled in Peria; where Hacen, or
Al-Hafan their chief, receiving a threatening message from
the sultan, commanded one of his subjects, in the presence
of the messenger, to fling himself from the top of a tower,
and another to kill himself, which they instantly performed.
Upon which Hacen said to the messenger, "Tell your
master that I have 75,000 men ready to do as much." In
Peria and Syria, they were denominated Iffimadians; and
among the hills to the south of the Caliphan, these odious
factories maintained their power, for nearly two centuries.
Their prince, or Imam, established his lieutenants to head
and govern the colony of mount Libanus, so famous, and so for-
midable in the history of the crusaders. They had acquired
or founded ten castles in the hills above Tortofa, and posse-
ced several cities about Tyre. As these enthusiasts had po-
essed themselves of the best part of Al Jebal, in the Persian
Irak, under the conduct of Al Hafan Ebn Masbah, or Al
Hafan Sabah, as he is sometimes called, the commencement
of the dynasty of the Ismailian princes is generally placed
at this period, or the year of the Hegira 483, A. D. 1090.
The style or title adopted by these princes was "Shiikh Al
Jebal," that is, the prince of Al Jebal; or "the chief of the
mountainous country;" the province of Al Jebal being
such a country, and from this circumstance deriving its
modern name, "Kuhelian or Chufilian:" the words "Shiikh
Al Jebal," may likewise he properly rendered "the senor,
or old man of the mountain," and hence the chief or prince of
the Aflaffins has obtained the appellation of "the old man
of the mountain," amongst the writers of the history of the
Holy Wars. Al Hafan Ebn Masbah and his descendants
reigned in Al Jebal 171 years, till the whole race of them
was destroyed by the Tartar Hulaka, or Hidragon Khan,
the grandfson of Zingris, or Jenghiss Khan, who abolished
the caliphate by the reduction of Bagdad, in the year of the
Hegira 656, A. D. 1258. Gibbon says that the Ismailians of
Syria were extirpated by the Maneliches about the year 1258.
Not a vestige is left of these enemies of mankind, whose
daggers have been felt both in the east and the west, except
the term aflaffin, which, in the most odious sense, has been
adopted in the languages of Europe. With the fanaticism
of the Koran, the Ismailians had blended the Indian trans-
migration, and the visions of their own prophets; and it
was their first duty to devote their souls and bodies in blind
obedience to the vicar of God. Such was the ascendant
which their prince had acquired over his declused and fan-
tatical subjects, that they paid the most implicit deference to
his commands; effecting assassination meritorious, when
sanctified by his mandate; courted danger, and even certain
death, in the execution of his orders; and fancied, that
when they sacrificed their lives for his sake, the highest joys
of paradise were the infallible reward of their devoted obe-
dience. It was the custom of this prince, when he imagined
himself injured, to dispatch secretly force of his subjects
against the aggrieved, to charge them with the execution of
his revenge, to instruct them in every art of disgruing their
purpose; and no precaution was sufficient to guard any
man, however powerful, against the attempts of these subtle
and determined ruffians. The greatest monarchs flied
in awe of this prince of the afiffsins; and in 1192, Conrade,
marchquis of Moncerrat, a zealous crusader, fell a sacrifice
to his relentment. The prince determined to avenge the death
of former of his people who had been murdered by the in-
habitants of Tyr, then under the government of this noble-
man, employed two of his subjests for the execution of his
purpose. Those men inculcated themselves in disguise
among Conrade's guards, and openly, in the streets of
Sidon, wounded him mortally; and when they were seized
and put to the most cruel tortures, they triumphed amid it
their agonies, and rejoiced that they had been defined by
heaven to suffer in a cause so just and meritorious. The
prince of the Aflaffins himself avowed the action in a formal
narrative which he sent to Europe. In 1173, a prince of
the Aflaffins in Phencicia, sent a deputy to the king of
Jerusalem, declaring himself and his people inclined to re-
ceive the Christian religion; but the knights templars accu-
frated the deputy on his return home, and the king was
unable to chaffice or restrain them. In 1213, Louis of Ba-
vania was murdered by the afiffsins. The favours of these
afiffsins were condemned by the council of Lyons, under
 Innocent IV. in 1231. Hume's Hist. vol. ii. p. 18. Gibb
Assassins, a denomination which distinguished a fac-
tion that sprung from the followers of Judas of Galiliee,
in the Jewish war that preceded and succeeded the destruc-
tion of Jerusalem. The head of this faction was Eleazar,
the grandson of Judas the Gaulonite. For their fate at
the siege of Massada, which terminated the Jewish war, see
Massada. Of those who had previously escaped, some
fled to Alexandria, where they were at first kindly received
by their brethren; but as they excited sedition and tumult,
they were delivered up to the Romans, and 600 of them
put to death. An order was also given for slitting up the
Jewish temple at Alexandria, and the worship of it was dis-
couraged. See Gaulonites and Zealots.
Assassin, in Law, a person who kills another with the
advantage either of an inequality in the weapons, or by
means of the situation of the place, or by attacking him un
awares. For the etymology of the term, see the preceding
article.
There was a certain law of nations, an opinion received
in all the republics of Greece and Italy, whereby he that
affiliated an usurer of the supreme power, was declared
a virtuous man. At Rome, especially after the expulsion
of the kings, the law was formal and solemn, and influences
of it admitted. The commonwealth armed the hand of any
citizen, and created him magistrate for that moment. Con-
Assassins' Day, in Geography, lies on the south-east
coast of New Zealand, in the fourth Pacific Ocean.
Assassation, formed of the Latin affari', to robb, the
preparing or dethling of foods, or medicaments, in their own
juices, by an external heat, without addition of any foreign
moisture. Aflation, in respect of culinary matters, is more
frequency
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frequently called roasting; and in pharmacy, fumon, or
torrefaction.

ASSAULT, in the Art of War, signifies a general attack
made by a besieging army, to become masters of an intrenched
camp, poll, or fortresses. In the latter case it is particularly
understood to take place without the advantage of any works
to screen the affillants from the fire of the garrison.

Anciently, when tactics were yet in their infancy, and
the art of besieging places bore comparatively no proportion
to that of defence, we rarely meet with instances of walled
towns entered by assault. A close blockade was generally
the measure resorted to, and the garrison were slowly
dissipated, and the patience of the besiegers exhausted, by
various writings supported for years. The sieges of
Azotus by the Egyptians, of Nineveh by the Medes and
Babylonians, and of Babylon by Darius Hykaspes, where
treachery alone prevented a resistance equally tedious with
that of the two former places, are evidences of the almost
inurable difficulties attending the reduction of strong holds
in earlier days.

The Greeks, previously to the era of Alexander, had very
imperfect notions of assaulting towns. The Carthaginians
first demonstrated the possibility of shortening sieges by
the summary expulsion of retracted and furious attacks. Thus
they became masters, in the fifth century B. C., of Himera
and Selinosis in Sicily; and, nearly two hundred years after,
of Saguntum in Spain. The cruelties they executed against
the unfortunate inhabitants were afterwards amply retaliated
upon themselves by the Romans.

That warlike nation was employed for ages in almost
continual wars before they practised this method of attack.
Surprise, not an open and vigorous assault, made them
matters of Vei. In the first Punic war, Lilybaeum for
years baffled their utmost efforts, though they had then united
to their own fylem of tactics, whatever was most new and
valuable in that of the Greeks. The storming of New
Carthage by Scipio is one of the first, and most memorable
examples of a successful assault in the Roman annals. To
what perfection they afterwards carried this branch of military
science, the capture of Athens by Sylla, of Avaricum
by Caesar, and of Cremona and Rome itself by the armies
of Vepafian, are melancholy witnesses.

In the dark period of the decline of the empire, the
barbarians who successively invaded it only carried on their
operations against fortified places by continued assaults, which
were commonly successful, nor were the superior tactics of
the Romans then capable of retarding their fury.

Alike impetuous and irresistible, the Mogul destroyers,
who, under Jengis Khan and his successors, depopulated the
fairest regions of An, mocked the ordinary rules of war.
A place which had once refused capitulation, never enjoyed
a repetition of the offer. Assault succeeded to assault with
amazing rapidity, and no repulse was allowed to the devoted
garrison, till weakened beyond the power of further
resistance, they were involved, with the innocent inhabitants,
and the place itself, in one common destruction.

With the Europeans of the middle ages, the science of
attack lofs much of its former superiority; and the cattle
of a petty baron frequently baffled the endeavours of the most
powerful monarch.

The invention of gunpowder offered new advantages to
the art of besieging; but general assaults have become
ininitely more dangerous against ramparts mounted with
artillery. Even after the requisite breach is made, it is
absolutely necessary to destroy the works whole fire, on
either side, flank and protect the point of attack. Before
therefore a storm is attempted, the besieging general should
afoertain that his troops are exposed to no other fire than the
garrison are able to maintain from the front of the breach.

Going to the fancied advantages a regular garrison were
supposed to possess behind good fortifications, the rules of
war formerly required a governor to hold out in these assaults
before he surrendered. But such rigid notions have been by
degrees disregarded. Few commanders refuse, by maintaining
a fortress to the last extremity, to expose their troops to an
useless slaughter, or the inhabitants to the murder and
pillage inevitably the attendants of a storm. At Glagow,
carried by the Prussians in 1714, and Bergen op Zoom, by
the French in 1747, success was the effect of a coup
de main than a regular assault.

The Turks, however, materially differ from us on this
head. It is with them a maxim of religion, never to
surrender to Christians a place where they have once
possessed a mosque. They, therefore, hold out to the last.
Severe punishment has, indeed, attended this obstinacy.
Bender, Ockzakov, and Izum, are memorable for the unceasing
defence of these castles exercised by Russian severity, and have
been adorned with bloody laurels the names of Parn, of
Potemkin, and of Suwarow.

The capture of Warsaw, in 1794, is a fresh instance
of the summary methods observed by the latter general in
attacking towns, and of the lamentable consequences of
ineffectual resistance to a barbarous and unforgiving
enemy.

During the late war, an incessant cannonade and bom-
bardment have been chiefly substituted by besiegers to the
fystem of assault. Pavia indeed, with some smaller places
in Italy, suffered, in 1796, all the horrors of a storm, from
the French army, under general Buonaparte. The year
1799 also furnishes four remarkable instances: 1. The
attack of Naples (January 22), by general Championet, to
which the rhapsody of the Lazzaroni madly expounded
themselves; but memorable for the daring and desperate, though
useless, resistance, maintained by them against regular
troops. 2. The storming of Jaffa by Buonaparte (Feb.),
the garrison of which place, 3,500 strong, was nearly
expelled, presents a striking and frightful picture of Turkish
obstinacy. 3. That of Acre (May 8) where the French,
after having penetrated within the town, were eventually
repulsed with great loss, is the more worthy of notice, from
its having effectually checked the adventurous progres of
Buonaparte on the side of Syria. 4. The assault of
Zurich (Sept. 21) by the republican army of Helvetia,
and which may with more propriety be denominated a
battle, displays so much ingenuity in the complicated move-
ments directed by general Massena, all of which were
inseparably connected with the main point of attack, such
precipice, firmness, and bravery in the execution, and such
importance in the consequences, as to demand a separate
notice elsewhere. It will here be sufficient to observe, that
the Russian camp before Zurich was forced, the town
itself carried fowrd in hand, and that this event gave to
decided a superiority to Massena, as to be immediately
followed by a precipitate retreat of the allied forces from
Switzerland.

Affillants, as fuch, acquire a very considerable superiority
over those they attack. This superiority, says an excellent
writer on tactics, may be derived from two causes: the first
a phical one, viz. that air of boldness, peculiar to affillants,
cannot but alarum and intimidate an enemy who fees
that no difficulty can stop them; the second is, that the
affillants can command as much time as they please, to take
their measures for overcoming all obstacles that can be thrown

ASSAULT, Affluus, or Insulius, in Law, an offer or attempt to hurt the person of another.

Or, it is a violent injury offered to a man's person, of a larger extent than battery, because it may be committed by only offering to give a blow, without touching him, as if one lifts up his cane, or his fist, in a threatening manner, at another; or strikes at him, but miffes him; this is an assault described by Finch (l. 262.) to be "an unlawful setting upon one's person." But no words whatsoever, be they ever so provoking, can amount to an assault, notwithstanding many eminent opinions to the contrary. 1 Hawk. P. C. 62. § 1. Assault does not always imply a blow; for, in trespass for assault and battery, a man may be found guilty of the assault, and excused of the battery. 1 Hawk. P. C. 263.

But every battery includes an assault.

For an assault, the offender is subject both to an action at the suit of the party, in which he shall render damages; and also to an indictment at the suit of the king, in which he shall be fined according to the heaviness of the offence. 1 Hawk. 263.

The assaulting of a person with offensive weapons, with a design to rob (though no robbery ensued), is punished with transportation for seven years. 7 Geo. II. c. 21. Assaulting in the street or highway, with intent to spoil people's clothes, and fo spoiling them, is felony and transportation, by 6 Geo. i. c. 23. fec. 11. And the assault of a privy counsellor in the execution of his office, is felony without benefit of clergy, by 9 Ann. c. 16. Assaulting or threatening a counsellor at law, or attorney employed in a cause against a man, or a juror giving verdict against him, or an adversary for suing him, &c. is punishable on an indictment, by fine and imprisonment, for the contempt. 1 Hawk. 58.

There are other assaults to which peculiar punishments are annexed: thus, flat. 5 Hen. IV. c. 6, and 11 Hen. VI. c. 11. render assaults on members of parliament more than usually penal, upon non-surrender on proclamation. Stat. 9 Edw. 11. R. i. c. 2. gives a double criminal process against those who assault clergymen, indictment for the temporal offence, and precept in the ecclesiastical court for the spiritual one. By flat. 5 Eliz. c. 4. servants, assaulting their master, mistreat, or overbear, may be imprisoned twelve months, on conviction before two justices. By 9 Ann. c. 14. § 8. from to assault, beat, or challenge another, on account of money won by gaming, incurs forfeiture of goods, and two years imprisonment. By flat. 9 Geo. I. c. 22. to assault another by wilfully shooting at him, is felony without clergy. By flat. 12. Geo. I. c. 34. assaulting a master woolcomer or weaver, &c. for not complying with the demands of workmen, is felony and transportation for seven years. In many cases a man may justify an assault: the defendant may justify "nullius manus impoifit," in defence of his person or goods; or of his wife, father, mother, or master, or for the maintenance of justice. Bract. 9. E. 2. 35 H. VI. c. 51.

There are also other cases in which a man may be justified: as, of an officer reformed in arresting a man by warrant, of a parent reprimanding his child, or a master his servant, or a schoolmaster his scholar, or a gaoler his prisoner, or even a husband his wife for reasonable and proper cause, &c. Hawk. P. C. 238.

ASSAY, in Metallurgy, the proof or trial of the goodness, purity, value, &c. of metals, and metalline fabhances.

In ancient latitudes, this is called touch; and those who had the care of it, keepers of the touch. Under Henry VI. divers cities were appointed to have touch for wrought silver plate. 2 Hen. VI. c. 14. By this one might imagine they had no better method of assaying than the simple one, by the touch-tone; but the case is far otherwise. In the time of king Henry II. the bishop of Salisbury, then treasurer, considering that though the money paid into the king's exchequer for his crown-rents, did answer numero & ponderes, it might nevertheles be mixed with copper or brass; whereas a confession was made, called the trial by combustion; which differs little or nothing from the present method of assaying silver. See a description of it in the Black Book in the Exchequer, written by Gervase of Tilbury, c. xxi. The trial is also there called affirmam, and the officer who made it is named fustor. Vid. Lownd. Eff. Amend. Silv. Coin. p. 5. & 155.

The method still in use of assaying gold and silver, was first established by an act of the English parliament, in 1354, Anderson's Com. vol. i. p. 187.

ASSAY, or Effay, Effayer Fr. Prueben Germ. The term assay in its most extended signification, means a species of analysis applied to metallic ores or alloys, the object of which is to ascertain the quantity and proportion of only one of the ingredients of the mass. Hence it differs from analysis in general, as this takes notice of all the ingredients: thus, in the assay of copper ores, the sole object is to know the proportion of pure metallic copper which a given weight of the ore can be made to yield; disregarding all the other component parts, such as the fulphur, iron, flex, &c. or rather confounding them together under the general term impurities. The same mode of inquiry takes place in the assay of a mixture of gold, or gold and silver, with copper, lead, tin, or any other of the inferior metals, the whole attention being directed to the proportion of fine, or of gold and silver contained in the alloy. For the various methods of conducting the assays, the reader is referred to the several metals; in all which articles the second section is devoted to the assay and analysis of the metal treated of. Gold and silver, from their superior commercial value, from their being the universal medium of exchange throughout the civilized world, and from their being the materials of the most costly and splendid utensils, ornaments, and articles of furniture, have demanded and obtained a greater accuracy in their assay than any of the other metallic bodies. The method of conducting it has been a subject of various legislative regulations; last from time immemorial been entrusted to a distinct craft or profession, and has more than any other process engaged the attention of some of the most able and accurate chemists of the present as well as of former ages. For these reasons, under the articles Gold and Silver, we shall enter at length into the consideration of this important subject. It was at first our intention to have introduced in this place all the matter relative to the art of the assay, but by such an arrangement, much unnecessary repetition would have been required of information that properly belongs to the articles Assay-Balance, Cepel, Cupellation, Coin, Assayer's Furnace, &c.

ASSAY-MASTER, an officer, under certain corporations, entrusted with the care of making true touch, or assay, of the gold and silver brought to him; and giving a just report of the goodnes or badnes thereof.

Which is the assay-master of the mint in the Tower, called also assayer of the king.

The assay-master of the goldsmiths' company is a fort of assayer-warrant, called also a touch-warrant, appointed to survey, assay, and mark all the silver-work, &c. committed to him.—There are also assay-masters, appointed by statute, at York, Exeter, Bristol, Chester, Norwich, Newcastle,
and Birmingham, for affaying wrought plate. The assayer is to retain eight grains of every pound troy of silver brought to him; four whereof are to be put in the fire, or box of deal, to be re-assayed the next year; and the other four to be allowed him for his wages and frillings. 12 and 13 W. III. e. c. p. 3. No. 9.

Note. The number of penny-weights set down in the assayer's report, is to be accounted as per pound, or so much in every pound of twelve ounces troy. For every twenty penny-weight, or ounce troy, the silver is found by the assayer to be worth than standard, or flering, six-pence is to be deducted; because every ounce will cost so much to reduce it to standard goodness, or to change it for flering.

In gold, for every carat it is set down to be worse than standard, you must account that in the ounce troy it is worse by so many times 3. 8 d. And for every grain it is set down worse, you must account it worse by so many times 11 d. in the ounce troy. And for every half grain 5 d. 3/4; for so much will cost to make it of standard goodness, &c.

Touchstone of Gold and Silver Ware, &c. p. 41, &c.

Assay-Balance, a balance used in the operation of assaying. See Balance.

Assay of Weights and Measures, signifies the trial or examination of common weights and measures, by the Clerk of the market.

Assche, in Geography, a town of France, in the department of Dyle, and chief place of a canton, in the district of Bruxelles. The place contains 5768 and the canton 18,667 inhabitants; the territory includes 140 kilometres and 19 communes.

Assesse, a town of France, in the department of the Orne, and chief place of a canton, in the district of Evron, one league from Evron. Assesse, a town of France, in the department of the Sarthe, and chief place of a canton in the district of Fresney-le-Viicome, eight miles S.E.W. of Alencon.

Assecoma, in Ancient Geography, a place of Spain, between Pris and Brevis. Ith. Anton.

Assectator, in Entomology, a species of Ichneumon that inhabits Europe. It is black; abdomen falcate, with three russet spots on each side; posterior flanks clavate and black. Fabricius.

Assed-Abad, in Geography, a small town of Persia, towards Amanad.

Asselen, a town of Germany, in the circle of Weilphalia, nine miles S.E. of Paderborn.

Asseo, a town of Persia, in the province of Farshian, on the north coast of the Persian gulf, 47 leagues south of Schiras.

Asellyn, John, in Biography, a painter, was born in Holland about the year 1610, and after receiving his education under Isiah Vandenh-Velde, a battle-painter, at the Hague, travelled into France and Italy. He studied at Rome, and particularly imitated the manner of Tintoretto. His hands and fingers were crooked, and from this circumstance he was denominated by the Flemish students 'Krabbate.' After improving his time during his residence at Rome, he passed through Lyons on his return, and there married the daughter of a merchant at Antwerp, whom he brought with him to Amsterdam in 1645. His countrymen received him with applause, and from him the Dutch painters first acquired the idea of imitating the natural manner of colouring landscape, for which Claude Lorrain has been so much admired; and abandoning the fombré style, with the prevalent blue and green tints of Paul Brill and Bruegel. Alleyn was in great reputation at Amsterdam, and his paintings, consisting of history pieces, battles, and landscapes exhibiting antiquities, and also men and animals, were purchased at a high price; they were distinguished by their correctness and admirable brilliance of colouring; and a set of 24 of his landscapes and ruins has been engraved by Persoon. Alleyn died at Amsterdam in 1650. D'Argenville, Vie des Peintres, Gen. Bio.

Assem, or Great Ardrab, in Geography, a town of Africa, on the Slave coast, the capital of the kingdom of Ardrab. It was formerly the residence of the Kings of Ardrab, and five or six leagues in circuit. The streets are very wide, and each house surrounded by its own rampart, as a security against fire. The walls are of mud, but high and thick, and also compact as if they were formed of stone and lime. The gates are defended by deep ditches in the middle, which are crossed by draw-bridges, and near each gate is a guard-room for the convenience of the officers and soldiers. The river Euphrates compasses one half of the city. The buildings are of clay, covered with straw, and the streets are kept in good order. The people are numerous, and the women are richly dressed. In the conquest of the kingdom of Ardrab by the king of Dahomey, in 1724, this city suffered very much. It is situated 16 leagues from the sea, and to the north-east of Little Ardrab.

Assemblage, the joining, or uniting, of several things together; or, the things themselves to joined or united. The assemblage of two bones for motion, is called articulation. Carpenters and joiners have various kinds and forms of assemblage; as with mortises and tenons, with dovetails, &c. See Dovetail, Mortise, &c.

The Europeans admire the carpentry of some Indian, where the assemblage is made without either nails or pins. Hereafter.

Assemblage is also used in a more general sense, for a collection of several things, to disposed together, as that the whole has an agreeable effect. It is with discourse as with bodies, which owe their chief excellency to the just assemblage and proportion of their members.

Assemblage, formed of adscenders; compounded of ad, and joint, together; a meeting of several persons in the same place, and with the same common design. Assemblies of the clergy are called convocations, synods, and councils of the clergy; though that annual one of the Kirk of Scotland retains the name general assembly, &c. The assemblies of judges, &c. are called courts, &c. The assemblies of the Roman people were called comitia.—The assembly of a preacher, &c. is his audience. The academies have their assemblies, or days of assembly.

Under the Gothic governments, the supreme legislative power was lodged in an assembly of the lords of the kingdom, held annually for the like purposes as our parliament. See Parliament.

Assemblage, General, in Ecclesiastical History, is an assembly poling the highest authority in the church of Scotland, and consisting of a certain number of ministers and ruling elders delegated from each presbytery, and of commissioners from the universities and royal boroughs. A presbytery, composed of fewer than 12 parishes, sends two ministers and one ruling elder to this assembly; if it contain between 12 and 18 ministers, it sends three of these, and one ruling elder; if it contain between 18 and 24 ministers, it sends four ministers and two ruling elders; and of 24 ministers, when the presbytery consists of so many, it sends five with two ruling elders. Every royal borough deposes one ruling elder; Edinburgh two; and their election must be attested by the kirk-kession of their respective boroughs. Every university sends one commissioner from its own body. The commissioners are chosen annually six weeks before the meeting of the assembly; and the ruling elders are often men of
the full eminence in the kingdom for rank and talents. In this assembly, which met once a year, the king presided by his commissioners, who are always noblemen; but he has no voice in their deliberations. Appeals are brought from all the other ecclesiastical courts in Scotland to the general assembly; and in questions purely religious, no appeal lies from its determinations. The first general assembly of the church of Scotland was held in the year 1560; but it bore, says Dr. Robertson (Hist. Scot. vol. i. p. 251.), all the marks of an infant and informer society. The members were few, and of no considerable rank; and, of course, a convention so feeble and irregular could profess no great authority; and conscious of their own weakness, the members put an end to their debates, without venturing upon any decision of much importance. By degrees, however, it acquired dignity, authority, and permanence.

Assembly. General, of the Jewish Rabbits. See Aqdena.

Assembly of Divines, is the name given to an association of ministers and others, summoned by an ordinance of parliament, in the year 1643, to meet at Westminster, "for settling the government and liturgy of the church of England, and for vindicating and clearing the said church from false aspersions and interpretations." This assembly comprised of 121 divines, and 30 laymen, "celebrated in their party," says Mr. Hume, "for piety and learning." The several parties in this assembly were composed of Presbyterians, Erastians, and Independents. By their advice, alterations were made in the thirty-nine articles, the first fifteen of which employed their committee for ten weeks; and these alterations chiefly respected the doctrinal articles, and were designed to render their sense more express and determinate in favour of Calvinism. It was of still greater importance, that they utterly abolished the liturgy, and, in its stead, established a new directory for worship, by which, suitably to the spirit of the puritans, the utmost liberty, both in praying and preaching, was indulged to the public teachers. They also agreed in introducing and enforcing the solemn league and covenant, by which episcopacy was abjured; and a national engagement, attended with every circumstance that could render a profane facia and obligatory, was entered into with the Scots, never to suffer its re-admission. All these measures, says Mr. Hume, flamed little spirit of accommodation had the government, and the king's commands were not surprised to find the establishment of preachers, and the directory positively demanded, together with the subcription of the covenant, both by the king and kingdom. This assembly published till Feb. 22, 1645, about three weeks after the king's death, having sat five years, six months, and twenty-two days, in which they had 1163 sittings. They were afterwards changed into a committee for the examination of such ministers as presented themselves for ordination or induction into livings, and met once a week, till March 25, 1652; when the long parliament being turned out of the house by Oliver Cromwell, they broke up without any formal dissolution. The works of the assembly, besides some letters to foreign churches, and occasional admonitions, were 1. "Their humble advice to the parliament, for ordination of ministers, and settling the presbyterian government." 2. "A directory for public worship." 3. "A confession of faith." 3. "A larger and shorter catechism." 5. "A review of some of the thirty-nine articles." 6. "When poverties," says Mr. Neal, "shall impartially review this assembly of divines, and consider the times in which they lived, they will have a just veneration for their memory; for though their sentiments in divinity were in many influences too narrow and contracted, yet, with all their faults, amongst which their persecuting zeal for religion was not the least, they were certainly men of real piety and virtue, who meant well, and had the interest of religion at heart; and most of them possessed as much learning as any of their contemporaries: the names of Lightfoot, Sheldon, Gataker, Greenhill, Arrowmith, Twisse, bishop Reynolds, Wallis, &c. will always meet with esteem from the learned world; and had they not grappled at coercive power or jurisdiction over the consciences of men, their characters would have been unblotted." Lord Clarendon (vol. i. p. 503.) allows, "that about twenty of them were reverend and worthy persons, and episcopal in their judgments: but as to the remainder, they were but pretenders to divinity; some were infirm in their lives and conversations; and most of them of very mean parts and learning, if not of scandalous ignorance, and of no other reputation than of malice to the church of England." Mr. Lachard confesses, that his lordship has, perhaps with too much severity, said, that none of these divines were infamous in their lives and characters; but Mr. Baxter, who knew most of them, says, "they were men of eminent learning, godliness, ministerial abilities, and fidelity; and being not worthy to be one of them myself," says he, "I may more fully speak the truth, which I know, even in the face of malice and envy, that as far as I am able to judge by the information of history, and by any other evidences, the Christian world, since the days of the apostles, has never had a synod of more eminent divines than this synod, and the synod of Dort."

The divine right," says Mr. Neal, "of the presbyterian government, first threw them into heats, and then divided them; engaging them first with the parliament, and then with the Independents and Erastians. Their opposing a toleration, raised them a great many enemies, and caused a secession in their own body; for after they had carried the question of "divine right," the Independents and Erastians defected them, after which they found it very difficult to muster as many as would make a house. Had the parliament dissolved them at this juncture, they had separated with the Independents, and the business of the church was translated to the provincial assemblies. Hume's Hist. vol. vi. p. 22. Neal's Hist. Pur. vol. p. 25. &c. p. 32.

Assembly of the campus Maris; or Mars, of the field of Mars, or May; see Field of Mars, &c.—Rebellious assembly; see Unlawful assembly; see Unlawful.

Assembly is particularly used in the beau-monde, for a slated and general meeting of the polite persons of both sexes, for the sake of conversation, dancing, and play. Assembly is also used in the Military Art, for the second beat of the drum, being that before the march. On hearing this, the soldiers shake their tents, roll them up, and then stand to their arms.—The third beating is called the march, as the first is called the general.

Assembly. Azmon, or Azemon, in Ancient Geography, a city in the wilderness of Moab, south of the tribe of Judah, 1 Sam. xxxvii. 25. Joth. xv. 4. Also, an encampment of Israel in the desert. Azmon was the nearest city to Egypt, south. Numb. xxxiii. 29. xxxiv. 45. 5.

Assembly, in Geography. See Ezem.

Asseen in Geography. See Enze.

Assene, a town of Flanders, one mile south-west of Sais de Ghent. By the new arrangement, it is referred to the department of Ecaussinnes, and is the chief place of a canton in the district of L'Ecluse. The place contains 3120, and the canton 16,335 inhabitants; the territory includes 120 kilometres and 7 communes.

Assenepowels, a lake of America, westward of 6 Chirithanux.
Chrislinkauksee, through which its waters run into Allaya river, in New South Wales.

**ASSER LOC.**

A city of Germany, in the circle of the Upper Rhine, and county of Sana Reddeloh, at the confluence of the Wetter and Nech, eleven miles north-west of Düsseldorf. N. lat. 51. 70. 30. E. long. 8. 59.

**ASSENS.** A city of Danmark, left in the west bank of the island of Amn, with a good harbour on the Little Belt, chiefly inhabited by fishermen. The pottage from bees, across the Little Belt, to Ahua found, in the dacha of Sljvick, is nine miles.


**ASSNS Regin.** See Sine, &c.

**ASSNS Patris, Dower ex.** See Dower.

**ASSSNT,** Assens, an agreement or acquiescence of the mind to something proposed or affirmed. — Thus, to affirm to any proposition, is to allow it to be true, or to perceive its truth.

Affirm is distinguished, by faith, into implicit, or blind; and explicit, or seeing, &c. Others distinguish it into actual and habitual.

**Assent, actual,** is a determination of the mind, arising from the perception of the truth of any proposition.

**Assent, habitual,** consists in certain habits of believing or acquiescing, induced in the mind by repeated acts.

To this belongs faith, which is an assent arising from the authority of the person who speaks. Such assent is opinion, which is defined as an assent of the mind, even formaline oppositi, &c.

Father Melchertus says it is done as an axiom, or principle of method, never to allow anything for truth, from which we can ever disaffort without some secret reproach of the town. For Mr. Hume, in his Treatise of Human Nature (vol. i. p. 172, &c.), has given us a new theory of assent or belief in general: a theory which is as well supported with his hypothesis as any ideas, and seems to be a natural consequence of it, and which at the same time is the only belief that we feel in human nature to perfect perspicuity. According to this writer, "an opinion or belief may be most accurately defined, a lively idea related to or associated with a pretext for principle." Upon this notion of belief a great part of his theory is founded; and hence he deduces what he calls his hypothesis, that belief is more properly a part of the subjective than of the cognitive part of our nature.

Dr. Reid has lately observed, in his examination of this theory (Ed. on the Intellectual Powers of Man. p. 253.), that the belief of a proposition is an operation of the mind, of which every man is conscious; and what it is he understands perfectly; though, on account of its simplicity, he cannot give a logical definition of it. If he compares it with the strength or vividness of his ideas, or with any modification of ideas, they are so far from appearing to be one and the same, that they have not the least semblance. That a strong belief and a weak belief differ only in degree, we may easily comprehend; but that belief and no belief should differ only in degree, no man can admit who understands what he speaks; for this in reality is to say, that something and nothing differ only in degree, or that nothing is a degree of something. Every proposition that may be the object of belief, has a contrary proposition that may be the object of a contrary belief. The ideas of both, according to Mr. Hume, are the same, and differ only in degrees of vivacity: that is, contraries differ only in degree; and so pleasure may be a degree of pain, and hatred a degree of love. Such are the absurdities that follow from this doctrine; but it is needless to trace them, as none of them can be more afforded than the doctrine itself. Mr. Hume, in the third volume of his Treatise of Human Nature, endeavours that his theory of belief is very objectionable, seems to home measure to extract it; but he still appears to be of opinion, that belief is only a modification of the idea, though without a proper terminology to express that modification. He therefore adapts a new terminology to explain that modification; such as "apprehending the idea more strongly, or taking further hold of it." But this is merely a change of terms which have no specific difference; and whatever modification of the idea he makes belief to be, whether in vividness or in a stronger apprehension of it, the hypothesis, which makes perception, memory, and imagination to be different degrees of that modification, is changeable with the time and duties already mentioned.

Dr. Hartley's theory on this subject, though not so intelligibly expressed, is not so different from that of Mr. Hume; and it is liable to similar objections. "Affirm and differ," says this writer (Observations on Man. p. 171, ed. 1791.), "whatever the precise and particular nature may be, must come under the notion of ideas, being only those very complex internal feelings, which adhere by association to such clusters of words as are called propositions in general, or affirmations and negations in particular." Accordingly, he distinguishes affirm, and of course its opposite, differ, into two kinds, rational and practical. Rational affirm to any proposition may be defined a readiness to affirm it to be true, proceeding from a close association of the ideas suggested by the proposition with the idea, or in trial feeling, belonging to the word truth; or of the terms of the proposition with the word truth. Rational differ is the opposite to this. This affin, he adds, might be called verbal; but every person imposes himself always to have sufficient reason for such readiness to affirm or deny, he prefers the term rational. Practical effect is a readiness to act in such manner as the frequent vivid recurrency of the rational effect disposes us to act; and practical differ the contrary. Practical effect is therefore the natural and necessary consequence of rational, when sufficiently impressed. For his model of investigating the causes of both kinds of affin, and of accounting for them on the principles of association, we must refer to his work De Jure.

For a further account of this subject, with regard to the reasons or principles on which those affin are founded, and the various measures and degrees of it, see Demonstration, Evidence, Faith, Judgment, Knowledge, Probability, and Harmony. See his Axioms, Matrices, and Principles.

**Assent Royal.** See Royal.

**ASSER.** or Asserius Mensenseis, in Biography, an English divine of the ninth century, was a native of St. David's in Wales, where he assumed the monastic habit among the Brethren. According to Dr. Cave, he was a relation, and Henae says, nephew, to Affries, archbishop of St. David's. Having made a considerable progress in learning under John Scotus Lignana, he was invited to court by King Alfred, and among other preferments, obtained the bishopric of Sherborne. Dr. Cave informs us, that Alfred, by his advice, founded the university of Oxford; but the time of its establishment is a subject of dispute. After writing "The Life of Alfred," first published by archbishop Parker in the old Saxon character in his edition of Waltham's History, printed at London, in folio, in 1734; and republished in a collection of English historians by Cambell, at Frankfurt, in folio, in 1652; and again by Mr. Wile, at Oxford, in 8vo, in 1722. Nicholison, in his "Historical Library," observes, that Alfred's
ASSESSMENT, in a Military Service, signifies a certain rate which is paid by the county-treasurer to the receiver-general of the land-tax, to indemnify any place for not having raised the militia; which sum is to be paid by the receiver-general into the Exchequer. The sum to be assembl'd is four pounds for each man, where no annual certificate of the state of the militia has been transmitted to the clerk of the peace; if not paid before June yearly, it may be levied on the parish officers. Such assessment, where there is no county rate, is to be assembl'd in the same manner with the poor's rate.

ASSESSOR, formed of ad, to, and sols, siff, an inferior or subordinate officer of justice, chiefly appointed to aid the ordinary judge with his opinion and advice. In this sense, the matters in chancery are assessor of the lord chancellor. There are two kinds of assessors in the Imperial chamber, ordinary and extraordinary. — The ordinary are now in number forty-one, whereof five are elected by the emperor, viz. three counts or barons, and two jurisconsults, or civil lawyers. The electors appoint ten, the six circle eighteen, &c. They act in quality of councilors of the chamber, and have salaries accordingly.

ASSESSOR is also used for a person who assembles or lays assessments of taxes and other public duties.

In this sense, assessor, among us, are inhabitants of a town or village elected by the community to assess or settle the taxes and other impositions of the year, to fix the proportion which each person is to bear, according to his estate, and to see the collection made. These are also called in our law offices, by the flat. 16 & 17 Car. II. Two inhabitants in every parish were made assessors for the royal aid.

ASSESUS, in Ancient Geography, a town of the Milians, in which was a temple of Minerva Assennia, which was burned by the flames which were driven thither by the wind. Herodot. i. c. 19.

ASSETs (Fr. asse, i. c. fuitis, enough), in Law, signify goods enough to discharge that burden which is cast upon the executor or heir, in satisfying the debts and legacies of the testator or ancestor. Boc. tit. Assets. Assets are real or personal; where a man hath lands in fee-simple, and dies testate thereof, the lands which come to his heir are assets real; and where he dies possessed of any personal estate, the goods which come to the executor are assets personal. Assets are also divided into assets per defect and assets inter mains; assets per defect is where a person is bound in an obligation, and dies seized of lands which descent to the heir, the land shall be assets, and the heir shall be charged as far as the land to him descended will extend: assets inter mains is when a man indebted makes executors, and leaves them sufficient to pay his debts and legacies; or where some commodity or profit arises to them in right of the testator, which are called assets in their hands. Term. de Ley, 56, 57.

As to assets by descent, it is to be observed, that by the common law, if the heir had hold or aliened the lands which were assets before the obligation of his ancestor was put in suit, he was to be discharged, and the debt was lost; but by the Act 5 W. & M. c. 14. made perpetual by 6 Will. III. c. 14, the heir is made liable to the value of the land by him sold, in action of debt brought against him by the obligee, who
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shall recover to the value of the said land, as if the debt was the proper debt of the heir; but the land which is sold or divided come fell before the action brought, shall not be liable to execution upon a judgment recovered against the heir in any such action. As by lit. 29 Car. II. c. 3, s. 12, lands of 'reçay que truff' shall be affets by defendant; and by the same Art. 12, affets par autre vie shall be affets in the hands of the heir, if they come to him by reason of a special occupancy; and where there is no special occupant, they shall go to the executors and administrators of the party that had them by virtue of the grant, and shall be affets in their hands. When a man binds himself and his heirs in a bond, and dies leaving issue two sons, if the eldest son enters on the lands by descent as heir to the father, and dies without issue; and then the youngest son enters, he shall be charged with affets as heir to the father. Dyer, 568. Lands which come to the heir by purchase shall not be affets. 1 Danv. Abr. 577. A possession in an estate for life or years shall be affets, and a remainder except upon the determination of an estate for life is affets, and ought to be pleaded specially by the heir. An adowment is affets, but not a presentation to a church actually void, which may not be held. Co. Lit. 374. Lands by descent in ancient demesne will be affets in debt; but a copyhold estate depending on an heir is not affets; nor is any right to an estate affets, without possession. Danv. 577. An annuity is no affets, for it is only a choate in action. Equity of redemption of an estate mortgageed, and a term for years to attend the inheritance, are affets.

Ass are affets to pay debts, notwithstanding the intent of the executor to the devise of them. 1 Litt. Abr. 99. Affets in the hands of one executor, are affets in the hands of others; and if an executor dies in the hands of the testator in any part of the world, he shall be charged in respect of them.

6 Rep. 57. In actions against executors, the jury must find the value of the affets; for the plaintiff shall recover only according to the value of the affets found. 1 Rol. Rep. 58. A special judgment against affets only shall have relation to, and bind the lands from the time of filing the original writ or bill. Carth. Rep. 245.

Asseveration, an earnest affirmation, or avouching.

Assheton, William, in Biographists, an English episcopal divine, was born at Middleton in Lancashire, in 1611, and educated at Brasenose college in the university of Oxford. Distinguished by his application and proficiency in various parts of learning, he became a fellow of that college in 1637, and in 1643 was honoured with the degree of doctor in divinity. Besides other preferments to which he was advanced, he was presented to the rectory of Beckenham in Kent, in 1646. He was conscientiously and zealously attached to the church in which he officiated, and faithful and exemplary in the discharge of the duties of his profession. While he was an upright and able advocate for the established religion, he was no less affident in inculcating, from the pres as well as from the pulpit, the indispensable obligations of morality and practical religion. In the present age, however, his "Treatise against Toleration," and his "Possibility of Apparitions," written in defence of them, will not be regarded as evidences of the liberality of his spirit, and the soundness of his judgment. The former, under the title of "Tolerance hath proved the doom of," was published at Oxford, in 1672, 4to.; and his book intitled, "Causes of Secaud and Perfection, &c. to the same purpose," was published at London, in 1674; and his "Possibility of Apparitions" was occasioned by the story of Mrs. Vale, who died at Dover, and was said to have appeared to her friend Mrs. Bargrave at Canterbury, and published in 1706. This story has been since prefixed to "Debates on Death." In 1635, Dr. Ashteden, who was a strenuous advocate for monarchy, wrote "The Royal Apology," in defence of the doctrine of absolute government in kings; and after the revolution, he wrote a piece in defence of king William and queen Mary, intituled, "A Seasonable Vindication of their present Majesties," in which he declared to the public the reasons which induced him to swear allegiance to them. He also wrote several tracts against popery, and in vindication of the Trinity; and various pieces of a practical nature. Dr. Ashteden claims peculiar commendation and respect as the first projector of the scheme for providing a maintenance for clergyman's widows and others, by a nature payable out of the inercess' company. To this scheme he devoted much attention, and after contending with many difficulties and discouragements, he had the pleasure of succeeding. An "Account of the Rite, Progress, and Advances of the proposal, &c." was printed in 1713. The plan, however, was not founded on a sufficient acquaintance with the doctrine of annuities; and the society of course failed in making good its proposals. Ashteden having employed his time and talents in promoting the interests of truth, according to his views of it, and the cause of virtue and humanity, died at Beckenham, in 1711, in the 70th year of his age. Gen. Dict. Bioit. Brit. 

Assideans, or rather Hamideans, in Antiquity, a sect among the Jews; thus called from the Hebrew אסידאנים, merciful, righteous. 1 Mac. ii. 42. vii. 15. Ecclesiast. xlv. 12.

Dr. Prideaux says (Comp. p. ii. book iii. vol. iii. p. 237.), that after the settling of the Jewish church in Judea, or the return from the Babylonish captivity, there were two sorts of men among the members of it: the one contented themselves with the written law of Moses, and were called Sadikins, or the righteous; and the others superadded to the law the constitutions and traditions of the Elders, and other religious observances, which they voluntarily regarded by way of supererogation, and being considered as polishing a degree of holiness superior to that of the others, they were denominated Chosideans, or the pious. From the former were derived the sects of the Samaritans, Sadducees, and Karaites; and from the latter, the Pharisees, and Essenes. These Alldens, who were men of great value as well as eminently zealous for the law, joined Mattathias and his company in the fallacies of the mountaine, as soon as Antiochus was returned to Antioch, and determined to fight with him for the law of their god and the liberties of their country.

Assiduous, Signum Assiduus, in Medicine, a symptom which usually attends a disease, but not always. Thus a dry rough tongue, thirst, and watching, are assiduous signs in an ardent fever. In this sense, assidius differs from pathogeneses, which are inseparable from the disease, &c.

Assiduous, or Assidius, among the Romans, denoted a rich or wealthy person.

The word in this sense is derived from assis, q. d. a man.

Hence we meet with assiduous furtives, assidui furtiujiores, answering to what the French now call city furtives or securities, citations bourgeois.

When Servius Tullius divided the Roman people into five classes, according as they were assessed or taxed to the public, the richer sort, who contributed affes, were denominated assidii; and as these were the chief people of business, who attended all the public concerns, those who are diligent in attendances came to be denominated assidui.

Assidus was also used for volunteers, or those who served in the army at their own expense.
ASSIENTO, or ASSIENTA, in matters of Commerce, a contract or convention between the King of Spain and other powers for furnishing the Spanish dominions in America with negro slaves.

The term is originally Spanish, and signifies a bargain: accordingly the first assiento was a treaty or contract made with the French Guinea company, whereby they were put in possession of this privilege, in consideration of a certain duty which they were to pay to the king of Spain's farms, for every negro thus furnished.

The Spaniards, having almost destroyed the natural inhabitants of Spanish America, have been many years, and still are, upon the part of their Ministers, and other laborious negociations, by request, upon which they could never ever obtain the number they have wanted: and it is certain, if they were fully suppli'd, they would get yearly above twice the silver they now do; or have done for many years past. It must be confessed, they have used various means to obtain them. The Genevese undertook to supply them at a concerted price between them; for which end they formed a company called the assiento, who had their factors at Jamaica, Carabas, and Brazil; but by their ill management made nothing of this contract; nor did their successors the Portuguese. After them it fell into the hands of the French, who made so much of it, that they were enabled, by a computation made from the registres of Spain, to bring it into the French dominions, left than 194,000,000 of pieces of eight. Yet they at length glutted the market, and became sufferers towards the conclusion.

By the treaty of Utrecht, Philip V, being declared king of Spain by the allies, it was one of the articles of the peace between England and France, that the assiento contract should be transferred to the English. Accordingly a new instrument was signed in May 1715: it lasted thirty years; and the furnishing of negroes to Spanish America was committed to the South-sea Company; but then erected; though the first convention for this purpose was made in 1689.

In virtue whereof they were yearly to furnish 4,000 negroes; for which they were to pay at the same rate as the French, with this condition, that during the first twenty-five years, only half the duty shall be paid for such as they shall import beyond the stated number.

The last article gives them a farther privilege not enjoyed by the French; which is, that the English subjects shall be allowed, every year, to send to the Spanish America a ship of five hundred tons, laden with the same commodities as the Spaniards usually carry thither; with a licence to sell the same concurrently with them, at the ports of Porto Bello, Carthagena, and Vera Cruz. This additional article was looked upon as advantageous to the company, as the whole contract besides being granted contrary to the usual Spanish policy, which has ever effectually preferred the commerce of their America to themselves.

Some new articles were afterwards added to the ancient assiento; as, that the English should send their register-ship yearly, even though the Spanish flota and galleons did not go; and that, for the first ten years, the said ship might be of 550 tons.

Finally, as the South-sea company had on the whole been losers by their trade, and at the time of the treaty of Aix-la-Chapelle, in 1748, they had only four years more of their assiento term remaining (the war between Spain and England having commenced in 1739, and interrupted the continuance of it), which Spain was determined not to renew, at least not on any promising terms; for these and other reasons, it was concluded by the British court to infringe her minister at Madrid, to obtain the best equivalent that could be procured for the remaining short time of the company's assiento contract.

By the treaty of Madrid, concluded on the 5th of October 1759, it was agreed that his Britannic Majesty should yield to his Catholic Majesty his right to the enjoyment of the assiento of negroes, and of the same ship, during the years stipulated by the treaty of Aix-la-Chapelle, and in consideration of a compensation of 125,000. Being to be paid by his Catholic Majesty to the South-sea company, within three months, his Britannic Majesty agreed to surrender to him all that might be due to that company for balances of account, or in any manner arising from the former balance; thus all claims, in consequence of the contract, were finally abrogated, and a period was put to all the foreign commerce of the South-sea company.

In consequence of the assiento conveyed to Great Britain by Philip V., British factories were established at Cartagena, Panama, Vera Cruz, Enconos Ayres, and other Spanish settlements. The veil with which Spain had before this time covered the flutes and transmissions of her colonies, was removed. The agents of a rival nation, residing in the towns of most extensive trade, and of chief harbours, had the best opportunities of becoming acquainted with the interior condition of the American provinces, of observing their internal wants, and of determining what commodities might be imported into them with the greatest utility. In consequence of information from authentic and expeditions, the merchants of Jamaica, and other English colonies who traded to the Spanish main, were enabled to afford and proportion their cargoes so exactly to the demands of the merchant, that the contraband commerce was carried on with a facility, and to an extent, unknown in any former period. Besides, the agents of the British South-sea company, under cover of the stipulation which they were authorized to make by the ship annually sent to Porto Bello, gained in their commodities on the Spanish continent, without limitation or restraint. Instead of a ship of 500 tons as stipulated in the treaty, they usually employed one which exceeded 900 tons in burden. She was accompanied by two or three smaller vessels, which moving in the immediate vicinity, supplied her charitably with fresh laiks of goods, to replace such as were sold. The inspectors of the said, and officers of the revenue, gained by exorbitant pretends, concurred at the fraud. The company itself, however, furnished a considerable loss by the assiento trade; whilst many of its favours acquired immense fortunes. Thus, partly by the operations of the company, and partly by the activity of private interlopers, almost the whole trade of Spanish America was ingrafted by foreigners. The immense commerce of the galleons, formerly the pride of Spain, and the envy of other nations, sunk to nothing; and the squadron itself reduced from 15,000 to 20,000 tons inwardly hardly any more, and the year 1770, as far as the royal revenue arising from the fifth, or silver. In order to preserve these improvements, Spain nationed ships of force, under the appellation of *Guarda Costas,* on the coasts of those provinces which were most frequented by interlopers. The captains of these guarda costas, by several unjustifiable acts of violence, precipitated Great Britain into a war with Spain; in consequence of which the latter obtained a final restate from the assiento, as we have above related, and was left at liberty to regulate the commerce of her colonies, without being restrained by any engagement with a foreign power. Anderson's Commerce, vol. iii. p. 378. Robertson's Hill. Amer. vol. iii. p. 378, &c.

ASSIENTO.
ASS

ASSIGNMENT, the act of assigning or transferring the interest or property a man has in any thing; or of appointing or setting over a right to another. Assignments may be made of lands in fee, for life or years; of an annuity, rent-charge, judgment, estate, &c.: as to lands, they are usually of leases and estates for years; and an assignment differs from a lease only in this; that by a lease one grants his interest less than his own, referring to himself a reversion; whereas in assignments he parts with the whole property, and the assignee stands to all intents and purposes in the place of the assignor.

No estate of freehold or term of years shall be assigned, but by deed in writing signed by the parties, except by operation of law. Stat. 29 Car. II. cap. 3. If lease for years assign all his term in his lease to another, he cannot reserve the rent in the assignment; for he hath no interest in the thing by reason of which the rent referred should be paid; and where there is no reversion, there can be no dilsolution; but debt may be in it as on a contract. 1 Litt. Abr. 99. If the executor of a lease assigns the term, debt will not lie against him for rent incurred after the assignment; because there is neither privity of contract nor estate between the lessor and executor; but if the lease be assigned, he shall be chargeable during his life; but after his death, the privity of contract is likewise determined. 3 Rep. 14. 24. Although a lease may make an assignment even of his term, yet debt is against him by the lessor or his heir (not having accepted rent from the assignee); but where a lease assigns his term, and the lessor or his heir, the privity is determined, and debt doth not lie for the reverffion against the first lessee. Moor 472. If an assignment is made by an assignee, the first assignee is not liable for the rent; for if he be accepted by the lessor, the admission of one assignee is the admission of twenty. Comp. Attorn. 491. Where a tenant for years assigns his estate, no consideration is necessary; for the tenant being subject to payment of rent, &c. is sufficient to vest an estate in the assignees; in other cases, some consideration must be paid. 1 Mod. 263. The words required in assignments are, grant, assign, and set over, which may be expressed by several covenants, &c. 1 Johnson 321. In these deeds the assignee is to covenant to make no assignments in the future; and the assignee is to covenant to perform the covenants, &c.

The stat. 32 Hen. VIII. c. 24. gives the assignee of a reverfion (after notice of such assignment), the same remedies against the particular tenant, by entry or action, for waif or other forfeitures, non-payment of rent, and non-performance of conditions, covenants, and agreements, as the assignee himself might have had; and makes him equally liable on the other hand, for acts agreed to be performed by the assignee, except in cases of warranty. A bond, being a coven in action, cannot be assigned over to as to enable the assignee to sue in his own name; and therefore, the form of assigning a coven in action is in the nature of a declaration of trust, and an agreement to permit the assignee to make use of the name of the assignee, in order to recover the poallusion. Accordingly, when in common acceptance a debt or bond is laid to be assigned over, it must still be in the name of the original creditor, the person to whom it is transferred, being rather an attorney than an assignee. But the king is an exception to this general rule;
for he might always either grant or receive a \textit{chofe} in action by agreement; and our courts of equity, considering that in a commercial country almost all personal property must necessarily lie in contract, will protect the assignment of a \textit{chofe} in action, as much as the law will that of a \textit{chofe} in possession. 3 P. Wms. 199. In equity, therefore, a bond is assignable for a valuable consideration paid, and the assignee alone becomes entitled to the money, so that if the obligor, after notice of the assignment, pays the money to the obligee, he will be compelled to pay it over again. 2 Vern. 293.

Several things are assignable by acts of parliament, which seem not to be assignable in their own nature; as promissory notes and bills of exchange, by Stat. 3 & 4 Ann. c. 9.; bills of lading by the sheriff, by 4 & 5 Ann. c. 16.; a judge's certificate for taking and professing a false coin to conviction, by 10 & 11 W. 3. c. 23.; and a bankrupt's effects, by the several statutes of bankruptcy.

The \textit{assignment of dower} is the setting out of a woman's marriage-portion by the king. By the old law, grounded on the feudal exactions, a woman could not be endowed without a fine paid to the lord; neither could she marry again without his license; but the court could contract herself, and so convey part of the land to the lord's enemy. 2 Vern. c. 1. § 3. This became the lords' tool, to be well paid for; and as it seems, would sometimes force the dowerer to a second marriage, in order to gain the fine. But, to remedy these oppressions, it was provided, first by the charter of Henry I. and afterwards by Magna Charta (cap. 7.), that the widow should pay nothing for her marriage, nor be disinherited to marry again, if the \\textit{chofe} to live without a husband, but should not, however, marry against the consent of the lord: and farther, that nothing should be taken for assignment of the widow's dower, but that she should remain in her husband's capital mansion-house for forty days after his death, during which time, called the widow's "\textit{guarantine}," her dower should be assigned. The particular lands to be held in dower, must be assigned by the heir of the husband, or his guardian; Co. Litt. 34, 35, not only for the sake of notoriety, but also to entitle the lord of the fee to demand his services of the heir, in respect of the lands so held. But the heir by this entry becomes tenant thereof to the lord, and the widow is immediate tenant to the heir, by a lease of farinfeudation or under-tenancy, completed by this infeuditure or assignment; which tenure may still be created, notwithstanding the statute of \textit{qua in capere}, because the heir parts not with the fee simple, but only with an estate for life. If the heir or his guardian do not assign her dower within the time of quarantine, or do assign it unfairly, she has her remedy at law, and the sheriff is appointed to assign it. Co. Litt. 34, 35. Or, if the heir, being under age, or his guardian assign more than he ought to have, it may be afterwards remedied by writ of \textit{admeasurement of dower}. Bl. Com. vol. ii. 135. &c. The assignment of the lands is for the life of the woman; and if lands are assigned to a woman for years, in reversion of dower, this is no bar of dower. 2 Dom. Abr. 168. When other land is assigned, that is no part of the lands in which the woman claims dower, that assignment will not be good or binding; and there must be certainty in that which is assigned; otherwise, though it be by agreement, it may be void. 4 Rep. 2. 1 Inst. 23. If a wife accept and enter upon less land than the third of the whole, on the sheriff's assignment, she is barred to demand more. Moors. 679. But if a wife is entitled to dower of the lands of her first husband, and her second husband accepts of this dower less than her third part, she may, after his death, refuse the same, and have her full third part. Fitz. Dower. 121. By provision of law, the wife may take a third part of the husband's lands, and hold them discharged. 2 Danw. 672. The sheriff may also assign a rent out of the land in lieu of dower; and her acceptance of it will bar dower out of the same land, but not of other lands. 2 And. 31. Dyer, 1. Nelson Abr. 680. None can assign dower but those who have a freehold, or against whom a writ of dower lies; and these alone may be suitors, at tenant-merchant, at tenant-in-chief, or else, for years, cannot assign dower; for none of these have an estate large enough to answer the plaintiff's demand. Park. 403, 464. Co. Litt. 35. Bro. 63, 94. 1 Rol. Abr. 681. 6 Co. 57. If the heir within age assign to the wife more land in dower than she ought to have, he himself shall have a writ of admeasurement of dower at full age by the common law. F. N. B. 148, 332. Co. Litt. 39 a. 2 Inst. 357. 7 H. 11. c. 4. 13 Edw. 1. c. 7 & 8. If the heir within age, before the guardian enters, assigns too much in dower, the guardian shall have a writ of admeasurement, by writ. W. 11. c. 7. 2 Inst. 317. If a wife after assignment of dower improves the lands, so that they then become of greater value than the other two parts, no writ of admeasurement lies, &c. F. N. B. 149. 2 Inst. 368. 4 W. 12.

\textbf{ASSIGNMENT, Novel. See NOVEL.}

\textbf{ASSIMILATION, Compounded of ad, in, and similis, like, the act of affimilation; an act whereby a thing is rendered similar, and like to another.}

\textbf{ASSIMILATION, ASSIMILATION, in \textit{Physic}, is properly a motion whereby bodies convert other duly digested bodies into a nature like, or homogeneous to their own. Influences of this assimilation we fee in flame, which converts the oily or other particles of fuel into its own fiery and luminous nature. The like also appears in air, smoke, and spirits of all kinds.}

The like we fee in vegetables, where the watery juices imbibe from the earth, being farther prepared and digested in the veins of the plant, become of a vegetable nature, and augment the wood, leaves, fruit, &c.

So also, in animal bodies, we see the food assimilated or changed into animal substanby, by digestion, chylification, and the other operations necessary to nutrition.

\textbf{ASSIMILATION, in \textit{Rheto ric. See SIMILE.}

\textbf{ASSIMILATOR, in \textit{Entomology,} a species of \textit{Ichneumon,} found in North America. The general colour is scarlet; anterior part of the thorax black; wings brown; base and band yellowish, with a fanginous dot. Swederus Nov. Ad. Stockh. &c.}

\textbf{ASSIMILIS, a species of \textit{Brentus,} a native of New Zealand, and first described by Fabricius in his \textit{Species Insectorum,} under the name of \textit{Ceruloco assimilis.} It is of a cylindrical form, with the apex of the beak gibbous and black; and the wing-cases somewhat faciated with ferruginous. Fabr. Genel. &c.—\textit{Ofi.} The front is shorter than the body; antennae black, brown at the tip; thorax black, and camellate; wing-cases pointed, and marked with four or five dots.}

\textbf{ASSIMILIS, a species of \textit{Geiylus} (\textit{Acbta section).} The wings are tinted, and longer than the wing-cases; abdomen with two styles, which are cleft at the end.}

\textbf{ASSIMILIS, a species of \textit{Sphinx,} that inhabits Tranquebar. It is black; antennae tall, and legs rufous; wings blue, white at the base and tip. Fabr. Mant. Inf.}

\textbf{ASSIMILIS, a species of \textit{Oniscus,} found in the European fens. It is oval; the tail obtuse and unarmed; body chitinous. Fabricius. This is \textit{stelius marinus vulgeri brev.
ASS

ASSINOIS, a nation of Indians, inhabiting the forests of Canada.

ASSINIBOIN, or Red River, sometimes called Assinibois, and Assinipait, a river in the north-west part of North America, which discharges on the south-west side of the lake Winnipeg, in N. lat. 53° 20', W. long. 96° 30'. It alternately receives the two denominations of Assiniboin and Red river, from its dividing at the distance of about thirty miles from the lake into two large branches. The eastern branch, called the Red river, runs in a southern direction to near the head waters of the Missouri. On this river are two trading establishments. The country, on either side, is but partially supplied with wood, and consists of plains covered with herds of the buffalo and elk, especially on the western side. On the eastern side are lakes and rivers, and the whole country is well wooded, level, and abounding with beavers, bears, moose-deer,allow-deer, &c. &c. The inhabitants, who are of the Algonquin tribe, are not very numerous, and are considered as the natives of lake Superior. This country is also inhabited by the Nadowatis, who are the natural enemies of the former; and the head of the water being in the war-line, they are in a state of continual hostility. Although the Algonquins are equally brave, they are generally outnumbered by the others; and, therefore, if they venture out of the woods, which form their only protection, they will probably be soon extirpated. There is not, it is said, a finer country in the world, for the residence of uncivilized man, than that which occupies the space between this river and lake Superior. It abounds in every thing necessary to the wants and comfort of such people. Fish, venison, fowl, and wild rice, are very plentiful; and their subsistence demands that exercise which is essential to health and vigour. This country was formerly very populous; but the aggregate of its inhabitants does not now exceed 500 warriors; and the widows appear to be more numerous than the men. The racoon is a native of this country, but is seldom found to the northward of it.

The other branch of the river is called after the tribe of the Nadowatis, who are denominated Assiniboins, and who are the principal inhabitants of its environs. It runs off from the N.N.W., and in N. lat. 51° 25', and W. long. 103° 26', rises in the fame mountains with the river Dauphin. The country between this and the Red river is about a continual plain to the Missouri. The soil is sand and gravel, with a slight mixture of earth, and produces a short grafs. Trees are very rare, and insufficient, except in particular spots, for building houses, and supplying fire-wood for the trading establishments, of which there are four principal ones. Both these rivers are navigable for canoes to their sources, without a fall; though in some parts there are rapids, caused by occasional beds of limestone and gravel; but the bottom in general is sandy.

The Assiniboins, and some of the Full, or big-bellied Indians, are the principal inhabitants of this country, and border on the river, occupying the central part of it; that next lake Winnipeg, and about its sources, being the station of the Algonquins and Kniffeneans, who have made choice of it in preference to their own country. They do not exceed 500 families. They are not beaver-hunters, which accounts for their allowing the division full mentioned, as the lower and upper parts of this river have those animals, which are not found in the intermediate district. They confine themselves to hunting the buffalo, and trapping wolves, which cover the country. What they do not want of the former, for raiment or food, they sometimes make into pemmican, or pounded meat, while they melt the fat, and prepare the skin on their hair, for winter use. The wolves they never eat; but produce a tallow from their fat, and prepare their skins; all which they exchange for arms or ammunition, gun, tobacco, knives, and various bawbles, with those who go to traffic in their country. Those Nadowats, or Assiniboins, called also Stone Indians, who inhabit the plains on and about the source and banks of the Saskatchewan and Assiniboine rivers, are supposed to have migrated from the southward, being detached tribes from the Nadowats, who inhabit the western side of the Missouri, and lower part of the Missouri, and their progress is north-west. Mackenzie's Voyages from Montreal, &c. Introd. p. 62, &c. p. 407.

ASSIRATUM, in Antiquity, a bloody draught, where-with treaties were ratified. It was made of wine and blood, called by the ancient Romans, affir.

ASSIS, in Physiognomy, either denotes opium, or a powder made of hemp-feed, which being formed into bags about the bigheads of chepnuts, is swallowed by the Egyptians, who are hereby intoxicated, and become ecclatique, and full of the most agreeable visions.

This is also called by the Turks officer.

ASSISA, or ASSISIA. See the articles ASSISE, and TALLIAGE.

Assise, cadere, to fall from the affisse, in Law, is to be non-suited. Fleta, l. iv. c. 15. Bracton, l. ii. c. 7.

Assise cadit in juramento, is where the thing in controversy is so doubtful, that it must necessarily be tried by a jury. Fleta, l. iv. c. 15.

Assise capit in medium affisse, is when the defendant pleads directly to the affise, without taking any exception to the count, declaration, or Writ.

Assisa continuanda, is a Writ directed to the justice, to take an affise for the continuance of the cause, where certain records alleged cannot in time be procured by the party. Reg. Orig. 217.

Assisa nominati, is an affise of NUSEANCE. See the article.

Assisa pars & cerevisia, denotes the power or privilege of afening and adjusting the weight and measure of bread and beer.

Assisa judicium, in Law, signifies a judgment of the court, given either against the plaintiff or defendant, for default.

Assisa propaganda, is a Writ directed to the judges of affise, for the day of proceedings, on account of the king's business wherein the party is employed. Reg. Orig. 208.

ASSISE, or ASSIS, affisse, in Law, a sitting of judges or justices, for the hearing or determining of causes. The word is French, affise or affis, stated; formed of the Latin affisitio, to fit together, which is compounded of ad, to, and sedo, I sit.

Thus is the etymology of the word affise, given by Sir Edward Coke; so that it signifies, originally, the jury who try the cause, and fit together for that purpose. By a figure, it is now made to signify the court or jurisdiction, which fummons this jury together by a commision of affise, or una affisa capienda, whence the judicial assemblies held by the king's commision in every county, as well as to take these writs of affise, as to try causes at "Nisi Prius," are termed in common speech, the affise.

ASSIS,
ASSISE, Clerk of. See Clerk.

Assise, or Assizes, was, at first, used for certain extraordinary fittings of inferior judges, in the inferior courts depending on their jurisdiction, to inquire whether the fabular judges and officers did their duty; to receive the complaints preferred against them; and take cognizance of appeals from them. These are also called mercurial officers.

Assise was also a court or assembly, composed of several great persons of the realm; held occasionally in the king's palace, for the final decision of all affairs of importance.

This is still used, among our writers, placita publica, or curia generis. Yet there is some difference between assises and placent. — The vicounts or sheriffs, who originally were only lieutenants of the comites, or counts, and rendered justice in their place, held two kinds of courts: the one ordinary, held every day, and called placentum; the other extraordinary, called affise, or placita generis; at which the court itself ascribed, for the dispatch of the more weighty affairs. Hence the term assise came to be extended to all grand days of judgment, at which the trials and pleadings were to be solemn and extraordinary.

The modern constitution of assises is different from that above-mentioned. — Our assise may be defined a court, place, or time, where and when writs and proceedings, either civil or criminal, or both, are considered, dispatched, decided, &c. by judges and jury.

In this sense, we have two kinds of assises: general and special.

Assise, or Assizes, generally, are those held by the judges twice a year, in their several circuits.

The nature of the assises is explained by lord Bacon, who observes that all the counties of the kingdom are divided into circuits; to each of which two learned men, assigned by the king's commission, are sent twice a year, except London and Middlesex, where courts of nisi prius are holden in and after every term, before the chief or other judge of the several superior courts; and except the four northern counties, where the assises are holden only once a year. There are called justices, or judges of assises, and have several commissions by which they sit; viz.

1. A commission of oyer and terminer, directed to them, and many others of the best account in their respective circuits. In this commission, the judges of assise, or serjeants at law, are only of the quorum; so that without them there can be no proceeding. This commission which is the largest they have, gives them power to try fact matters relating to treasons, murders, felonies, and other misdemeanors. See Oyer and Terminer.

2. The second is of gaol-delivery, which is only to the judges themselves, and the clerk of the assise五官。—By this commission, they have concern with every prisoner in gaol, for every offense whatsoever. See Gaol-Delivery.

3. The third is of affise, directed to themselves and the clerk of the assise, to take writs of poification, called also affises, in the several counties; that is, to take the verdict of a peculiar fact, or of a jury, called an affise, and summoned for the trial of landed disputes. These writs were formerly frequent; but now men's possessions are sooner recovered by ejectments, &c.

4. The fourth is to take the nisi prius, directed to the justices, and the clerks of assises; whence they are also called justices of nisi prius. See Nisi Prius.

5. The fifth is a commission of peace, in every county of their circuit; and all the justices of the peace, having no lawful impediment, are bound to be present at the assises, to attend the judges.

The sheriff of every shire is also to attend in person, or by a sufficient deputy allowed by the judges, who may fine him if he fail.

These commissions are constantly accompanied by writs of affirmation, in pursuance of the statutes 27 Edw. I. c. 2; 12 Edw. II. c. 5; by which certain persons (usually the clerk of the assise and his subordinates officers) are directed to associate themselves with the justices and serjeants, and they are required to admit the said persons into their society, in order to take the affises, &c. that a sufficient supply of commissioners may never be wanting. But to prevent the delay of justice by the absence of any of them, there is also issued of course a writ of if non omnis, directing, that if all cannot be present, any two of them (a justice or serjeant being one) may proceed to execute the commission.

There is a commission of the peace, oyer and terminer, and gaol-delivery of Newgate, held eight times in every year, for the city of London and county of Middlesex, at justice-lay in the Old Bailey, where the lord-mayor is chief judge. In Wales there are but two circuits, North and South Wales; for each of which the king appoints two persons learned in the law to be judges. Stat. 15 Eliz. c. 8.

This excellent constitution of judges, circuits, and assises, was begun in the time of Henry II. though somewhat different from what it is now.

The grand assise, or trial by jury, instituted by Henry II., as an alternative instead of judicial combats, is particularly described by Glanvil, who was probably the advisor of the measure.

For this purpose a writ, De magna assisa eligendo, was directed to the sheriff, to return four knights, who were to elect twelve others to be joined with them; all these together formed the grand assise, ordained to try the matter of right.

The judges of assise came into use in the room of the ancient justices in eyre, juxtitarii in iterine; who were formerly established, if not first appointed, by the parliament of Northampton, A.D. 1176, 22 Hen. II. with a delegated power from the king's great court; and they afterwards made their circuit round the kingdom once in seven years, for the purpose of trying causes. They were afterwards directed by Magna Charta, c. 12, to be sent into every county once a year. Blackstone's Com. vol. iii. See Justices of Assises.

Assise Special, is a particular commission granted to certain persons, to take cognizance of some one or two causes, as a difficult, or the like. This was very frequently practised among our ancestors. Bracton, lib. iii. c. 12.

Assise is also used for a writ directed to the sheriff, for the recovery of poifications of things immovable, whereof a man's self, or ancestors have been dispossessed.

Lytton, and others, suppose these writs of assise, in which the sheriff is ordered to summon a jury of assise, to have given the denomination to the affises, or courts called; and they assign several reasons of the name of the writ: as

1. Because such writs settle the possession and right, in him that obtains by them. 2. Because originally they were executed at a certain time and place appointed; for by the Norman law, the time and place must be known forty days before the judges sit; and by our law there must be fifteen days preparation, except they be tried in the standing courts at Westminster. But it is more natural to suppose the writs denominated from the courts: and that they were called assises, because anciently tried at special courts of assises, and for and appointed for that purpose. Though of latter days, the
ASSISE.

There are disputation at the general assises, along with the committeed over and terminer, &c.

This writ of assize is said to have been invented by Glanvil, chief justice to Henry II. and if so, it seems to owe its introduction to the Parliament held at Northampton in the twenty-second year of that prince's reign; when judges in oyer were appointed to go round the kingdom, in order to take these offices; and the claims themselves (particularly those of mort d'ancello and novel diffeisin) were clearly pointed out and described. As a writ of entry is a real action. This follows the title of the tenant, by showing the unlawful commencement of his possession, so an assize is a real action, which proves the title of the demandant merely by showing his or his ancestor's possession; and these two remedies are in all other respects so totally like, that a judgment or recovery in one is a bar against the other; so when a man's possession is once established by either of these postponement actions, it cannot be disturbed by the same agoneal, in any other of them.

This remedy by writ of assise was called by flat, Wilm. 2. 1 Edw. I. c. 24. lefsum remedium, in comparison with that by a writ of entry; as it did not admit of many dilatory pleas and proceedings, to which other real actions are subject, and it is only applicable to two species of injury by ouer, viz. abatement and a recant or novel diffeisin.

Assize of Mort d'Ancefor, or death of one's ancestor, is a writ that lies when father or mother, brother or sister, uncle or aunt, nephew or niece, died seized of lands, tenements, rents, &c. held in fee simple; and after their death, a stranger abates. It is good as well against the abateor, as against any other in possession; but it lies not against brothers or sisters, &c. where there is privity of blood between the person professing and them. Co. Litt. 242. It must also be brought within the time limited by the statute of limitations, in fifty years; or the right may be lost by negligence.

This writ directs the sheriff to summon a jury or assise, who shall view the land in question, and recognize whether such ancestor was seized thereof on the day of his death, and whether the demandant be the next heir; soon after which, the judges come down by the king's commission to take the recognition of assise; when, if these points are found in the affirmative, the law immediately transfers the possession from the tenant to the demandant. F. N. B. 195. Finch. L. 292. If the abatement happened on the death of one's grandfather or great-grandfather, then an assize of mort d'ancefor no longer lies, but a writ of "aid," or "de acest," if on the death of the great grandfather or great grandmothe, then a writ of "de fejude," or "de preme," but if it mants one degree higher, to the "trifiple" or grandfathers, if or if the abatement happen upon the death of any collateral relation, other than those before mentioned, the writ is called a writ of "esionage," or "de confamaginæ." Finch. L. 266, 267. And the same points shall be inquired of in all these actions "ancefor," as in an assize of mort d'ancefor, as they are of the same nature (flat, Wilm. 2. 13 Edw. I. c. 20.; though they differ at this point of form, that these assize writs (like all other writs of "præcept") expressly assert a title in the demandant (viz. the feinor of the ancestor at his death, and his own right of inheritance); the assize asserts nothing directly, but only prays an inquiry whether these points be so. 2 Lind. 399. There is also another ancestor writ, denominated a "super obitii," to establish an ownership of the land in question; where, on the death of an ancestor, who has several heirs, one eminently holds the others out of possession. F. N. B. 195. Finch. L. 293. But a man is not allowed to have of any these actions nor filed for an abatement consequent on the death of any collateral relation, beyond the fourth degree (flat. on P. N. L. 221.), though in the lineal ascents he may proceed in "impignora." It was always held to be law (Bracton, lib. 4. c. 13. s. 3. P. N. B. 223.), that where lands were destrivable in a man's will by the custom of the place, there an assise of mort d'ancello did not lie. For where lands were to devolve by the right of possession could never be determined by a process, which merely inquired concerning the feinor of the ancestor, and the heriour of the demandant. Hence it may be reasonable to conclude, that when the statute of wills, 32 Hen. VIII. c. 1. made all leases transitory, the fee of mort d'ancello no longer be brought of lands held in fee simple, and that now, since the statute 12 Car. II. c. 24. which converts all tenures, a few only excepted, into free and common fee simple, no assise of mort d'ancello can be brought of any lands in the kingdom; but that, in case of abatements, recourse must be properly had to the writs of entry. Bl. Com. vol. iii. p. 187.

These writs, however, are now almost obsolete, being in a great measure superseded by the action of ejectment, which answers almost all the purposes of real actions, some very peculiar cases excepted.

Assise of Novel Diffeisin is an action of the same nature with the "assise of mort d'ancello," as this in the demandant's possession must be shown. But in other points it is different, particularly as it recites a complaint by the demandant of the diffeisin committed in terms of direct averment; whereupon the sheriff is commanded to recite the land, and all the chattels thereon, and keep the same in his custodiy till the arrival of the Justices of assise (which, in fact, hath been usually omitted) and in the mean time to summon a jury to view the premises, and make recognition of the assise before the Justices. F. N. B. 175. At which time the tenant may plead either the general issues, "nulli tort," "nulli dificeisin," or any special plea. And if, upon the general issue, the recognizors find an actual feinor in the demandant, and his infrubeste dificeisin by the present tenant, he shall have judgment to recover his seisin, and damages for the injury sustained.

This is called "novel dificeisin," because the Justices in eyre went their circuits from seven years to seven years; and no assise was allowed before them, which commenced before the land circuit, called an "ancient assise;" and that which was upon a dificeisin since the last circuit, an assise of novel or recent dificeisin. Co. Litt. 242. 2. This remedy lies where the tenant in fee simple, fea tail, or for term of life, is put out and duceffor of his lands or tenements, rents, common of pasture, common way, or of an office of profit, toll, &c. Glasov. l. i. Reg. Orig. 195. Avice lies for tithes, by flat. 32 Hen. VIII. c. 7. Cro. Eliz. 559.; but not for an annuity, pension, &c.

For preventing frequent and vexatious dificeisin, it is enacted by the statute of Merton, 20 Hen. III. c. 3. that if a person dificeisin recover seisin of the land again by assise of novel dificeisin, and be again dificeisin of the same tenants by the same dificeisin, he shall have a writ of "re-dificeisin;" and if he recover therein, the re-dificeisin shall be imprisoned. And by the statute of Marberge, 52 Hen. VIII. c. 8. shall also pay a fine to the king; to which the statute Wilm. 2. 13 Edw. I. c. 26. hath superadded double damages to the party aggrieved. In like manner, by the same statute of the statute of Merton, when any lands or tenements are recovered by assise of mort d'ancello, or other writ, or any judgment of the court, if the party be afterwards dificeisin by the same person against whom judgment was obtained, he shall have a writ
A S S I S E.

A writ of "paiz-diffin" against him; which subjects the paiz-diffin to the same penalties as a re-diffin. The reason of which, given by Sir Edward Coke, 2 Inst. 83; 84, is, because such proceeding is a contempt of the king's Court, and is against the law. Bracton, l. 4. c. 49.

The court of Common Pleas, or King's Bench, may hold ple of affiles of land in the county of Northen, by writ out of Chancery 1 Litt. Abr. 195. And in cities and corporations an "affile of frefh force" lies for recovery of possession of lands, within forty days after the affile, as the ordinary affile is in the county. F. N. B. 7.

Assise of Derrein Prefentment, or latl prezentation, lies when a man, or his ancestors, under whom he claims, have presented a clerk to a benefice, who is intituted, and afterwards upon the next avoidance, a stranger presents a clerk, and thereby disturbs him that is the real patron. In this case the patron shall have this writ directed to the sheriff to summon an affile or jury, to inquire who was the last patron that presented to the church now vacant, of which the plaintiff complains that he is deforced by the defendant; and, according as the affile determines that question, a writ shall issue to the bishop, to intitute the clerk of that patron in whose favour the determination is made, and also to give damages, in pursuance of statute Westm. 2. 13 Edw. 1. c. 5. The statute of 7 Ann. c. 14, having given a right to any perfon to bring a writ of "quare impedit," and to recover (if his title be good, notwithstanding the last presentation, by whomsoever made; affiles of derrein prezentment now not being in my wife, have been totally diffued, as indeed they began to be before; a "quare impedit." being a more general, and therefore a more usual action. For the affile of derrein prezentment lies only where a man has an advowson by deferent from his ancestors; but the writ of "quare impedit" is equally remedial, whether a man claims title by deferent or purchase. 2 Inst. 353. Bl. Com. vol. iii. p. 246.

Assise of Juris vivrum, sometimes filled the parson's writ of right, being the highest writ which he can have, lies for a pardon or prebendary at common law, and for a vicar by lat. 14 Edw. III c. 17 and is in the nature of an affile, to inquire whether the tenements in question are frankalmoign belonging to the church of the demandant, or else the lay-fie of the tenant. By this the demandant may recover lands and tenements, belonging to the church, which were aliened by the predecefer; or of which he was deforced; or which were recovered against him by verdict, confession, or default, without praying in aid of the patron and ordinary; or on which any person has intruded since the predecefer's death. F. N. B. 48, 49. But since the reaining statute of 13 Eliz. c. 12, whereby the alienation of the predecefer, or a recovery suffered by him of the lands of the church, is declared to be absolutely void, this remedy is of very little use, unless where the parson himself has been deforced for more than twenty years; for the successor, at any competent time after his accession to the benefice, may enter, or bring an ejectment. Bl. Com. vol. iii. p. 253.

Assise is also used, according to Lyttleton, for a jury. This that author supposes to be by a statioinia effi, the jury being so called, because summoned by virtue of the writ of affile.

Yet it must be observed that the Jury summoned upon a writ of right is likewise called the affile; but this may be said to be statioinia effi, or abusively so termed. Assise, in this signification, is divided into magna & parva.

Assise is farther used, according to Lyttleton, for an ordinance or statute, regulating the weight, size, or di-

Assise is farther used for the sounding or quantity itself prescribed by the statute. When wheat is of such or such price, bread shall be of such affile. See Bread

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We have divers statutes for fixing the affile of fish, clothes, wood, billets, faggots, and the like. Vide 34 & 35 Hen. VIII. c. 2. Ann. c. 15. 10 Ann. c. 6. 19 Car. II. c. 3. 4 Jac. I. c. 9. 1 Geo. I. rat. 2. c. 18.

Fixing any affile of cloth, or preferring what length, breadth, weight, &c. it hall have, for Julian Child thinks, does more hurt than good. As the fashions and humours of mankind are variable, to supply all markets at all times, we must have all sorts, cheap and light, as well as heavier and better. Stretching with tenders is essential to our drapery, and the precise degree or quantity of it cannot without injury be prescribed by any law; but must be left to the winder's or exporter's discretion.

Assise of the Forest, is a statute or condition containing orders to be observed in the king's forest. It is called an affile, because it sets down and appoints a certain measure, rate, or order, in the things it concerns.

Assise, again, is used for the whole process in court, founded on a writ of affile; and sometimes for a part of it, viz. the issue, or verdict of the jury.

Thus we read, that "affiles of novell difiefin shall not be taken but in their thires; and after this manner," &c. Mag. Chart. cap. 12. So in Merton, cap. 4. Hen III we meet with, "certified by affile, quitted by affile," &c.

Assise of the King, a name given to the statute of view of frank-pledge, 18 Edw. II.

Assise at large, is brought by an infant to inquire of a differ, and whether his ancestor were of full age, good memory, &c. when he made the deed pleaded, whereby he claims his right.

Assise in Point of Affile, affiles in modum affinis is when the tenant, as it were, setting foot to foot with the demandant, without any thing further, pleads directly the writ, no wrong, no differ.

Assise out of the Point of Affile, is when the tenant pleads something by exception, as a foreign release, or foreign matter triable in a foreign country; which must be tried by a jury, before the principal cause can proceed.

Assise of Right of Damages, is where the tenant confesseth an outlaw and referring it to a demurrer in law, whether it were rightly done or not, is adjudged to have done wrong; whereupon the demandant shall have a writ of affile to recover damages. Bracton, l. 4. F. N. B. 125.

Assise of Arms, a name given to an act of 25 Hen. II. which provided that every man's armour should defend to his heir, for defence of the realm; and which, together with the statute of Wincheller, 13 Edw. I. c. 6. obliged every man, according to his estate and degree, to provide a determinate quantity of such arms as were then in use, in order to keep the peace.

Assise, Black, in History, an affile held at Oxford, in July, A.D. 1577, so called on account of a sudden "damp" which is laid to have arisen, and, after nearly smothering the whole court and audience, occasioned the death of the judge, high sheriff, most of the jury, and above 500 of the spectators. This fatality was ascribed by the vulgar to magic; but the discernment of lord Bacon law through the mill of superstition. The symptoms of this disorder, which seems to have been the first appearance of the gael-fever in England, marked the most extreme putridity.

Assise,
Assis, Certificate of, in Law, a writ granted by the
Weeds. 2, c. 25, to a party aggrieved, by a verdict or judgment
given against him in an affile, when he had something to plead, as a record or release, which could not have been
pleaded by his bailiff, or when the affile was taken against
himself by default, to have the deed tried, and the record
brought in before the justices, and the former jury summoned
to appear before them at a certain day and place, for
a further examination and trial of the matter. This,
in reality, was neither more nor less than a second trial of
the same cause by the same jury. Bracton, l. 4. tr. 5. c. 6. § 2.
P.N. B. 181. 2 infra. 415.
Assis, Continuance of. See Continuance.
Assis, Justices of. See Justices.
Assis, Limitation of. See Limitation.
Assist, Rent of. See Rent.
Assisier, or Assizer, of wages and measures, is an
officer who has the care and oversight of those matters.
Assisi, in Geography, a town of Italy, belonging to
the fates of the church and duchy of Spoleto; it is the see
of a bishop, and famous for being the native place of St.
Francis, and for the beautiful church belonging to the order
instituted by that saint, in which Some hay he was buried; as
well as for the great number of pilgrims resorting to it. It
is fifteen miles west of Nocera.
Assisi, in Ecclesiastical Writers, denote persons benefi-
cated in a cathedral church, not in a rank below that of can-
cons. The affile perhaps answered to our minor canons.
They were thus called, either because they were allowed an
affile or pension; or from affiliaus, diligent.
Assisior, the name with affe. In Scotland, affis-
ors are the name with our jurors.
Assistance. See Aid.
Assistant is used for a person or officer appointed
to attend another principal officer, for the more easy and
regular discharge of his functions.—Such a bishop or priest had
seven or eight affilis.
Assistant, in Roman Catholic countries, is particu-
larly applied to a kind of counsellors, or comptrollers,
added to the generals or superiors of monasteries, &c. to
take care of the affairs of the community.
The general of the fafetes has five affilis, of confum-
mate experience, chosen by him out of all the provinces of
the order, and denominated from the kingdoms or countries
to which they belong, i.e. Italy, Spain, Germany, France,
and Portugal. In a like fate, most of our trading companies
have their courts of affilis.
Assisiers are also those condemned to affile in the exe-
cution of a criminal.
Assus, in Ancient Law Writers, denotes a thing de-
mised or farmed out for such an affile or certain rent, in
money or provisions. Hence terra affis was commonly op-
posed to terri dominie; this last being held in demesne, or oc-
cupied by the lord, whereas the former was let out to tenants.
Hence also rohisus affis denotes the fet or landing rent.
Assithment, or Assihment, in the Law of Scotia-
land, is a compensation for a man slain.
Affihment is the name with what, in the English Law,
is called Mansutoff.
Assisus, in Physiography. See Lapis Affus.
Assiut, in Geography. See Stout.
Asso, in Ancient Geography, a town of Hispania Tar-
racagon&, in the country of the Balitani. Ptolemey.
Associate, compounded of ad, and fecus, compa-
nion, an adjuté, partner, or member.
Association, Associatio, the act of associating,
or forming a society or company.

Affiliation is properly a contract or treaty of partner-
ship, whereby two or more persons unite together, either
for their mutual assistance, or for the joint carrying on
of an affair; or even for a more commodious manner of life.
In a military sense, it denotes any number of men embo-
ded in arms for mutual defence in their district, and for
preserving the public tranquillity against foreign and do-
mic enemies.
The clofeft of all affociations is that made by the band of
matrimony. See Society.
Association of Ideas, is where two or more Ideas con-
stantly and immediately follow or succeed one another in
the mind, so that one shall almost infallibly produce the
other; whether there be any natural relation between
them or not. Or, it is that principle or faculty by which
two or more sensations, ideas, or motions, are so united
together, that any one imprest alone shall excite all the rest.

Where there is a real affinity or connection in ideas, it is
the excellency of the mind to be able to collect, compare,
and range them in order, in its inquiries; but where there
is none, nor any cause to be assigned for their accompanying
each other, but what is owing to mere accident or habit,
this unnatural affiliation becomes a great imperfection, and
is, generally speaking, a main cause of error or wrong ded-
cutions in reasoning. Thus, the idea of goblins and frights has
really no more affinity with darkness than with light;
and yet let a foolish maid induct them ideas often on
the mind of a child, and leave them there together, it is
possible he shall never be able to separate them again so long
as he lives, but darkness shall ever bring with it those fright-
ful ideas.—Let custom, from the very childhood, have
joined the idea of figure and shape to the idea of God,
and what absurdities will that mind be liable to about the
Deity!

Such wrong combinations of ideas, Mr. Locke shows,
are a great cause of the irreconcilable opposition between
the different sects of philosophy and religion; for we can-
not imagine, that all who hold tenets different from, and
sometimes even contradictory to one another, should wil-
fully and knowingly impose upon themselves, and refuse
truth offered by plain reason; but some base and inde-
pendent ideas are by education, custom, and the constant
sin of their party, so coupled in their minds, that they always
appear there together: these they can no more separate in
their thoughts, than if they were but one idea, and they
are possessed of if they were not. This gives birth to jargon,
demonstration to absurdities, conniving to non-sense, and is
the foundation of the greatest, and almost of all, the errors
in the world.

Mr. Hume observes (Essays, vol. i. p. 51.) that this is
a principle of connection between the different thoughts
or ideas of the mind; and that, in their appearances to the
memory or imagination, they introduce each other with a
certain degree of method and regularity. Of this con-
nection he alleges evidence from our more serious thinking
or discourse, from our wildest and most wandering reveries,
and even our dreams, and from our loftest and finest con-
version. Among different languages, also, words expres-
sive of ideas the most compounded, nearly correspond to
each other; and hence it is inferred, that the simple ideas
compounded in the compound ones are bound together by
some universal principle, which has an equal influence on
all mankind. This writer ascribes the association or con-
nection of ideas to three principles; viz. "resemblance,"
"contiguity" in time or place, and "cause" or "effect."
These, he says (p. 54.), are the only leads that unite our
thoughts.
thoughts together, and beget that regular train of reflection or discourse, which, in a greater or lesser degree, takes place among all mankind. Although it should be allowed, that there are real principles of association or connection in our ideas, it may be urged that ideas succeed one another without resemblance or contiguity as to time and place, and without the mutual correspondence or relation of cause and effect; and that there are other associations besides those of ideas, which are associated with passions and emotions, and passions and emotions are associated together. A particular idea is associated together with a proper name, and often with the general name of the species; general conceptions, or mixed modes, as they are denominated by Mr. Locke, are associated with signs both audible and visible, and signs are associated with one another. Virtue, as it belongs to action and intention, does not resemble the found virtue, is not contiguous to it in time or place, and is neither its cause nor its effect; nor can it be imagined that the arbitrary signs of various objects should have any natural relation to one another. But if there were no other principles of association besides those of Mr. Hume, the author himself has not shown how they account for the phenomena.

Dr. Hartley, whatever may be thought of his general system, has attempted to form a mechanical theory of the human mind and its various operations by means of association. The principle or law of association seems to have first noticed by Mr. Locke; but he applied it to the solution of very few phenomena. Mr. Gay, in a "Dissertation upon Virtue," prefixed to "Law's Translation of King's Origin of Evil," deduces the moral feelings from association; and Dr. Hartley traces all, or at least most of the other phenomena of mind to the same cause. This law of association extends to sensations, to ideas, and to muscular motion; which see respectively.

Accordingly it distinguishes it into synchronous and successive; and defines our simple and complex ideas to the influence of this principle or habit. Particular sensations result from previous vibrations conveyed through the nerves to the medullary substance of the brain; and there are intimately associated together, that any one of them, when impressed alone, shall be able to excite in the mind the idea of all the rest. Thus we derive the ideas of natural bodies from the association of the several sensible qualities with the names that express them, and with each other. The light of part of a large building faggots the idea of the rest instantaneously, by a synchronous association of the parts; and the sound of a word, which begins a familiar sentence, brings to remembrance the remaining parts in order by successive association. Dr. Hartley maintains that simple ideas run into complex ideas by association; and apprehends that by pursuing and perfecting this doctrine, we may come sometimes or other be enabled to analyze those complex ideas that are commonly called the ideas of reflection, or intellectual ideas, into their several component parts, i.e. into the simple ideas of sensation of which they consist; and that this doctrine may be of considerable use in the art of logic, and in explaining the various phenomena of the human mind. For a further explication of Dr. Hartley's doctrine of association, the philosophical principles upon which it depends, and the mode of its application, the reader must be referred to his "Observations on Man," vol. 1, or part 1, p. 124, and also to Priestley's "Abridgment of Hartley," 8vo.; Stewart's "Elements of the Philosophy of the Human Mind," 4to. 1792, ch. vi.; Darwin's "Zoonomia," vol. 1, § 5—16.

A late writer observes, that the doctrine of association is to be very carefully distinguished from the theory of vibrations, being established upon independent evidence and unimpeachable facts. This therefore, he adds, must stand, though the other should be regarded only as a plausible hypothesis, insufficient of satisfactory proof. It was to prevent the confusion of the nature and evidence of association and vibration, says this writer, that Dr. Priestley published his edition of Hartley's work, from which the theory of vibrations is entirely excluded. Bellamy's Elements of the Philosophy of the Mind, and of Mind and Philosophy, 8vo. 1801. p. 53. See also Ewer, Idea, Memory, Sensation, Vibrations, and Vibratization.

Association, the Law, is a writ or patent fount by the king, either of his own motion, or at the suit of a party plaintiff, to the justices of the assize, to have other persons associated to them, in order to take the assize.

Upon this patent of association, the king lends his writ to the justices of the assize, thereby commanding them to admit such as are so fount.

The clerk of the assize is usually associate of course; in other cases some learned scrivener at law are appointed. See Assize.

Association of Parliament. In the reign of king William III. the parliament entered into a solemn association to defend his majesty's person and government against all plots and conspiracies; and all persons bearing offices civil or military were enjoined to subscribe the association to stand by king William, on pain of forfeitures and penalties, &c. by stat. 7 and 8 W. III. c. 27.

Association, Feathers Tavern, consisted of a number of clergymen, and of gentlemen in the professions of civil law and physick, who, willing to be exempted from the obligation of subscribing the thirty-nine articles of religion, applied in the year 1772, by petition to parliament for this purpose. Their society was so called from the place where they met. The object at which they aimed was to be permitted to hold their preferments, upon condition of merely subscribing to the holy scriptures, agreeably to the grand Protestant principle: which is, that every thing necessary to salvation is fully contained in these scriptures, and that they are the sole rule of faith and manners. The request, however, was not thought to comport with the nature of a civil establishment in religion; and principally on this ground, it was strenuously opposed by many distinguished members of parliament, and as strenuously defended by some of the first persons in the house of commons. After a long and interesting debate, the abolition of the petition was negatived by a large majority. It was the general opinion, that these attempts to reap the benefits of the Established Church, ought to comply with the terms on which they are offered.

Association, Protestant, took its rise from an act passed in 1738, for relieving the majesty's subjects, professing the Romish religion, from certain penalties and disabilities imposed upon them in the eleventh and twelfth years of the reign of king William III. The act was passed unanimously; nor did it at first appear to excite any great alarm among persons of any class. The papists, as they now thought the government inclined to be more indulgent to them than it had formerly been, began to take somewhat greater liberties in the exercise of their religion than they to which they had been accustomed. By degrees, a number of persons in London, and in other parts of the kingdom, began to express great apprehensions of the increase of popery, and to exclaim against the late act, by which they thought it was sanctioned and supported. Meetings of these zealous persons were held from time to time in London; and they formed themselves into a body under the
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the title of the “Protestant Association,” and at length Lord George Gordon became their president. The object of their association was to procure a repeal of the last act in favour of the papists. The persons who attended these meetings were, many of them, honest and well-intentioned people, who had a just aversion to popery, but who did not duly consider, that an intolerant spirit was at least as dangerous to a protestant as in a papist. In a little while, however, their number, consisting of persons in the lower ranks of life, became very considerable. A petition to parliament was framed, for a repeal of the late act, and the utmost pains were employed to procure subcriptions to it. The number of subscribers is said to have amounted to 120,000 persons. In order to give weight to their petition, it was determined that it should be attended by great numbers of the petitioners in person; and a public advertisement was issued for that purpose, signed by Lord George Gordon. Accordingly it is supposed that at least 50,000 persons assembled on the second of June at St. George’s Fields, and proceeded in great order to the house of commons, where their petition was presented by their president. Several members of both houses of parliament were greatly inflamed and ill-treated by the populace, and in the evening a mob assembled which demolished two Roman chapels. The metropolis, for several subsequent days, became an unexampled scene of alarm, terror, and devastation; and for some time the magistrate was in general manœuvred little activity. At length, when the rioters were making a formidable attack upon all property, and every man’s personal security was endangered, the military interposed, and, after considerable exertions, restored the capital of the kingdom to order and tranquillity, after a debâllement that had continued for six days, and without the loss of many lives. The number of persons killed and wounded by the military in the supplication of these riots, is said to have amounted to 458. It would be unjust, however, to impute to the protestant association, as the first agents in this business thought proper to fly themselves, the whole of the mischief that ensued, or to suppose that they foresaw the calamities to which they gave occasion. Yet it must be allowed, that those unhappy scenes owed their origin to their bigotry and delusion; and that the members of that association matured a spirit the very reverse of that which distinguishes real and enlightened protestants, and very disgraceful to the national character. It has been said, that no member of the protestant association was executed or tried for any share in the riots; and it is most probable, that those who engaged in this disorderly business from religious bigotry, would have the decision to retire before the late exactions, and before the intervention of the military. Several of the rioters were afterwards apprehended, tried, and executed. Lord George Gordon was committed to the Tower on the tenth of June, arraigned on the twenty-fifth of January, 1781; and on the fifth of February, tried under a charge of criminal treason, and acquitted.

ASSOIL, in our Ancient Law-Books, signifies to absolve, deliver, or set free from an excommunication. See Absolution.

ASSKO, in Geography, a town of Africa, the capital of Ifini, in an island of the same name, formed by the river Ilini; which is the ordinary residence of the king and his attendants.

ASSOM. See Assen.

ASSONANCE. In Rhetoric and Poetry, a term used where the words of a phrase, or verse, have the same sound or termination, and yet make no proper rhyme.

There are usually vicious in English; the Romans some-
times used them with elegance: “Militem comparavit, excitavit ordinavit, acem laetavit.”

The Latins call it eundem dicunt, and the Greeks èu- toia.

ASSONANT Rhymes. is a term particularly applied to a kind of versifying common among the Spaniards, where a resemblance of sound forms instead of a natural rhyme.

Thus ligas, callos, toros, mirgias, may adverce each other, in a kind of affonant rhyme, because they have each an in the penultimate syllable, and an a in the last.

ASSONGSONG, in Geography. See Island of Asumption.

ASSONIA, in Botany, a genus of plants, so named in honour of Ignatius de Ato, a Spanish botanist. Lin. gen. Schreb. n. 1123. Cavall. Diff. p. 120. Donbey’s, p. 121. Class, monadelphia duodecimtria. Nat. Ord. colom- nifera. Malvacea, Judd. Gen. Char. G. perianth double; outer three-leaved, unilateral, deciduous; inner one-leaved, five-parted; parts lanceolate, acute, ridged. Cor. petals five, roundish, narrowed at the base, spreading, withering, affixed to the pitcher of the flammae. Stem. filaments fifteen, filiform, upright, shorter than the corolla, conjoined at the base in the form of a pitcher; anthers oblong, subfusiform, erect; five linear-lanceolate, somewhat erect, coloured, petal-shaped, frappes between the flammae, proceeding from the pitcher. Pyl. germ roundish, five-furrowed; style simple, longer than the flammae, permanent; frigus five, recurved. Per. capit. fuliglobosum, or turbinate, five-celled; cells separable, bivalve. Seeds, solitary or in pairs, subovate. Old. Aftonia, with the outer perianth one-leaved, three-toothed, and with five fylles, does not seem separable from dombeya. With the outer perianth three-keaved, and a single fylle, any more than the hibicus dicoccus from the other hibici; or the one fylled fides, from the red; especially as dombeya oras cage, this the fylle divided almost to the base. We have therefore followed Schreber and Martyn in uniting dombeya with afora.

Species, t. A. populnea. Cavall. Diff. 120. t. 42. f. 1. “Leaves coriaceous, ovate-acuminate; flowers coriycync.” A small tree resembling Hibiscus populnea. The French call it bois de fonte, bleu ou galeux, because the wood is sweet-scented, and blue in the centre, and when old it becomes very hard. Leaves alternately scattered, large, entire, and hang obliquely; outer calyx so small as scarcely to be observed; petals small, oblong, obliquely fiddle-shaped, first white, afterwards fergous. A native of the isle of Bourbon, in hilly woods. 2. A. palmata, dombeya palmata, Cavall. l. c. “Leaves coriaceous, palmate, smoothish, lobes seven, acute, ferrate-crenate; flowers coriycync.” Stem arborescent; leaves alternate, on long footstalks; lobes oblong-acuminate; fylipes lanceolate, tomentose, deciduous; flowers in solitary peduncles, at the ends of the branches, tomentose; corolla an inch and a half wide, changing from white to a sulphur colour, and fally fragrious. A native of the isle of Bourbon, where it is called by the natives mahot-tantan.

3. A. acuangulara. Cavall. 1. c. “Leaves coriaceous, roundish, three-toothed, crenate; flowers racemose.” Stem arborescent; leaves alternate, of the length of the footstalks, seven-nerved, and commonly with an angular tooth between the base and lateral divisions; racemes solitary, axillary; calyces externally tomentose; corolla as that of the A. palmata (2), but veined and coriaceous; fruit pear-shaped. A native of the isle of Bourbon. 4. A. angulata, dombeya angulata. Cavall. 1. c. “Leaves coriaceous, roundish, angular at top, ferrate-toothed tomentose; umbels numerous; common peduncles shorter than the pedicel.” Arborescent; branches tomentose; leaves with three angles at the tip, seven-nerved; fylipes embracing
the item; umbels axillary, solitary; fruit globular, with two seeds in each cell. A native of the island of Bourbon. 5. A. tilifolius, dombeya tilifolia. Cav. l. c. "Leaves cordate, roundish-acute, crenate; flowers raceme-corymbed, arborescent." All the shrub very tomentose; leaves shaped like those of the common lime-tree, seven-nerved, tomentose; peduncles axillary, solitary, divided at the end into opposite horizontal racemes. A native of the island of Bourbon. 6. A. tomentosa, dombeya tomentosa. Cav. l. c. "Leaves cordate, roundish, crenate, tomentose, with almost circular veins, flowers umbelled." Stems arborescent, bristly; the whole tree very tomentose; follicles coriaceous, broad-ovate, acuminate, ciliate, half-vein clasping; common peduncle very long, forked at the top, and terminated by two umbels; petals roundish, sickle-shaped. A native of Madagascar. 7. A. punctata, dombeya punctata. Cav. l. c. "Leaves ovate-lanceolate, long, quite entire, tomentose underneath, rugged with dots on the upper surface." Trunk about the thickness of the human leg or thigh, covered with dark-brown bark; branches alternate, tomentose; leaves three or four inches long (sometimes crenulate or sinuate), rounded at the base; flowers on a long axillary common peduncle, umbelled, white, but becoming ferruginous by age; pedicels twenty or thirty, one-flowered. A native of the island of Bourbon. 8. A. decandra, dombeya decandra. Cav. l. c. "Leaves ovate-acuminate, repand-crenate, smooth; flaments five, two-thersed; flowers small, umbelled." Stem arborescent, with a brown furrowed bark; leaves alternate, clefted, four times as long as the petals; the outer calyx consists of three very small bristles; corolla rarely three lines in diameter; filaments five, five barbs, five forked; germ five-corned, one seed in each of the fruit. A native of Madagascar. 9. A. umbellata, dombeya umbellata. Cav. l. c. "Leaves cordate, ovate-oblong, acuminate, repand smooth; flowers umbelled, globular." A tree entirely smooth, with a brown bark; leaves longer than the petals, either repand about the edge, or obliquely and broadly crenate; common; peduncles solitary, axillary, on the tops of the branches ciliolate, very smooth, terminated by a single globose umbel. A native of the state of Bourbon, where ropes are made of the bark. 10. A. ovata, dombeya ovata. Cav. l. c. "Leaves ovate, toothed, five-nerved, tomentose; style very small." Stem shrubby, branched, covered with a ferruginous nap; leaves alternate, white underneath, rugged on the upper surface, double the length of the petals; follicles capillary, tomentose; pedicels forked at the top, with a coriand at each division; corolla small; petals narrow, roundish at the end, not sickle-shaped; their claws are permanent, and deeply ferruginous. Fruit globular, five-corned, within the segments of the calyx. A native of the island of Bourbon. 11. A. ferruginea, dombeya ferruginea. Cav. l. c. "Leaves ovate-oblong, seven-nerved, ferruginous beneath; petals, peduncles, and calyces tomentose." Stem arborescent, from eight to ten feet high; branches covered with a rufous nap; leaves on the extreme twigs, scattered alternately, acuminate, tooth-ferruginate, tomentose on the under surface; peduncles double the length of the petiole, forked at the top, with a many-flowered coriand on each division. This, perhaps, may be a variety of the A. ovata; the leaves, however, are much broader at the base, acuminate, seven-nerved, and very much toothed; whereas in that they are strictly ovate, five-nerved, and the teeth are dilate. A native of the island of Mauritius, and first discovered by Commerçon in 1769.

Propagation and Culture. See Hibiscus and Penta-

petes.  

Agonia, of Dombeya Plenimes. See Pentapetes.  

Assorus, in Ancient Geography, a town of Macedonia, in Mysiglöia. Ptolemy.—Assor, a town of Sicily, seated on a hill to the left of the river Chrysaus. Died. Sic.  

Assos, or Assos, a sea-port town of Asia Minor, in the Troad, fortified both by art and nature, according to Strabo. Acts xx. 15.  

Assos, or Assor, is now a sea-port of Asiatic Turkey, in Natothis, on a gulf of the Aegean sea, to which it gives name, four leagues S.E. from Tros, and eleven leagues west of Adramyttis. N. lat. 39° 18' long. 26° 1'.
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affirma's. When one becomes legally indebted to another for goods sold, the law implies a promise that he will pay the debt and if it be not paid, 1. voluntary affirmation lies; and the same lies for goods sold and delivered to a stranger, and requisitions of the defendant in the price being agreed upon, and proved, Duns. Afr. 26, 27. If a tenant, being in arrear for rent, settles an account of arrears with his landlord, and promises to pay him the sum in money, an affimtum lies on this promise. Rule 3. 2. If a man and woman, being unmarried, mutually promise to marry each other, and afterwards the man marries another woman, by which he renders himself incapable of performing his contract, an affimtum lies, in which the woman shall recover damages. Carter, 253.

There are, however, five cases, specified by the statute of frauds and perjuries, 29 Car. II. c. 3, in which no verbal promise will be sufficient ground of action, without some note or memorandum in writing, signed by the party who is to become chargeable. 1. Where an executor or administrator promises to answer damages out of his own estate. 2. Where a man undertakes to answer for the debt, default, or miscarriage of another. 3. Where any agreement is made, upon consideration of marriage. 4. Where any contract or fact is made of lands, tenements, or hereditaments, or any interest therein. 5. Where there is any agreement that is not to be performed within a year from the time of its being made. In all these cases a mere verbal affimtum is void.

The consideration is the ground of the common action on the cause; and no such action lies against a man for a promise, where there is no consideration why he should make the promise.

Besides express contracts, there are others implied by law, and these are such as reason and justice dictate, and which, therefore, the law presumes that every man has contracted to perform; and, upon this presumption, to become answerable to such persons as suffer by his non-performance. Of this nature are, first, such as are necessarily implied by the fundamental constitution of government, to which every man is a contracting party. That is, that every person is bound and hath virtually agreed to pay such particular sums of money, as are charged on him by the statute, or ascribed by the interpretation of the law. By the same principle of implied original contract to submit to the rules of the community by which we are members, a forfeiture imposed by the bye laws and private ordinances of a corporation upon any that belong to the body, or an amercement set in a court-leet or court-baron upon any of the suitors to the court, create a debt in the eye of the law; and such forfeiture or amercement, unpaid, works an injury to the party or parties entitled to receive it, for which the remedy is by action of debt. The same reason may with equal justice be applied to all penal statutes, or such acts of parliament that inflect a forfeiture for transgressing the provisions enacted by them. A second class of implied contracts are such as arise from natural reason, and the just construction of law; and this class extends to all presumptive undertakings or affirmations, which, though never perhaps actually made, yet constantly arise from this general implication and intention of the courts of judicature, that every man hath engaged to perform what his duty or justice requires. Thus, if I employ a person to transact any business for me, or to perform any work, the law implies that I undertook or afforded to pay him so much as his labour deserved. If I neglect to make him amends, he has a remedy by an action on the cause upon this implied affimtum. The valuation of his trouble is submitted to the judgment of a jury, who will affix such a sum in damages as they think he really merited. This is called an affimtum on a "quantum meruit." There is also an implied affimtum on a "quantum valebit," for that case, where one takes up goods or works of another, without expressly agreeing for them. Here the law binds that one party did intentionally agree a certain rate of the goods he should pay; and if the action be brought accordingly, it is the vendor to pay that value. Another species of implied affimtum is when one has bold and received money belonging to another, without any verbal interlocution given of the necessary part; for the law construes this to be money had and received for the use of the owner only; and implies for the person so receiving affirm'd and undertook to account for it to the true proprietor. And if he unjustly detain it, an action on the cause lies against him for the breach of the implied promise and undertaking; and he will be made to repair the owner in damages, equivalent to what he has detained in violation of such promise. This is applicable to almost every cause where the defendant has received money, which is "ex aequo et bono" he ought to refund. 4 Barr. 1013.

Moreover, when a person has laid out and expended his own money for the use of another at his request, there arises a promise of repayment, and an action on this affirmation. Carb. 46. 2 Keb. 99. Also, upon a stated account between two merchants, or other persons, the law implies that he against whom the balance appears has engaged to pay it to the other, though there be no actual promise. From this implication, actions on the cause are frequently brought, declaring that the plaintiff and defendant had settled their accounts together, "infinitum computativa," which gives name to this species of affimtum, and that the defendant engaged to pay the plaintiff the balance, but has since neglected to do it. The last class of contracts, implied by reason and construction of law, arises upon the implication, that any one who undertakes any office, employment, trust, or duty, contracts with those who employ or entice him to perform it with integrity, diligence, and skill; and, if by his wanting either of these qualities, any injury accrues to individuals, they have their remedy in damages by a special action on the cause. If a sheriff does not execute a writ sent to him, or willingly makes a false return, the party aggrieved shall in both cases have an action on the cause for damages, to be assailed by a jury. Moor, 431. 2 Rep. 99. If a sheriff or gaoler suffers a prisoner, taken upon false process, or during the pendency of a suit, to escape, he is liable to an action on the cause; but, if, after judgment, a debtor charged in execution for a certain sum be permitted to escape, a gaoler or sheriff is compellable by action of debt for a sum liquidated and ascertained, to satisfy the creditor his whole demand, Rot. Weem. 2. 13 Edw. I. c. 11. and 1 Ric. II. c. 12. 2 Hen. 3. 582. An advocate or attorney betraying the cause of their client, or, being retained, neglecting to appear at the trial, by which the cause mili-carnes, are liable to assertion on the cause, for a separation to their injured client. Firch L. 188.

There is also in law an implied contract with a common innkeeper, to secure the goods of his guest; with a common carrier or stage-coach, to be answerable for the goods he carries; with a common carrier, that he shoves a horse well, without blaming him; with a common tailor, or other workman, that he performs his business in a workman-like manner; in which if they fail, an action on the cause lies for the recovery of damages for such breach of their general undertaking. 11 Rep. 54. 1 Sound. 324.

If an innkeeper, or other victualler, hangs out a sign, and opens his house for travellers, it is an implied engagement to entertain all persons who travel that way; and upon this universal affimtum an action on the cause will lie against him.
for damages, if he without good reason refuses to admit a traveller. 1 Veit, 232. If one cheats with false coins or dice, or by false weights and measure, or by selling one commodity for another, an action on the case lies against him for damages, upon the contract which the law always implies, that every transaction is fair and honest. 10 Rep. 36. In contracts for provisions, it is always implied, that they are wholesome, and if they be not, the fame remedy may be had. If cloth is warranted to be of such a length, it is not an action on the case lies for damages. Finch L. 189. Also, if a lease be warranted found, and the tenant foresees, he has been held that an action on the case lies to recover damages for this imposition. Salk. 611. Bl. Com. vol. iii. p. 158, &c. See Contract, and Promise.

ASSUMPTION, in Antiquity, a feast celebrated in the Roman church, in honour of the miraculous ascent of the Holy Virgin, as they describe it, body and soul into heaven.

ASSUMPTION, was also, among our ancestors, used for the day of the death of any faire: “quia ejus anima in coltum assumitur.” See Anniversary.

ASSUMPTION, in Geography, an episcopal city of South America, in the province of Paraguay, situated in the eastern division of the province, on a river of the same name, a little above the place where it is joined by the river Pilcomag. It was built by the Spaniards in 1538, and is distinguished by the fulness of its situation, by the fertility of the territory in which it stands, producing a great variety of native and exotic fruits in the highest perfection, and also by the number of its inhabitants, who are partly descendants of Spanish families that settled in the place, and partly Melitzos and mulattoes. This city lies about fifty leagues above the confluence of the Paraguay and Paruns, where the former begins to be called the river de la Plata. It is the residence of a governor appointed by the king of Spain, under the viceroy of Peru. Near the city is a lake, remarkable for having in the middle of it a rock, which rises to a prodigious height like an obelisk. S. lat. 25° 30’. W. long. 57° 40’.

ASSUMPTION, or Astenfong, one of the Marianne or Ladrones islands, situate according to La Perouse’s chart in N. lat. 19° 45’; and W. long. 145° 35’. It is a volcanic island, about three leagues in circumference; and its highest point is about 200 toises above the level of the sea. Its form is that of a perfect cone, whose surface, as far as forty toises above the level of the sea, is as black as coal. Some cocoa-nut trees occupy nearly a fifteenth part of the circumference of the island, for a depth of forty toises, which are in some measure sheltered from the east wind; and this is the only part of the island where it is possible to anchor, in a depth of water of thirty fathoms over a bottom of black sand, extending nearly a quarter of a league. The lava, flowing from the island, has formed precipices and hollows, bordered with a few flinted cocoa-nut trees, thinly scattered and mixed with limes and a small number of plants; and it has covered the whole circumference as far as a border of about forty toises towards the sea. The summit appeared to be vitriflated, resembling black glass, and its termination was concealed by clouds. Although no smoke was visible, the sulphurous fumes, which extended half a league out to sea, induced a suspicion that the fire of the volcano was not extinguished, and that its last eruption was not very ancient; more especially as there appeared no trace of decomposition in the lava, on the middle of the mountain. The island exhibits no appearance of having been ever inhabited, even by quadrupeds, much less by human beings. Some very large crabs were found here; and these, it is apprehended, have driven away the sea-birds, who lay on shore, and whose eggs they would devour. Some very fine falls were found in the hollows of the rocks; and three or four new species of the banana tree were collected. No fish was perceived, besides a red ray, some small sharks, and a sea-serpent, which might be three feet long, and three inches thick. No water could be procured in this desolate island, except some small quantity lodged in the hollows of the rocks. The sea gulls along the shore, and forms at every point a surf which renders disembarkation extremely dangerous. Voyage of La Perouse, vol. 1. p. 24. Eng. Transl. Lond. 1798.

ASSUMPTION, is also an island lying on the south-west coast of California, forming with a projecting point of land a bay, both on its north-east and south-east sides. N. lat. 26°. W. long. 120°.

ASSUMPTION, a river of North America, in New York, which falls in from the east into the lake Ontario, after a N.W. and W. course of about 25 miles; 5 miles S.E. from Pl. Gaverie.

ASSUMPTION, is a name sometimes given to the island Anticosti.

ASSUMPTION, in Logic, is the minor or second proposition in a categorical syllogism.

ASSUMPTION, is also sometime used for a conclusion drawn from the propositions whereof an argument is composed. Thus we say, the premises are true, but the assumption is censurable.

ASSUMPTIVE ARMS, in Heraldry. See Arms.

ASSURÉ, in Ancient Geography, an episcopal town of Africa, in the Transvaal province, placed by Antonine (Itiner.), on the road from Carthage to Sufatula, 108 miles from the former, and 42 from the latter.

ASSURANCE, Policy of. See Policy.

ASSURANCE, in Commerce. See Insurance.

We have also offices of assurance for life, where policies are granted for securing a sum of money on the extinction of any given life, in consideration of an adequate compensation either paid down in one sum, or by annual installments during the continuance of such life.

Assurances on Lives. By assuring a life is meant, obtaining security for a sum of money to be received should the life drop, in consideration of such a payment made to the assured, as shall be a sufficient compensation for the loss and hazard to which he exposes himself. In estimating this compensation, the amount of it will depend entirely on the rate of interest at which money is improved, and the probability of the duration of the life to be assured. If the interest be high, and also the probability high of the duration of the life, this compensation or premium of assurance will be proportionally low; on the contrary, if the rate of interest be low, and the probability of living be also low, the premium will be proportionally high. In order to explain this, let 100/. be suppose to be assured on a life for a year to come; that is, let 100/. be suppose payable a year hence, provided a life of a given age falls in that time. Were the interest of money at 5 per cent, and the life sure of failing, the value of the assurance would be the same with the present value of 100/. payable at the end of a year, reckoning interest at 5 per cent; that is, it would be that sum, which being now put out to interest at 5 per cent, would produce 100/. at the end of the year, or 95f. 4s. 8d. See Annuities, Tab. II.

On the contrary, if it be an even chance, or the odds be equal, whether the life does or does not fall in the year, the value of the assurance will be half the former value, or
ASSURANCE ON LIVES.

If the odds against its failing be two to one, that is, if it may be expected that some one of three lives, at the age of the given life, will fail in the year, the value of the assurance will be a third of the first value, reckoning the same interest, or 31/. 14s. 11d. If the odds be nineteen to one, or if it may be expected that one out of twenty lives, at the age of the given life, will fail in a year, the value of the assurance will be a twentieth part of the first value, or 4/. 17s. 3d.

If the odds be forty-nine to one, or if only one out of fifty such lives as the given life can be expected to fail in the year, the value of the assurance will be a fifteenth part of the first value; that is, it will be 1/. 18s. 11d. Now the odds of these things are, according to the Northampton Table of Observations (see Mortality), the odds that a life aged 22 will not drop in a year. The odds of 19 to 1 are the odds, according to the same table, that a life aged 65 will not drop in a year; and the odds of 49 to 1 are the odds that a life aged 39 will not drop in a year. It follows, therefore, that the value of the assurance of 100l. for a year on a life aged 52 is 31/. 14s. 11d.; on a life aged 65, 4/. 17s. 3d.; on a life aged 39, 1/. 18s. 11d. reckoning interest at 5 per cent. If interest be reckoned at 5 per cent, these values will be 32/. 7s. 3d.; 4/. 17s. 11d.; 1/. 18s. 11d.

The assurances most commonly practised are those on single lives, either for a given term, or during their whole continuance. When a life is assured for a given term or number of years, the value may be paid either in one single present payment, or in annual payments, to be continued till the failure of the life, should that happen within the term; or if not, till the determination of the term.

The method of finding these values cannot be easily understood by those who are unacquainted with the doctrine of life-annuities, as it has been taught by mathematicians; but the following observations may be of use to give some general idea of the subject.—Let us suppose that a person aged 39 years wants to assure 100l. on his life for 27 years, or till he be 65 years of age, and that he chooses to advance the proper compensation for it in a fixed annual payment, the first to be made immediately, and the following payments to be continued till either the term ends, or his life drops. The value of the assurance for the first year, is, by what has been already shown, 1/. 18s. 1d. reckoning interest at 5 per cent. The value of the assurance for the first year, of the sum due to the person, supposing him to have lived to the beginning of it, or to have completed 65, is likewise, by what has been already shown, 4/. 17s. 3d., reckoning all along at the same interest. If, therefore, the value of the assurance for the whole 27 years, is to be one constant sum payable at the beginning of every year, that sum, it is obvious, ought to be greater than the first, and 1/17 that the 65; or a sum which is some where between 1/. 18s. 1d. and 4/. 17s. 3d. The rule for finding this mean in all cases is the following:

"From the value of an annuity certain for the given term, found by Tab. III. under the article Annuities, subtract the value of the life for the given term, found by the method explained under the article Life-annuities, and reserve the remainder. Multiply the value of 1l. due at the end of the given term (found by Tab. I. under the article Annuities), by the perpetuity (see Remark II.), and also by the probability (see Mortality), that the given life shall fail in the given term. This product being added to the referred remainder, let the total be multiplied by the sum to be assured, and afterwards divided by the perpetuity increased by unity, then let this quotient be referred. Find next the value of an annuity on the given life for one year life that the given term, and the referred term, by the rate of interest, is divided by the last value, and the result will give the required value of the assurance for a fixed annual payment, till either the life fails, or the term ends."

Example.

Let the term be 27 years, the life aged 39, the sum 100l. and the interest 5 per cent.

Solution.

The value of the life of a person whose age is 39, for 27 years, is (reckoning interest at 5 per cent, and by the Northampton Table of Life-annuities) 11.191. This value is obtained from 14.643 (the value of an annuity certain for 27 years, for Tab. III. Annuities), leaves 3.452 the remainder to be referred. The value of 1l. to be received at the end of 27 years is 20.857, by Tab. II. under the article Annuities. The probability that the life of a person aged 39 shall fail in 27 years, is by the Northampton Table (see Mortality) 14.643. These numbers multiplied by one another, and 3.452 added to the product, make 6.508, which multiplied into 100l. the given sum, and divided by 21, the perpetuity increased by unity, gives 31.276 for the quotient to be referred.

The value of an annuity on a life of 39 for 26 years, is 11.019. Dividing therefore 31.276 (the referred quotient) by 12.019, or the value of the above annuity, with unity added, we have 2.606, or 2/. 12s., which is the required value, in fixed annual payments, of the assurance of 100l. on the given life for 27 years, reckoning interest at 5 per cent.

The value of the same assurance in one present payment is the quotient referred above, or 31/. 37s. 6d.; in other words, it is the value of an annuity of 2/. 12s. for 26 years on a life of 39; the first payment of which is to be made immediately, and the remaining ones at the beginning of each year; or, it is the sum arising in the foregoing operation before the division by the value of the life, for the term of 26 years.

If the assurance is to be made for the whole possible duration of the life, the method of finding the value will be more simple, and the rule for this purpose is as follows: "From the perpetuity subtract the value of the given life, and multiply the remainder by the given sum, and this last product divided by the perpetuity, increased by unity, will give the value in a single present payment. And this payment, divided by the value of the life, will give the value of the assurance in annual payments during the continuance of the life."

Example.

Let the age of the life be, as in the last example, 39; the sum to be assured for its whole duration 100l.; and the rate of interest 5 per cent. The value of the life, according to the Northampton Table (see Life-annuities) is 11.197. The value of the life subtracted from 20 (the perpetuity) is 8.021, which multiplied by 100, the given sum, and divided by 21, the perpetuity increased by unity, gives 38.195l. or 38/. 4s. for the value in a single payment of the assurance of 100l. for the whole duration of a life aged 39, reckoning interest at 5 per cent. And this payment divided by 11.197 is 3.388l. or 3/. 3s. 9d. the value of the same assurance in annual payments during the continuance of the life.

Remark I.

If the value of the assurance is desired in annual payments, the first of which, instead of being made at the end of the year as the preceding rule supposes, is to be made immediately, the value in a single payment (found as directed above) must be divided by the value of the life increased by unity; that
ASSURANCE ON LIVES.

That is, in the present instance, by 12.97, which will make the required value of the assurance 2471.44. Instead of 5, 1832, or 21, 181, 106, instead of 5, 17, 96.

The reader of adding unity to the values of lives taken from the tables is, that in all the tables the values of annuities on lives are given on the supposition that the first payment is not to be made till the end of a year. If, therefore, the first yearly payment is to be made immediately, the value must exceed that in the table by one year's pur-

Remark II.

The perpetuity means the value of the fee-simple of an estate, which is found by dividing 100, by its interest for a year. For example, if the rate of interest be 5$, per cent, 100, divided by 5 gives 20, for the perpetuity; if the rate of interest be 4, 5$, or per cent. 100, divided by 4, 5$, or 5, will give 25, 38.57$, or 33.33$, for the perpetuity.

Remark III.

Instead of a gross sum, an estate or a perpetual annuity is to be assured during the whole duration of a life, the value in a single payment will be “the value of the life subtracted from the perpetuity, and the remainder multiplied by the annuity, or by the rent of the estate.”—And the value in annual payments beginning immediately will be “the single payment divided by the value of the life increased by unity.”

—Universally, it ought to be remembered that the assurance of an estate or annuity after any given life or lives, is worth as much more than the assurance of a corresponding sum at 100, increased by its interest for a year is greater than 100.—Thus the present values, in single and annual payments, of the assurance of an estate of $5, per annum, for ever, and of 100, in money on the whole duration, or on any part of an afflicted life, are to one another (interest being at 5 per cent.) as 106$ to 100.$ The reason of the difference is, that the algebraical calculations, by which these values are determined, suppose that the gross sum and the first yearly payment of the annuity are to be received at the same time after the extinction of the lives. It is easy to see, that this is a circumstance which must make the latter of more value.

This specimen is sufficient to explain the general nature and principles of assurances on single lives, and to teach in all cases the method of finding the values of such assurances. To those who wish to be further informed on this subject, it may not be improper to add the following mathematical demonstrations of the rules which have been given above.

Let $a$ be the number of persons living at the age of any given life $A$; let $a, a', a''$, &c. be the number of persons who have died in the 1st, 2d, 3d, &c. year after the age of $A$; let $r$ be 1, increased by its interest for a year, and $S$ the sum to be assured. The probability that $A$ dies in the 1st year is $\frac{a'}{a}$; the value therefore of the assurance in that year is $\frac{S a'}{ar}$. The probability that $A$ dies in the 2d, after having survived the 1st year, is $\frac{a''}{a}$, and consequently the value of the assurance in the 2d year is $\frac{S a''}{ar^2}$.

In like manner, the value of the assurance in the 3d, 4th, 5th, &c. years, supposing $n$ to denote the number of persons who have died in the $n$th or last year, is $\frac{S a''}{ar^2}, \frac{S a''}{ar^3}, \frac{S a''}{ar^4}$, &c. and $\frac{S_m}{ar^n}$ respectively. The whole value, therefore, of the assurance for $n$ years is $S \times \frac{a'}{ar} + \frac{a''}{ar^2} + \frac{a'''}{ar^3} + \ldots + \frac{a^n}{ar^n}$.

But the series $\frac{a'}{ar} + \frac{a''}{ar^2} + \frac{a'''}{ar^3}$, &c. is $= \frac{1}{r} - \frac{a - a'}{ar^2} - \frac{a - a' - a''}{ar^3} - \ldots = \frac{a - a' - a'' - \ldots - a^n}{ar^n}$.

.... $= \frac{1}{r} + \frac{\alpha}{ar^n}$ (supposing $l$ to be the number of persons who have died in the $n - 1$st year). The series $\frac{a'}{ar} + \frac{a''}{ar^2} + \frac{a'''}{ar^3}$, &c. is $\frac{a - a'}{ar^2} + \frac{a - a' - a''}{ar^3} + \ldots = \frac{a - a' - a'' - \ldots - a^n}{ar^n}$.

The value of any annuity on the life of $A$ for $n$ years, and the series $\frac{1}{r} + \frac{1}{r^2} + \frac{1}{r^3} + \ldots + \frac{1}{r^n}$ to express the value of an annuity certain for $n$ years. Call the first of these series $A$, and the second $N$, then will the whole of the above series be $N - A = \frac{N}{r} + \frac{A}{r^2} + \ldots + \frac{a - m}{ar^n - 1}$

$\times N - A + \frac{1}{r} + \frac{m}{ar^n}$, Now since $\frac{1}{r - 1}$ is equal to the perpetuity (or $p$), $\frac{1}{r - 1} = \frac{1}{p} + 1$, hence the whole value of the assurance of $S$ for $n$ years will be $S \frac{1}{p} + 1 \times N - A + \frac{m}{ar^n}$, agreeable to the rule given above.

If the assurance be for the whole continuance of life, the fraction $\frac{m}{ar}$ vanishes, $N$ becomes equal to the perpetuity, and $A$ to the value of an annuity for the whole life of $A$, so that in this case the expression becomes simply $\frac{S}{p} + 1 \times p = A$, which is the rule given in words for finding the value of an assurance on the whole possible duration of the life of $A$.

If the assurance be that of an estate or a perpetual annuity, the value of each payment of such annuity depending on the failure of the life of $A$ in one, two, three, &c. years to $n$ years will be $1 - \frac{a'}{ar} - \frac{a''}{ar^2} - \frac{a'''}{ar^3} - \ldots - \frac{a^n}{ar^n}$, and the value of the fee-simple after $n$ years, depending on the contingency of $A$ having died in the mean time, will be $\frac{m}{ar^n}$; the whole value, therefore, of the assurance will be $\frac{N - A + \frac{m}{ar^n}}{p}$. multiplied into the annuity; or simply $p - A$ multiplied into such annuity, if the assurance is to be continued during the whole duration of $A$'s life. For the more ample discussion of this subject, the reader is referred to Mr. Simpson's "Select Excerpts," Dr. Price's "Treatise on Reversionary Payments," and Mr. Morgan's "Doctrine of Annuities and Assurances stated and explained."

Assurances may be made on any number of joint lives, or on the longest of any lives. Rules for finding the values of such assurances...
ASSURANCE ON LIVES.

affurances are given in the books just referred to.—There are further affurances on survivorships; by which is meant an obligation for the value received, to pay a given sum or annuity, provided a given life shall survive any other given life or lives. The method of finding these values is given under the article Survivorship.

All these different kinds of affurances are of the greatest use; and the offices for making them are a particular advantage to the public. The principal of these offices is in England are, the Amicable Society, incorporated for a perpetual affurance; the Society for Equitable Affurances on Lives and Survivorships; the Royal Exchange Affurance; the Westminister and the Pelm Life-Offices. The Amicable Society requires an annual payment of 5l. from every member, payable quarterly during life. The whole annual income hence arising is equally divided among the representatives of such members as die every year; and this renders the dividends among the claimants in different years more or less according to the number of members who have happens to die in those years. But this society engages that the dividends shall not be less than 150l. to each claimant, though they may be more.—None are admitted whole ages are greater than 45, or less than 12; nor is there any difference of contribution allowed on account of difference of age. This society has fubsidized ever since 1706, and its credit and usefulness are well etablishe— Its plan, however, is liable to several objections.—First, it is evident that regulating the dividends among the representatives by the number of members who die every year, is not equitable; because it makes the benefit which is to accrue from the affurance, to depend, not on the value of the contribution, but on a contingency, that is, on the number of members who have happened to die in the year. Secondly, its requiring the same payments from all persons under 45, is also not equitable, for the payment of a person admitted at 12 ought not to be more than half the payment of a person admitted at 45.

Thirdly, by limiting the sums assured on one and the same life to 450l. it is but ill adapted to make a competent provision for the families of its members; nor can it be of any service to persons whose whole age exceeds 45 years; a period of life, which it has been found from experience that many, if not most persons, have exceeded beyond by they have begun to provide for their families by affur- ing on their lives. It is likewise by no means suited to the circumstances of persons who want to make affurances on their lives for only one year, or for a short term of years. Thus, the true value of the affurance of 150l. for five years on the life of a person whose age is 39, may be found by the first rule to be nearly three guineas per ann. lumping interest at 3 per cent., and the probabilities of the duration of human life as they are given in the Northampton Table of Observations. But such an affurance could not be made in this society without an annual payment of 5l.

Neither is the plan of this society at all adapted to the circumstances of persons who want to make affurances on particular survivorships. For example, a person poffesses of an estate or salary, which must be left with his life, has a person dependent upon him, for whom he desires to secure a sum of money payable at his death. But he desires this only as a security against the danger of his dying first. In these circumstances he enters into this society, and by an annual payment of 5l. entitles his nominee at his death to 150l. In a few years, perhaps, his nominee happens to die, and the object of his affurance having thus ceased, he determines to give up the advantage arising from his former payments and to withdraw from the society. The right method in this case would have been to have taken from such a person the true value of the sum assured on the supposed fee simple of non-pay- ment, provided he should survive." Had this been done, he would have paid for the affurance (lumpsum interest at 3 per cent. his age 39, the age of his nominee also 39, and the value of lives as given by Dr. Price from the Northampton Table) 3l. 6s. 8d. in annual payments, to begin immediately, and to be continued during the joint duration of his own life and the life of his nominee.

None of these objections, however, are applicable to the other offices just mentioned. In all of them affurances may be made for any term and at any age between eight and fifty-seven years, either at single or annual premiums, pro- portioned to the age of the person assured, and to the risk or hazard attending the affurance. The policies transferred in these offices is very extensive, and so far as relates to the premiums they require, is founded on strict calculation. These premiums, which are now indiscriminately adopted by all of them, were originally computed in the year 1781 for the use of the Equitable Society,—an institution to entirely guilid by competition in all its practice, that in certaining its profits at fixed periods, and distributing them among its members, it has never failed to proceed on the same sure principles, and by this means to render itself one of the greatest public benefactors to this country. In consequence of the immense capital, and the very wide extent of its business, it certainly far exceeds any other office of the same kind; and therefore by giving an account of its lives and profits, a proper idea will be obtained of the nature of life assurances, as well as of the important annuities which are derived from them.

This society was established in the year 1762, in conference of proposals which had been made, and lectures recom- mendings such a design, which had been read by Mr. Thomas Simpson; and the premiums then adopted for its practice were computed by Mr. James Dodson, the author of the Mathematical Repository. It affures any sums or reversionary annuities on any life or lives, for any number of years, as well as for the whole continuance of the lives, and in any manner that may be best adapted to the views of the persons assured; that is, either by making the affurred sums liable to the failure of any given lives, or on condition of surviving years; and also, either by taking the price of the affurance in one present payment, or in annual payments during any single or joint lives, or any term less than the whole possible duration of the lives. Any persons, for instance, who depend on incomes which must be lost when they die, or who are only tenants for life in others, may, by affuring an equivalent on their own lives, guard their families or represeatives against the loss which would accrue by their death. Hence, clergymen, confessors, parsons holding any places of profit, tenant, and others who have families whose subsistence depends on the continuance of their lives, may be enabled to make provision for their families after their decease. All persons likewise who enjoy annuities for the lives of others, may here feasible provision against the risk they would sustain, had they by surviving the persons on whose lives the annuities depend, by making affurances which would entitle them to any sums payable on condition their survivorship should take place. Any person entitled to an estate, annuity, legacy or office after another person provided he survives, may here feasible an equivalent for his family at his decease, provided he does not survive. Hut- thes may in this matter Footnotes for their wives, provided they should have them widows. Parents, by affur- ing the lives of their children, when infants, till they attain a given age, may secure for them, should they live to that age, such sums as may be necessary to put them out to appren- ticeships, or to make capitals or fortunes for them, with which to set out in business, or to marry. Any persons, apprehensive of being left without support in old age, when in- capable.
ASSURANCE ON LIVES.

Incapable of labour, many parents purchase in advance an annuity to commence in any future year of his life, and to continue during the remainder of his days, and he may do this at a small expense if he is young, and willing to wait for the commencement of his annuity, till he is fifty-five or sixty years of age. In short there are no kinds of assurance on lives or survivalships which this society does not make. In proceeding on mathematical principles in computing its premiums, it takes advantage of making these computations at so low an interest as 3 per cent., in order to gain such a profit as shall enable it to bear the expenses of management, and render it a permanent benefit to the public. In the infancy of the institution also, it adopted tables of the values and probabilities of lives in London, where, as in all great towns, the rate of human mortality is much greater than it is among mankind in general. But after an experience of twenty years, it found that the tables giving higher probabilities of life might be fairly used, and therefore it made choice of those three correct tables which were published by Dr. Price from observations at London burying, and it appears, from comparing the deductions of life in the society with those in the table just mentioned that, during a term of thirty-four years, the rates of mortality in the former is to that in the latter between the ages of 10 and 20 as 1 to 2

and 30 as 3 to 5

and 50 as 3 to 5

and 70 as 3 to 4


or that in all ages between 10 and 80, fewer deaths have happened in the society than should have happened according to the tables from which its premiums have been computed in the proportion of two to three. In consequence of this and of other still less equivocal proofs of its prosperity, the society has been enabled since its first establishment not only to reduce its premiums above one half, but to make such additions to the sums called for in the years 1782, 1786, 1791, 1793, 1795, and 1800, as amount at present to the sums specified below:

<table>
<thead>
<tr>
<th>Year</th>
<th>Addition over and above the sum affured of</th>
</tr>
</thead>
<tbody>
<tr>
<td>1782</td>
<td>1702</td>
</tr>
<tr>
<td>1783</td>
<td>ditto</td>
</tr>
<tr>
<td>1784</td>
<td>ditto</td>
</tr>
<tr>
<td>1785</td>
<td>ditto</td>
</tr>
<tr>
<td>1786</td>
<td>ditto</td>
</tr>
<tr>
<td>1787</td>
<td>ditto</td>
</tr>
<tr>
<td>1788</td>
<td>ditto</td>
</tr>
<tr>
<td>1789</td>
<td>ditto</td>
</tr>
<tr>
<td>1790</td>
<td>ditto</td>
</tr>
<tr>
<td>1791</td>
<td>ditto</td>
</tr>
<tr>
<td>1792</td>
<td>ditto</td>
</tr>
<tr>
<td>1793</td>
<td>ditto</td>
</tr>
<tr>
<td>1794</td>
<td>ditto</td>
</tr>
<tr>
<td>1795</td>
<td>ditto</td>
</tr>
<tr>
<td>1796</td>
<td>ditto</td>
</tr>
<tr>
<td>1797</td>
<td>ditto</td>
</tr>
<tr>
<td>1798</td>
<td>ditto</td>
</tr>
<tr>
<td>1799</td>
<td>ditto</td>
</tr>
<tr>
<td>1800</td>
<td>ditto</td>
</tr>
</tbody>
</table>

These are advantages peculiar to this society, and therefore it is no wonder that its business should so far surpass that of every other institution of the same kind. But in the midst of its prosperity the society has hitherto proceeded with the utmost prudence and caution. Aware of the danger of being led astray by the dazzling appearance of a large capital, necessarily increased by an influx of new members, it has provided by a special law, that, as on former occasions, so in future, no distribution of its stock shall ever be made without a previous investigation of its hazards; that this investigation shall take place once in ten years; that the distribution shall never exceed two-thirds of the surplus stock of the society; and that no such distribution shall be adopted at all without the concurrence of four-fifths of its members, attending at three successive general courts. As far as human prudence and foresight can provide against danger, these precautions are likely to secure the society, and to increase its usefulness. But there is one danger against which no laws can guard it: we mean the danger of employing ignorant persons to conduct the management of its affairs. It must be manifest from the preceding account of this society, that none but skilful mathematicians are qualified for this business; and it is to be hoped that on any future vacancies, no other regard will be had in filling them up, than to the ability and integrity of the candidates. The melancholy experience of other societies for the benefit of age, for the benefit of widows, &c. which were established about thirty years ago, and which have long since ended in disappointment and ruin, should serve to guard this society against the attempts of ignorance, as much as the prudent state of its affairs should induce it to persevere in that wise and temperate course which has displayed so much prudence and skill in the management of its affairs, and raised it so high in the opinion of the public.

The following are the rates of assurance on single lives in this society, and also very nearly in the Royal Exchange, and other offices, where those premiums have been adopted with little or no variation.

<table>
<thead>
<tr>
<th>Age</th>
<th>One year's premium at an annual rate of</th>
<th>Seven years' whole life premium at an annual rate of</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>17 9</td>
<td>1 13</td>
</tr>
<tr>
<td>15</td>
<td>17 11</td>
<td>1 21</td>
</tr>
<tr>
<td>20</td>
<td>7 13</td>
<td>1 9</td>
</tr>
<tr>
<td>25</td>
<td>1 10</td>
<td>1 12</td>
</tr>
<tr>
<td>30</td>
<td>1 13</td>
<td>1 14</td>
</tr>
<tr>
<td>35</td>
<td>1 16</td>
<td>1 18</td>
</tr>
<tr>
<td>40</td>
<td>2 0</td>
<td>2 4</td>
</tr>
<tr>
<td>45</td>
<td>2 6</td>
<td>2 10</td>
</tr>
<tr>
<td>50</td>
<td>3 0</td>
<td>3 12</td>
</tr>
<tr>
<td>55</td>
<td>3 10</td>
<td>3 16</td>
</tr>
<tr>
<td>60</td>
<td>3 18</td>
<td>3 22</td>
</tr>
<tr>
<td>65</td>
<td>4 15</td>
<td>4 30</td>
</tr>
<tr>
<td>70</td>
<td>5 5</td>
<td>5 45</td>
</tr>
<tr>
<td>75</td>
<td>6 5</td>
<td>6 60</td>
</tr>
</tbody>
</table>
ASSURANCE ON LIVES.

ASSURANCE, Royal Exchange, is a corporation or company established by an act 6 Geo. 1. c. 18.; and, by their charter, executed June 22, 1720, empowered to afford ships and goods at sea, or going to sea, and to lend money on bottomry; and, for this purpose a capital of 1,500,000l. on condition that, upon three years’ notice being given by parliament, at any time within thirty-one years from the date of the charter, and repayment of the sum of 500,000l., which the company had agreed to pay to government, the corporation should cease. In the following year they obtained another charter, dated the 29th April 1721, by which they were authorized to afford lives, and also to affrere houses and goods from fire, and were empowered to raise a further capital of 500,000l. making with the former sum, two millions. It was also enacted, that, in consequence of the company having paid into the exchequer 111,250l. and having canvassed to pay the farther sum of 38,750l. within three months, they should be released from payment of the remainder of the 300,000l. The whole capital of 2,000,000l. was subscribed, but it was thought necessary to call for the payment of only 500,000l.; which, after paying the 150,000l. to government, had been found sufficient for carrying on the extensive concerns of the company. A new branch was added to their business, by an act, obtained in 1793, enabling them to grant and purchase annuities on lives, either immediate or in reversion; and, in 1801, the company obtained an act for affrere ships and their cargoes on canals and inland navigations, in which act the London Assurance company are likewise included.

The dividend to the proprietors, which has gradually increased from 3 to 7½ per cent., becomes due at Christmas and Midsummer, and is usually paid about the 15th January and July. [At Midsummer 1802, an occasional dividend was made in reck, being 10½ per cent. 1757, for every 100l. of the company’s flock.] The transfer-days are Tuesdays and Thursdays, between the hours of eleven and one. The dividends are paid on Mondays, Wednesdays, Fridays, and Saturdays, from ten to two.

THE TABLE OF RATES OF THE ROYAL EXCHANGE ASSURANCE ANNUITY COMPANY.

September 15th, 1802.

<table>
<thead>
<tr>
<th>Age</th>
<th>Years Purchase</th>
<th>per cent. per ann.</th>
<th>Age</th>
<th>Years Purchase</th>
<th>per cent. per ann.</th>
</tr>
</thead>
<tbody>
<tr>
<td>45 and 45</td>
<td>16.07</td>
<td>5 18</td>
<td>40 and 45</td>
<td>17.85</td>
<td>5 12</td>
</tr>
<tr>
<td>46</td>
<td>16.66</td>
<td>6 0</td>
<td>45</td>
<td>17.54</td>
<td>6 10</td>
</tr>
<tr>
<td>47</td>
<td>16.39</td>
<td>6 2</td>
<td>46</td>
<td>18.18</td>
<td>6 12</td>
</tr>
<tr>
<td>48</td>
<td>16.12</td>
<td>6 4</td>
<td>47</td>
<td>18.72</td>
<td>6 14</td>
</tr>
<tr>
<td>49</td>
<td>15.87</td>
<td>6 6</td>
<td>48</td>
<td>19.26</td>
<td>6 16</td>
</tr>
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N. B. The foregoing Annuities are receivable in Quarterly Payments; and they vary at different times according to the current rate of Interest.
The person making the assurance is to declare the place and date of birth of the person whose life it is to be assured; whether he has had the small-pox; whether subject to the gout; and whether it is the ass or annuity.
The measure to appear at the office, or to one of the company's agents, or pay
25 per cent. on assurances for one year, by
35 per cent. for more than one year, and 5 per cent. not exceeding five years, by
5 per cent. if for more than seven years, only.
Nine quarter per cent. addition, will be taken on the first payment as admission-money.
Assurances are allowed for payment of the annual premium after they respectively become due, but if the time extends it more than the said fifteen days, and not exceeding three calendar months, a fine of ten shillings per cent. shall be paid, and a warranty given of the health of the life assured.

Conditions of Assurance made by Persons on their own Lives.
The assurance to be void if the person whose life is assured shall depart beyond the limits of Europe, shall die upon the sea (except in his majesty's packets passing between Great Britain and Ireland); or shall enter into or engage in any military or naval service whatever, without the previous consent of the company; or shall die by suicide, duelling, or the hand of justice; or shall not be, at the time the assurance is made, in good health.

Conditions of Assurance made by Persons on the Lives of others.
The assurance to be void if the person whose life is assured shall depart beyond the limits of Europe, shall die upon the sea (except in his majesty's packets passing between Great Britain and Ireland); or shall enter into or engage in any military or naval service whatever, without the previous consent of the company; or shall not be, at the time the assurance is made, in good health.—Any person making an assurance on the life of another, must be interested therein, agreeable to Act 14 Geo. III. c. 48, which prohibits wagering, or speculative insurances.

N.B. Assurances on the lives of persons engaged in the army or navy, or going beyond the limits of Europe, may be made by special agreement. See Life-Assurances, and Life-Assurance.

Assurance, London. The charters of this company were granted at the same time with those of the Royal-Exchange Assurance, for the same purposes, and upon similar conditions; one of which is, that no peron poaching flock in either company can purchase flock in the other, under penalty of forfeiting the share so purchased. The principal difference in the business of the two offices is, that the London assurance confine themselves to sea and fire assurances, very seldom affording lives, and not being empowered to grant annuities. Their flock is 1,000,000. divided into shares of 25%. each, on which 1%. has been paid in, making the whole sum paid in 300,000. The dividend has been raised to 18%, per share annum, and becomes due at Lady-day and Michaelmas. The transfer-days are Tuesdays and Thursdays, from eleven to three o'clock. The dividends are paid on Mondays, Wednesdays, and Fridays, from eleven to three.

Assurance, Collateral, in Law. See Collateral Assurance. Assurances, Common, of the kingdom, express the legal evidences of the conveyance or transmission of property; by which every man's estate is assured to him, and all controversies, doubts, and difficulties, are either prevented or removed. These common assurances are of four kinds: 1. By matter in praia, or deed, which is an assurance transferred between two or more private persons in praia, in the country that is, according to the old common law, upon the very spot to be transferred. See Deed. 2. By matter of record, or an assurance transferred only in the king's public records of record. See Record. 3. By special custom, obtaining in some particular places, and relating only to some particular species of property. See Custom. These three assurances are such as take effect during the life of the party conveying or assuring. 4. The fourth takes no effect till after the death, and that is by devise, contained in his last will and testament. See Deeds and Will. Bu. Law, p. 255.

Assurant, in Heraldry, a term used for a man or beast riving out of the fen.

Assuror, a merchant or other person, who affirms or makes out a policy of assurance for a ship, house, life, or the like. Affurors are not answerable for what damages arise through the negligence, or other fault of the master or seamen; or even those which arise from any vice or defect in the thing assured. See Insurance.

Assurritani, or Assurrani, in Ecclesiastical History, a branch of Donatists in the middle of the fourth century. The Assurritani maintained the fcn to be inferior to the father; they re-baptized their converts from the catholics, and affected that the church is not composed of good and bad, but of the good alone.

Assurus, or Assuras, now Kiffer, in Ancient Geography, a town of Africa, sittuate in the island country of the ancient Bizzarum, to the west of Adrametum, and south-east of Sicca Veneria.

Asny, in Geography, a town of France, in the department of the Oise, and chief place of a canton in the district of Cracpy, eight miles south of Cracpy.

Assyani, in Ancient Geography, an ancient town of the Tauric Chersonesus.

Assyria, a kingdom of Asia, of the extent, origin, and duration of which very different accounts have been given by ancient writers. Ctesias and Diodorus Siculus affirm, that the Assyrian monarchy, under Nineus and Seniramus, comprehended the greater part of the known world; but, if this had been the case, it is not likely that Homer and Herodotus would have omitted a fact so remarkable. The sacred records intimate, that none of the ancient states or kingdoms were of considerable extent; for neither Chalderonner, nor any of the neighbouring princes, were tributary or subject to Assyria; and we find nothing, says Plutarch, of the greatness or power of this kingdom in the history of the Judges, and succeeding kings of Israel, though the latter kingdom was oppressed and enslaved by many different powers in that period. It is therefore highly probable, that Assyria was originally of small extent. According to Ptolemy, this country was bounded on the north by part of Armenia and mount Niphates; on the west by the Tigris; on the south by Susiana; and on the east by part of Media, and the mountains Choatra and Zagros. The country within these limits is called, by some of the ancients, Adiabene, and by others Aturia or Atoria. It is divided, by Ptolemy, into the following provinces or districts; viz. Caucanian or Calicine, Arachaitis, Adiabene, Arabites, Apollonia, Sittacene, and Chaloditis. Among the rivers of Assyria we may reckon the Tigris, the Lycus, the Caprus, and the Gorgus.
AS SYRIA.

Gorgan. Of the origin, revolutions, and termination of Assyria, properly so called, and distinguished from the grand monarchy which afterwards bore this appellation, the following account is given by Mr. Playfair, as the most probable. The founder of it was Ashur, the second son of Shem, who departed from Shinar, upon the usurpation of Nimrod, at the head of a large body of adventurers, and laid the foundations of Nineveh, where he refided, and erected a new kingdom, called Assyria after his name. See Ashur, Gen. x. 11. These events happened not long after Nimrod had established the Chaldaean monarchy, and fixed his residence at Babylon: but it does not appear that Nimrod reigned in Assyria. The kingdoms of Assyria and Babylon were originally distinct and separate (Micah, v. 6.); and in this state they remained until Ninus conquered Babylon, and made it tributary to the Assyrian empire. Ninus, the succeller of Ashur, Gen. x. 11. Died, Sicul: l. 1., from a disease on Chaldea, after the death of Nimrod, and united the kingdoms of Assyria and Babylon. This great prince is said to have subdued Asia, Persia, Media, Egypt, &c. If he did do, the effects of his conquests were of no long duration; for, in the days of Abraham, we do not find that any of the neighbouring kingdoms were subject to Assyria. Ninus was succeeded by Semiramis, a prince bold, enterprising, and fortunate; of whose adventures and exploits many fabulous relations have been recorded. Playfair is of opinion, that there were two princesses of this name who flourished at different periods: one, the confort of Ninus, and another, who lived five generations before Nicatoris, queen of Nebuchadnezzar. Euseb. Chron. p. 58. Herod. i. c. 184. See SEMIRAMIS. Of the successors of Ninus and Semiramis nothing certain is recorded. The last of the ancient Assyrian kings was Sardanapalus, who was besieged in his capital by Arbaces, governor of Media, in concurrence with the Babylonians. Those united forces defeated the Assyrian army, demolished the capital, and became masters of the empire, B. C. 621. See ARBACES, and SARDANAPALUS. Such is the substance of the account given by Ctesias, and after him by several ancient Greek and Latin writers; and particularly by Diodorus Siculus. These writers have referred the commencement of the Assyrian empire to about thirty or forty years after Noah's flood; but concerning its beginning, as well as its duration, ancient writers have given very different accounts. Africanus and Eusebius suppose that Ninus, the second Assyrian king, began to reign 500 years after the flood, and 433 years before the birth of Abraham. Berosus, the Chaldaean historian, dates the foundation of the empire from the building of the tower of Babel, about 311 years after the flood. Caifiadorous admits an interval of more than four centuries between these two remarkable events. Usher extends this interval to 1085 years; and Jackson reduces it to 531. As to the period of the duration of this empire, Ctesias, Diodorus, and others, make it 1560 years: Justin, 1500; Caflor, 1520; Syncellus, 1560; Scaliger, 1526; Eusebius, 1520; Velleus Paternus, 1570; Herodotus, 520; and Appian makes the whole duration of the Assyrian, Median, and Persian empires, not to exceed 500 years. In Ilius's Tables the commencement of the Assyrian empire is alligned to the year before Christ, 2059, and its termination to the year before Christ 829; so that its whole duration comprehends 1230 years. Geygnet refers the conquest of Babylon by Ninus, king of Assyria, and the consequent union of the Babylonian throne with that of Nineveh, to the 950th year after the flood, or the 1758th year B. C. In setting this date, he places the foundation of the kingdom of Babylon by Nimrod, about the year 150 after the flood. This king, dom, as most chronologists allow, had fulfilled 450 years, under two distinct dynasties or families, at the time of Babylon's being taken by the Assyrians. The first of these dynasties, whose kings were Chaldeans, possessed the throne 225 years; and the second, originally from Arabia, reigned 215 years; and the total is 440 years. If to these years we add 150 years from the flood to the foundation of Babylon by Nimrod, the capture of Babylon will fall in the 590th year after the flood, and consequently in the 1758th year B. C. As most of these computations are primarily borrowed from Ctesias, it may not be improper to inquire how far his testimony is credited. Aristeas, who was almost his contemporary, declares him to be unworthy of credit; and his history of India excites him to be a fabulous writer. Although he gives us the names of the Assyrian kings from Babel and his son Ninus to Sardanapalus, the last king of that monarchy, yet his list is a mere medley of Greek, Persian, Egyptian, and other names; and except in two or three instances, they have no affinity with the names of the Assyrians mentioned in scripture. The true empire of the Assyrians, described in scripture, whole kings were Pul, Tiglath-pileser, &c. he does not mention, though much nearer to his own times; and this circumstance shows that he was ignorant of the antiquities of the Assyrians.

After the death of Sardanapalus, says Mr. Playfair, the Assyrian empire was divided into three kingdoms; viz. the Median, Assyrian, and Babylonian. Arbaces retained the supreme authority, and nominated governors in Assyria and Babylon, who were honoured with the title of kings, while they remained subject and tributary to the Persian monarchs. Belshas, he says, a Chaldaean prince, who assisted Arbaces in the conquest of Sardanapalus, received the government of Babylon as the reward of his services; and Pul was entrusted with that of Assyria. The Assyrian governor gradually enlarged the boundaries of his kingdom, and was succeeded by Tiglath-pileser, Saladanassar, and Sennacherib, who affected and maintained their independence. After the death of Assur-haddon, the brother and successor of Sennacherib, the kingdom of Assyria was split, and annexed to the kingdom of Media and Babylon. Several tributary princes afterwards reigned at Ninus, but we hear of none more of the kings of Assyria, but that of Babylon. Cyshurnes, king of Media, allied Nebuchadnezzar, king of Babylon, in the siege of Nineveh, which they took and destroyed B. C. 606.

The history of Assyria, deduced from scripture, and acknowledged as the only authentic one by sir Isaac Newton and many others, ascribes the foundation of the monarchy to Pul or Phil, about the second year of Menahem, King of Israel, twenty-four years before the year of Nabonassar, 1750 years after the flood, and according to Blair 769, or according to Newton 750, years before Christ. Menahem having taken forcible possession of the throne of Israel by the murder of Shallum (2 Kings, x. 10.), was attacked by Pul, but prevented the hostilities on his direction against him, by presenting the invader with a thousand talents of silver. Pul, thus gratified, took the kingdom of Israel under his protection, returned to his own country after he had received vassalage from several nations in his march, as he had done from Israel, and became the founder of a great empire. As it was in the days of Pul that the Assyrians began to afflict the inhabitants of Palestine (2 Kings, xi. 19, and 1 Chron.
ASSYRIA.

14. and far Kings, the " and 72. who v. Nebuchadnezzar 26. 63,) Thus and 3. i/s and Kings, 9. Newton, evident other preferitly the quells bv was «'rcat Haddon, nacherib kings, to of the kingdom, i 1. txcene, Affyria, be of Arabia, and reaching eastward into Elymais, and Par- tenece, a province of the Medes, and if Chalced and Chabor be Colchis and Iberia, as some think, and as may be probable from the circumstance used by those nations till the days of Herodotus (L ii. c. 104.), we are also to add these two provinces, with the two Armenias, Pontus, and Cappadocia, as far as to the river Halys. For Herodotes (L i. c. 72. l. vii. c. 65.) tells us, that the people of Cappadocia, as far as to that river, were called Syrians by the Greeks, both before and after the days of Cyrus; and that the Assyrians were also called Syrians by the Greeks." After-Hadon was succeeded in the year B. C. 668, by Saofuchinus. At this time Manaffel was allowed to return home and fortify Jeru- salem; and the Egyptians also, after the Assyrians had harassed Egypt and Ethiopia three years (I tim. xx. 3. 4;) were fet at liberty. Saofuchinus, after a reign of twenty years, was succeeded at Babylon, and probably at Nineveh also, by Chyniladon, in the year B. C. 647. This Chyniladon is sup- posed by Newton to be the Nabuchadonosor mentioned in the book of Judith (1. 1. 15.), who made war upon Arphaxad king of the Medes, and though defeated by his auxiliaries Chlon, Damaskas, Syria, Phoenicians, Medes, and Egyptians, routed the army of the Medes, and flew Arphaxad. This Arphaxad is supposed to be either Deojes, or his son Phraorites, mentioned by Herodotus (L i. c. 102.). Soon after the death of Phraorites in the year B. C. 635, the Scythians invaded the Medes and Perians; and in 625 Nabopolasfar, the commander of the forces of Chyniladon in Chaldæa, revolted from him, and became king of Babylon. Chyniladon was either then, or soon after, succeeded at Nineveh by the last king of Assyria, called Sarae by Poly- histor. The authors of the Universal History suppose Saof- chinus to have been the Nabuchadonosor of Scripture, and Chyniladon or Chyniladon to have been the Sarae of Poly- histor. At length Nebuchadnezzar, the son of Nabopolas- far, married Anuyte, the daughter of Allages king of the Medes, and founded a new empire. At first, the families having contracted affinity, they confined against the Assyrians. Nebopolasfar being old, and Allages dead, their sons Nebuchadnezzar and Cyaxares led the armies of the two nations against Nineveh; slew Sarae, destroyed the city, and shared the kingdom of the Assyrians. This victory the Jews refer to the Chaldæans; the Greeks, to the Medes; Tobit (xiv. 15.), Polyhistor (apud Euseb. in Chron.), Josephus i. x. c. 2. § 2. p. 435.; and Ctesias (apud Dio- Dyd. Sic. L ii. c. 24. p. 78.), to both. With this victory commenced the great succes of Nebuchadnezzar and Cyaxares, and it laid the foundation of the two collateral empires of the Babylonions and Medes, which were branches of the Assyrian empire; and hence the time of the fall of the Assyrian empire is determined, the conquerors being then in their youth. In the reign of Josiah, when Zephaniah prophesied, Nineveh and the kingdom of Assyria were decaying, and their fall was predicted by that prophet, Zeph. i. 3. and ii. 13. And in the end of his reign, Pharaoh-Necho king of Egypt, the successor of Phammitus, went up against the king of Assyria to the river Euphrates, to fight against Car- chemish or Circumitus, and in his way thither flew Josiah (2 Kings, xxiii. 29. 2 Chron. xxxiv. 20.) and therefore the last king of Assyria was not yet slain. But in the third and fourth year of Jehoiakim, the successor of Josiah, the two conquerors having taken Nineveh and finished their war in Assy- ria, proceeded their conquests westward; and leading their forces against the king of Egypt, as an invader of their right of conquest, they beat him at Carchemish, and took from him whatever he had recently taken from the Assyrians (2 Kings, xxiv. 7. Jer. xvi. 2. Eupolemus apud Euseb. Prep. L ii. c. 35.;) and therefore we cannot err, says Sir Isaac Newton, about a year or two, if we refer the destruction of Nineveh, and fall of the Assyrian empire, to the third year of Jehoiakim, or the 149th, or, according to Blair, the 141st year of Na- bopolasfar, that is the year 667 B. C. Newton fuggrets, that the name of the last king Sarae might have been contracted from Carshon; as this name was from Aberdon, Aber- hadon-Pul, or Sardanapalus; but how, says his learned commentator, bishop Horley, is this confullent with what he has so fully proved in the preceding disfusion of this subject, that Aberhadon had two successors at Nineveh, Saofuchinus and Chyniladon; or, with his assertion, that Sarae, the last Assyrian king, was the successor of Chyniladon?

Blair, in his Chronological Tables, rates the commence- ment of the reign of Phut, in the year 777 B. C.; the
ASS

feudalism of Tigrath-pilefer, in the first year of Nabonassar, or 747 B.C.; that of Sennacherib, in 727 B.C.; that of Assurbanus, in 685 B.C.; that of Sennacherib in 612 B.C.; that of Assurbanus in 667 B.C. The writing of these nations, that their letters had a great affinity with each other. They much resembled one another in shape; and they ranged them in the same manner, from right to left. Playfair's Chronology, p. 67—70. Newton's Chron., ch. ii., and Opera. by Horsey, t. v. p. 191—211. Anc. Un. Hist., vol. iii. p. 327—327; Gugliel. Olyg. of Laws, &c., vol. i. p. 41.

ASSYRIAN LETTERS, Letters Assur, a denomination given by several Rabbinists and Talmudists to the characters of the present Hebrew alphabet, as supposing them to have been borrowed from the Assyrians during the Jewish captivity in Babylon. Montfaucon.

AST, now Asia, in Ancient Geography, a town of Liguria, or Piedmont, which was a Roman colony, upon a river of the same name, not far from the Tamaris. The fortifications of this place afforded a temporary shelter to the emperor Honorius, when he was pursued by the Goths, A.D. 403; and he was relieved from the danger of a successful siege, and the indignity of a capitulation to the Barbarians, by the forcible establishment of Stilicho, who cut his way through the Gothic camp under the walls of Asia, and thus revived the hopes and vindicated the honour of Rome. See Ast.—Asia, a town of Spain, in Bética, south of Nebrilla, upon the left arm of the Bética, which discharged itself into the bay of Gades.

AST, in Geography, a town of the united Netherlands, in the duchy of Gueldersland, four miles south-east of Oudenburg.—Asia, a river of Spain, which empties itself into the bay of Bizcay, at Villa Vicenta.

ASTABAT, a town of Armenia, thirty-three leagues south-east of Erivan.

ASTABENI, in Ancient Geography, a people of Asia, in Armenia. Ptolemy.

ASTABORAS, a river of Assyria, forming, as Pliny has said, the left channel of the Tigris; or as the Greeks have called it, the island or peninsula of Meroe; as Altipus forms the right channel. Altaboras, is the name given by the natives to the Tacazze, or the Sisris of the ancients. It joins the Nile in N. lat. 17° 31'. See Albra, Merot, and Tacazze.

ASTACAMPRON, a promontory of Asia, in the Indian sea, to the left of the gulf of Baraza. Arrian.

ASTACANA, a town of Asia, in Bactria, called Aflacca by Ammianus Marcellinus. Ptolemy.

ASTACANA, a name given by Rome to the Assacani.

ASTACAPRA, a town of India, on this side of the Ganges, situated between the mouths of the Indus. Ptolemy.

ASTACENA, a country of Asia, in Pontus, which took its name from the river Atlasses which traversed it.

ASTACENUM, Asturium, Marjonna, a gulf of Spain in Bética. Ptolemy.

ASTACENUS Sinus, a gulf of the Propontis, on which was situated the town of Nicomedia.

ASTACHAR, in Geography, formerly Aflacca, a town of Persia, near Bunehir and the ruins of Peripolis. It is now a village, although having a caravanserai, mosques, and the ruins of a palace.

ASTACILICIS, a town of Africa, in Mauritania. Ptolemy.

ASTACILIS, Tesseria, a place of the interior country of Africa, in Mauritania Cæsariensis, which was a Roman station, situated in the mountains south of Portus Magnus. Ptolemy.

ASTACUS, in Entomology, a species of Cancer, with a smooth thorax; proboscis toothed along the sides; and a single tooth on each side at the base. This is the common crawfish, that inhabits rivers, and lodges itself in holes.
AST

which it forms in the banks. Very frequent in many countries of Europe.

Astacus is also the name of a genus in the Fabrician system, formed of those species of the Limnian Curasi, that have four pedunculate antennae, the two fore-ones of which are long and falcate, and the posterior ones cleft. Among these the lobster and craw-fish are included.

Astacus, in Ancient Geography, a town of Asia, in Bithynia, situate upon the Astacene gulf, according to Strabo. The city was built by the Megarians and Athenians, and destroyed by Lycurgus, and its inhabitants transported to Nicomedia, by whom it was founded or re-established. Some have said that Nicomedia was built on the ruins of Astacus. — Also, a town of Greece, in Arcadia.

AST, a people of Europe, in Thrace. Steph. Byz.

ASTAFORT, in Geography, a town of France, in the department of the Lot and Garonne, and chief place of a canton in the district of Agen. The place contains 4159, and the canton 12,151 inhabitants; the territory comprehends 1324 kilometers and 31 communes.

ASTAGENI, in Ancient Geography, a people of Arabia Felix. Ptolemy.

ASTAGON, in Geography, a town of Africa, in Morocco, on the confines of Zanguebar.

ASTAMAR, ACTAMAR, or ABAUNAS, a large lake, with a fortified town of the same name, in Armenia. N. lat. 36° 30', E. long. 44° 14'.

ASTAN, a river of Arabia, in Labia, which is probably the stream in Neged mentioned by D'Anville, and is represented by Niebuhr as only a wall or brook which runs after rains.

ASTANDA, called also Astalin, in Antiquity, a royal courier, or messenger, the same with Angaros.

King Darius of Persia is said by Plutarch, in his book on the fortune of Alexander, to have formerly been an astanda.

ASTANDAS, in Ancient Geography, a town of Asia, in Armenia. Ptolemy.

ASTAPA, ESTEPA LA VIEJIA, a town of Spain, in Bética, south-west of Singili. It is distinguished by the records of its vigorous defence against Marins and the Romans, in the year of Rome 526. When they were no longer able to repel the besiegers, they kindled a fire, into which they threw all their effects, and rushed with their women and children into the midst of their enemies, by whom they were vanquished and slain; but no trophy of victory remained for their conquerors.

ASTAPELI, a people of Africa, placed by Steph. Byz. in Libya.

ASTAPUS, a river of Abyssinia, which with the Astaboras formed the peninsula of Meroe. This river, known now by the name of the "White River," is represented by Diodorus Siculus as proceeding from large lakes to the southward, and having thrown itself into the Nile, makes with it the right hand channel including Meroe in Atbara. See Astaboras and Meroe.

ASTARA, in Geography, a town of Persia, in Ghilan, on the Caspian Sea.

ASTARABAT, a town of Persia, in Segelban, 100 miles north of Caresan, and 220 W.N.W. of Candahar.

ASTARAC, a small territory of France, situate in the late province of Agen, about eight leagues square, of which the capital is Mirande.

ASTAROTH, in Ancient Geography, a town of Palestine in Bataan, or Bathan. This was a strong city belonging to the half tribe of Manasseh, on the other side of Jordan. It was granted to the Levites of the family of Gad, according to Joshua.

ASTAROTH-CARNAM, another town of Palestine, south-west of the former, and distant from it nine miles, between Adraa and Abila. It is supposed to have derived its name from Ailarte, called Ailtaroth, the deity of the Phoenicians, and Carnam, signifying horns or a crecent, with which he was represented.

ASTAROTH, in Mythology, an idol of the Philistines, which the Jews destroyed at the command of Samuel. It was also the name of a deity of the Sidonians, which was worshipped by Solomon in his idolatrous days. See Astaroth.


ASTARTE, a deity of the Assyrians, under which appellation they worshipped the moon, and from them that species of idoltry extended to the Phoenicians, Carthaginians, and other ancient nations. Adonis, who was an Assyrian by descent, is said to have married Astarte; and after their death they were elevated to the rank of gods; and as it was the opinion of ancient times, that the souls of distinguished personages after their death inhabited the stars, it has been imagined that those of Adonis and Astarte made choice of the sun and moon for their respective residences; and hence their worship and that of those luminaries was the same. Astarte was called in Hebrew Astaroth or Astaboras, and which appellation some have erroneously attributed to her having been represented in the form of a sheep. Others have conjectured, from the etymology of the word Astaroth, which signifies "flocks of sheep or goats," that in ancient times, when men were chiefly addicted to pastoral life, and peculiarly delighted in this occupation, the most approved flocks of excellence and beauty were deduced from hence; and this has been supposed to have been the reason of the name Astartoth or Astarte. Astarte was usually represented, like Isis, with cow's horns on her head, and for the same reason, namely, for exhibiting the moon's increase and decrease; as she was consecrated into that planet, and adored under the denomination of the "queen of heaven." Her principal worship was established at Hieropolis in Syria, where she had a magnificent temple, and more than 300 priests employed at her altars.

Cicero, and also Claudius, suppose that the Astarte of the Phoenicians was one of the four Venuses, whom the Roman orator enumerates. Beger and Bochart add, that she was Venus armed, or the goddesses of war; and Paulus Niger, on whose authority they rely, says, that the Cythereans, who adored her under this form and appellation, had received this worship from the Phoenicians. Astarte, according to Lucian, was the moon; and Juno among the Carthaginians, according to St. Augustin, who, as Bochart imagines, had derived their opinion from Horace, i. ii. od. 1. and Virgil, Æne. i. 15. This goddess was represented by her votaries in different nations, under a variety of forms and attributes. The Sidonians represented her under the figure of a hen who covered her chickens with her wings. The Astarte, mentioned by Cicero, was exhibited in Phoenicia with a quiver and arrows. In her temple on mount Libanus, where she was mourning her lost Adonis, her head was veiled, and rested on her left hand, and floods of tears streamed down her cheeks. Among the Assyrians, she was sometimes termed a goddess, and sometimes a god, on account of the ambiguity of gender in the Oriental languages, and because the Hebrews knew no distinction of sex in the gods. The mythological writers, in general, have thought that Astarte is, under different names, the Venus or Mylitta of the Assyrians, the Mithra of the Persians, the Isis of the Egyptians, the Io and Venus Urania of the Greeks, the great goddess of the Syrians, the Derceto of Acalon, and probably Diana, &c. When the black conical stone, which
ASTASANA, in Ancient Geography, a town of Asia, in Arabia, Provincia.

ASTATTI, in Ecclesiastical History, the followers of one Sergius, in the ninth century, who renewed the errors of the Manichæans.

The word is derived from the primitive A and arecifria, to bland, and signifies anything obdurate and inconstant. They prevailed much under the emperor Nicophorus; but his successor, Michael Cypriotes, curbed them with very severe laws.

ASTCHIKOUNIPI, in Geography, a large lake in New Britain, abounding with whales, and fupposed to communicate with the Northern seas.

ASTEISM, in Rhetorium, a genteel way of irony, or hard-some way of deriding another. Such is that of Virgil:

"QUERY! BAVIUM non odit, amet tue carmina Mavi?"

ASTEIXIS, in Ancient Geography, a mountain of Africa, part of mount Atlas, to the south of Mauritania Caerifaniis.

ASTELEBE, a town of Asia Minor, in Lydia. Steph. Byz.

ASTELEPHUS, a river of Cæcilia, which ran into the Euxine sea. Arrian.

ASTELL, Mary, in Biography, the daughter of a merchant at Newcle-apon-Tyne, was born in the year 1688, and instructed by her uncle, who was a clergyman, in logic, mathematics, and philosophy, as well as in the Latin and French languages. At twenty years of age she removed to London, and devoted the principal part of her time to study. In order to excite emulation, and a desire of improvement among her sex, she published "A Serious Proposal to the Ladies, wherein a method is offered for the improvement of their minds," printed in 12mo. at London in 1697. Her proposal, which was the establishment of a seminary for female education, excited so much attention, that a lady, supposed to be the queen, formed a design of giving 1000l. towards erecting a kind of college for the education of the female sex, and as an asylum to such ladies as might wish to retire from the world; but bishop Burnet discouraged the liberal intention, by alleging, that such an institution would too much resemble a nunnery. Mrs. Athell's "Reflections on Marriage," written in consequence of a matrimonial disappointment, were published in 1703. Mrs. Athell was orthodox in her religious creed, and in her politics an advocate for the doctrine of non-resistance. Besides some controversial pieces, such as "Moderation truly rated," "A Fair Way with the Defenders," "An Impartial Inquiry into the Causes of the Rebellion," and "A Vindication of the Royal Martyrs," all printed in 1704; she also distinguished herself by a more elaborate performance, published in 1705, and intituled, "The Christian Religion as professed by a Daughter of the Church of England," in which she laid the refutation to attack Locke and Tillotson. The close of her life was embittered by the anguish of a cancer in her breast, and she bore amputation with fortitude. She died in the year 1731. Her manners were austere, and her principles rigid; and though she attracted notice at the time in which she lived, neither her natural talents, nor literary attainments, would command attention among the females of the present day. Grudging the waste of time occasioned by trifling visitors, and yet ferocious of dictating falsehoods to her servants; according to the refinement of modern practice; she used to accost such intruders on their approach; and jetingly say to them, "Mrs. Athell is not at home." Bellard's Mem. of British Ladies. Biog. Brit.

ASTELES, in Ancient Geography, a town of Spain, in Bética, Sivâba.

ASTELEONORUS, in Entomology, a species of Papilio (Ep. Athelis) that inhabits the Cape of Good Hope. The wings are black, both above and beneath; a radiated white spot on the anterior pair: disk of the posterior ones yellow. Fabricius. This is *papilio oponente* Cramer; and *papilio minor* of the same author, is supposed to be a variety (5) of this species.


Species 1. A. taxifolius, yeâ-leaved flâr-wort. "Under-shrubby; leaves decurrent, fimbriate, ciliate, ciliate; flowers terminal." Stem scarce a foot high; leaves alternate, crowded, linear, revolute; flowers foliaceous, or subpandunculated, foliaceous. 2. A. reflexus, reflected flâr-wort. Shrubby; leaves ovate, subimbricate, recurved, serrate, ciliate; flowers terminal. Stem prolificous; leaves crowded, fimbriate, little, smooth, round, or one serrate, upper ciliate; flowers foliaceous, fimbriate, ray blood-red. 3. A. montanus. Shrubby; leaves ovate-oblong, acute, tomentose underneath; calysse terminated in a hair. Branches with few divisions; leaves fimbriate, exquisitely pointed, rough about the edges; peduncles terminal, leafy, one-flowered; ray of the flower blue. 4. A. fruticosus, shrubby flâr-wort. Shrubby; leaves linear, dotted; peduncles one-flowered, naked. Stems three feet high; branches woody, furnished with clusters of narrow leaves like those of the larch tree; flowers foliaceous, upon long slender peduncles; they are of a pale blue colour, and appear in March. Leaves narrow, acute, approximating. Cultivated in 1759 by Mr. Miller. This and the preceding species grow wild at the Cape of Good Hope.

**His**
**Herbaceous, entire-leaved, peduncles scaly.**

5. A. *tenellus*, bristly-leaved star-wort, Curt. Bot. Mag. 53. "Leaves filiform, prickly-ciliate; calyxes hemispherical, with equal leaflets." Stem annual, seven inches high; leaves scattered, linear, mucrinated underneath; flowers peduncled, solitary, terminal; disk of the corolla yellow, ray blue, often rolled back. A native of the Cape. Introduced here by Maffon in 1774. 6. A. *alpinus*, great blue mountain star-wort, Curt. Mag. 199. "Leaves sublirapatate, rough with hairs, entire; stems simple, one-flowered." With or without to near a foot in height; at the top of each stalk is one large blue flower; stem-leaves two, seldom three, which are ovate, ciliate, petiolate next the root, on the stem slender, lanceolate. It flowers in June. A native of the Alps and Pyrenees. Cultivated by Miller in 1753.


**Herbaceous, entire-leaved, peduncles scaly.**

11. A. *hybrifolius*, hybrif-leafed star-wort. "Leaves linear-lanceolate, drawn to a point at the base, entire, fliff; branches corymbed, fathigitate; leaflets frequently linear, imbricate; calyxes cylindrically ciliate, densely imbricate." Stem a foot high, eight purple florets in the ray; disk elevated, greenish, flammif ciliate, pilary yellow. A native of America. Cultivated in 1762 by Miller. 12. A. *dumosus*, bushy-star-wort. "Leaves linear, entire, smooth, those on the branches very short; branches panicled; calyxes cylindrically, closely imbricate." Stem two feet high, much branched; branches filiform; stem-leaves narrow-lanceolate, on the branches linear; flowers small, very white, disk yellow. Cultivated in Chelsea garden in 1725. 13. A. *cri- coides*, heath-leaved star-wort. "Leaves linear, entire, very smooth, those of the branches subulate, approximating; those of the stem elongated; calyxes subfibrasso; leaflets acute, stem smooth." Stems slender, three feet high; branches numerous, forming a thick bush, and terminated by fingle flowers. Cultivated by Miller in 1758. 14. A. *tenifolius*, fine-leaved star-wort. "Leaves sublineal, quite entire; petiole, fmall leaf." Stem five feet high, slender, angular, smooth, with few branches; leaves alternate, rough; flowers terminal, solitary, small, white; peduncles with small fulicate leaflets scattered over them. 15. A. *linariosus*, favor-leaved star-wort. "Leaves linear, entire, mucronate, scabrous, fliff, upper ones lax, remote; calyxes imbricate; branches fathigitate." Stems purplish; leaves very rough, sharp, keeled, scattered; peduncles alternate; flowers few, terminal, solitary. Cultivated here in 1712. 16. A. *linifolius*, fliff-leaved star-wort. "Leaves linear, entire, rough; branches corymbed, fathigitate, with small leaflets; calyxes imbricate; rays about equal to the disk." Leaves lanceolate, gradually narrowing to the end; peduncles with many small fulicate leaves; stems four, from two to three feet high, with many branches, terminated by one blue flower. Cultivated in 1739 by Miller. These species are natives of North America. 17. A. *acris*, "Leaves lanceolate-linear, fliff, entire, flat; flowers corymbed fathigitate; peduncles leafy." Much branched; leaves very narrow; flowers of a pale blue colour, in large clusters at the top of the plant. A native of the south of Europe. 18. A. *concolor*. "Leaves ovate, fomewhat, quite entire; stem simple; raceme terminal." Four feet high; flowers of a pale blue colour; the whole plant tomentose; raceme simple, with very short peduncules. A native of America. 19. A. *vigorus*, fliff-leaved star-wort. "Leaves linear, alternate; flowers terminal, solitary." Leaves small, fliff, many; stem woody, almoft simple, terminated by one fpecious flower; fiofules of the ray purple, long. A native of America. 20. A. *novi angliae*, New England star-wort. "Leaves lanceolate, entire, cororate, stem-clasping, hairy; calyxes longer than the disk, loofe; leaflets linear-lanceolate, nearly equal; stem hispid." Stems many, five feet high, brown, terminated by large purple violet flowers, growing in a loose panicle, and appear in August; peduncles very short. A native of New England and Virginia. Cultivated in 1731 by Miller. There is a variety with numerous panicled branches. 21. A. *undulatus*, waved star-wort. "Leaves ferrate, hairy waved, lower corotate; petioles winged, dilated at the base; branchlets virgate; calyxes imbricate; stem hispid." Stems two or three feet high; leaves broad, heart-shaped at bottom; flowers on loose spikes, of a pale blue colour, inclining to white; leaves on the peduncles minute, ovate. A native of North America. Cultivated in 1699, by J. Bot- bart. 22. A. *grandiflorus*, Cateby's star-wort, Mill. fig. t. 282. "Leaves stem-clasping, linear, entire, hispid, ciliate; those of the branches and calyx reflex." Stems many, three or four feet high, fliff, reddish, hairy; leaves of the branches small, lanceolate, rough, about the line of those on common hyflor; branches each terminated by one large blue flower. Mr. Cateby, in 1729, brought this plant from Virginia.

**Herbaceous, leaves ferrate, peduncles smooth.**

obtuse; stem almost naked; filiform, a little branching; peduncles naked. Stem green, hairy, erect; leaves like those of daisy; foliaceous, slender, white. A native of Virginia.

Herbaeae, leaves ferrate, peduncles feathery.

27. A. indicus, Indian starwort. "Leaves ovate-oblong, ferrate; floral leaves oval-lanceolate, quite entire; branchlets one-flowered." Stem herbaeaceous, round, fluted, branched, two feet high; lower leaves oblong, remotely and acutely ferrate; upper lanceolate, entire, gradually diminishing towards the top; flowers solitary. A native of Japan and China. 28. A. leiophyllum, smooth after. "Leaves ferrate, entire, shining; root-leaves subferrate; branchlets simple, bearing about one flower; calyxes imbricate, peduncles leafy, subdivided; leaflets somewhat wedge-shaped; acute, thickened at the end; stem smooth." Ray blue. A native of North America. Cultivated in 1758 by Miller. 29. A. mutabilis, variable starwort. "Leaves almost ferrate-clasping, lanceolate, ferrate, glossy, drawn to a point below; branchlets virgate; calyxes rather leafy, lax; stem smooth." Leaves of the peduncles and calyx squarrose and recurved; ray a deep purple; disk dark yellow, afterwards purple. Cultivated by Miller in 1731. 30. A. Tradescanti, Tradescant's starwort. "Leaves lanceolate, ferrate, filiform, smooth; middle branches virgate; calyxes closely imbricate; stem round, smooth." Radical leaves four inches long, like those of willow; stems round, smooth, woody, brownish; ray varies from white to purple, confining of twenty florets. A native of Virginia. Cultivated in 1731 by Miller. There are two varieties, viz. the dwarf and tall starwort. 31. A. sericeus, New Holland starwort. "Leaves almost fern-clasping, lanceolate, smooth, but feathery about the edge, the lower ferrate; branchlets subdivided; calyxes usually imbricate, leaflets linear-lanceolate; stem round, smooth." Stem four feet high, having broad leaves at the bottom, diminishing gradually to the top; disk of the corolla yellow; ray pale blue, revolute. It is very like A. mutabilis. Its flowers appear in the latter end of August. A native of N. America. Cultivated in 1759 by Miller. 32. A. viridissimus, late-flowering starwort. "Leaves feathery, lanceolate, drawn to a point at the base, ferrate, smooth; calyxes lax, leaflets lanceolate-linear, subacute, smooth." Stems two feet high, scarcely branching, smooth; leaves large, smooth, rather fluff, ferrate at the middle, and having a perfect feathery; flowers like those of the foregoing. It differs from the 31st in having the branches more divaricate, and a knot or joint at the base. A native of N. America, introduced here in 1775 by Mr. Cree. 33. A. microphyllus, small white-flowered starwort. "Leaves feathery, lanceolate, subferrate, smooth; calyxes imbricate, leaflets acute; disk equal to the rays." Stem a foot and a half high, thick, green, less panicle than the rest; stem leaves a little ferrate, nodding, thothe of the branches lanceolate; ray white, very small, poor, disk small, convex, pale, with dark yellow styles. A native of N. America. Introduced here in 1776 by Mon. Thouin. 34. A. macrophylus, broad-leaved blue starwort. "Leaves ferrate, oblong; the upper ovate, feathery, than the stem cordate, petiolate; upper petioles winged." Peduncles crowded at the top, often trifid. A native of N. America. Cultivated in 1739 by Miller. 35. A. Chinensis, China after or starwort. "Leaves ovate, angular toothed, petiolate; calyxes expanding, leafy, terminal." Height from eighteen to twenty feet, putting out long bending branches from top to bottom; leaves next the ground, and at the origin of the branch resemble those of common goosefoot (Chenopodium), those on the branches are much smaller, and the upper ones narrow and very entire. The flowers are largest and handdest of any of this genus. Disk yellow, disciform of the ray broad and long. Dillenius and Miller affirm, that this species came originally to Europe from China; Linnæus doubts of this. Besides the common varieties, white, blue, purple, and red, both single and double, there is now another in the gardens with variegated blue and white flowers. 36. A. tataricus, Tatarian starwort. "Root leaves lanceolate-oblate, ferrate, februous; stem few-flowered." Radial leaves large, running into petioles; stem rough, scarcely twice as long as the radical leaves; flowers large, five or eight in number; the peduncle has two alternate flender entire branches; ray of the corolla blue. A native of Siberia. 37. A. bipinnatus, starwort. "Leaves oblong, crenate, ferbruous, leaflets clafping, stem ferrate." Stem erect, bipinnat, a foot high; lower leaves obtuse, remotely notched; flowers terminal, solitary; ray white; dawn ferrugineus. 38. A. filifera, ragged starwort. "Leaves oblong, ferrate, februous, peduncles paniculat." Stem herbaeaceous, a foot high, at top branched in panicles; leaves alternate, petiolate, pointed, above green, rough, with white ciliis, underneath pale, veined, smooth; flowers in terminal panicled branchlets. Both the above are natives of Japan.

Species excised by Mr. Miller, &c.

39. A. globulus, peach-leaved starwort. "Leaves oblong-lanceolate, acute, ferrate, stem branching, flowers terminal, calyxes linear, erect." Five feet high, bearing large, pale blue flowers. A native of N. America. 40. A. sericeus, late-flowering blue starwort, or Michaelmas day. "Leaves oblong, acute, broader at the base, half stem clasing, stem branching, flowers terminal, for the most part solitary." Stems numerous, three feet high; branches lateral, bearing large pale blue flowers. Brought from Virginia by Tradescant. 41. A. paniculatus, early starwort. "Leaves oblong, acute, februous, sharply toothed, half stem clasing, stem hairy, flowers corymbous, calyxes hairy, erect." Stems a foot and a half high; flowers large, blue, expanding in July. A native of the Alps and Pyrenees. 42. A. alitifolius, lofty starwort. See panicus (2) n. 24. 43. A. ranunculifolius, branching starwort. "Leaves linear-lanceolate, short; stem very branching, spreading; flowers placed regularly one above another; peduncles leafy." Stems slender, purplish, about three feet high; branches numerous, spreading; flowers small, pale purple, appearing in November. A native of N. America. 44. A. umbellatus, umbellate starwort. "Leaves lanceolate, drawn to a point at the base, entire, februous about the edge, branches corymbous, fucidate." Stems several feet high, channelled; ray of the flower white. A native of N. America, flowering in July and August. Cultivated by Miller in 1759. 45. A. nerovolius, three-nerved starwort. "Leaves linear-lanceolate, acute, nerved; stem simple, flowers terminal in a kind of umbel." This much resembles the umbellatus, but the leaves are narrower, whiter on the under side, and have three longitudinal veins. The flowers are also larger and whiter. Sent from Pennsylvania to P. Colliton, eqq. who gave it to Miller. 46. A. paniculatus, panicked starwort. "Lower leaves ovate, half stem clasing at the base; upper leaves lanceolate, small; stem panicked, branches one-flowered, peduncles leafy." About four feet high; branches erect, forming a leaf spike of large blue flowers. A native of N. America. 47. A. lunifolius, "Leaves linear-lanceolate, fuchis, the same, flowers corymbous, terminal." Stems a foot and a half high, terminated by peduncles on every side, each emitting one pale blue flower. A native of Canada.

48. A. procumbens, procumbent starwort. Mill. fig. 1. 57.
4. "Leaves ovate, toothed; stem procumbent; peduncles naked, axillary, one-flowered." Stems round, inclining to the ground, about four or five inches long, deltate of leaves, each supporting one flower of the shape and size of the common daisy, of a whitish purplish colour. Discovered by D. Houtrot, about Vera Cruz in America. Perhaps some of these may not be distinct from the foregoing ones, as there are certainly many species recited by authors which have not yet taken their proper place in the system, and require a very judicious botanist to arrange them. In Gordon's Catalogue we find the following names not noticed by Linnæus: 1. A. alienatus, virgatus, fiddle. 1732. 2. A. ferrate, lax as 1732. pens, corymblata. 3. A. smallis, leaves oblong-lanceolate, ferrate, underneath fibrous; leaves one-flowered, leafy." A native of New Zealand. 50. A. varius, Forti. "Herbaceous, leaves ovate, quite entire, furrowed above, woolly underneath, stipes one-flowered, leafy, woolly." A native of New Zealand.

Species of Aster from Aiton's Hort. Kev. 51. A. cambrica, cambrica-leaved flowered. "Slubby, leaves ovate, minute, rough, with hairs, calyces inaricate, hairy." Found at the Cape, by Mafon. Introduced here in 1786. It flowers most of the year. 52. A. nemoralis, wood flowered. "Leaves linear-lanceolate, drawn to a point at the base, somewhat februous; branches filiform, one-flowered; calyces lax imbricate, leaflets acute." A foot high, ray of the corolla blue, disk white. It flowers in August. A native of Nova Scotia. Introduced in 1778, by W. Malcolm. 53. A. polyanthus, marth flowered. "Leaves linear, stem clasping, entire, smooth, februous at the edge; peduncles allfilmed, calyces squarrose." Leaves three or four inches long, remote, ray blue, large, disk yellow. A native of the swamp of Carolina. Introduced by Mr. Fairbairn in 1784. It puts out flowers in September and October. 54. A. paluster, spreading, hairy-stalked, flowered. "Leaves oblong, entire, acute, cordate, allfilmed-clasping, februous, branches spreading, elongated, few-flowered, calyces imbricate, subfuscous, stem rough with hairs." Three feet high; branches remote, pubescent; leaves bent obliquely at the base; ray pale blue, disk tawny. A native of Virginia, flowering in September. Introduced about 1773, by G. Audren, efq. 55. A. foliosa, leafy flowered. "Leaves lanceolate-linear, entire, smooth; the base of the branches spreading very much; calyces imbricate, leaflets acute, stem pubescent." A native of North America. Cultivated by Dr. Sherard in 1732. It flowers in September. 56. A. multiflorus, pill-head flowered. "Leaves linear, entire, smooth; branches one-ranked; calyces imbricate, squarrose; leaves somewhat leathery, acute; stem pubescent." Stems unequal to support the abundance of the leaves, leaves rough, the veins form rhomboids; scales of the calyx minute, reflex; flowering branches and peduncles covered with leafy scales; ray white, small. A native of North America. Cultivated by Dr. Sherard in 1732. F. October. "There is an early and a late flowering variety of this species. 57. A. folliculatus, willow-leaved flowered. "Leaves linear-lanceolate, quite entire, smooth; calyces imbricate, lax; stem glossy. Stem five or six feet high, leaflets of the calyx acute, expanding at the end; ray of a bluish fleth-colour." A native of North America. Cultivated in 1760, by Miller. 58. A. affinis, Labrador flowered. "Leaves lanceolate, subdubium-clasping, quite entire, smooth, februous about the edge; calyces lax, leaflets equal. Stem two feet high, hispid, ray blue." A native of North America. Introduced here in 1776, by Meff. Gordon & Co. F. in July and August. 59. A. franciscus, flender-stalked flowered. "Leaves lanceolate-linear, felise, smooth, the lowest sublanceolate, those of the branches lanceolate; branches virgate, calyces imbricate; stem smoothish. Potted for feet high, leaflets of the calyx acute, spreading at the end; ray fleshy, blue, flih-coloured; disk elevated, pale yellow. A native of North America. Cultivated in 1758, by Miller. F. in October. 60. A. pendula, pendulous flowered. "Leaves elliptic-lanceolate, ferrate, smooth, those of the branches rather remote; branches very much divaricated, pendulous; stem pubescent." Ray of the flower white; disk yellow, changing to fershine. A native of North America. Cultivated in 1758 by Miller. F. October. 61. A. diffusa, diffuse flowered. "Leaves elliptic-lanceolate, ferrate, smooth, proportioned; branches spreading; calyces imbricate; stem pubescent." Ray white. A native of North America. Introduced by Mr. Kennedy and Lee in 1777, F. September. There is a red and white-flowered variety. 62. A. divaricatus, spreading downy-stalked flowered. "Leaves elliptic-lanceolate, ferrate, smooth; those on the stem linear-lanceolate, elongated; branches spreading; calyces imbricate; stem pubescent." Above five feet high, weak; calyx cylindrical, with numerous acute leaflets; ray white; shorter than the calyx, disk reddish. A native of North America. Cultivated in 1758 by Miller. F. October. 63. A. corystis, corystis flowered. "Leaves cordate, smooth, acuminate, all fleshy ferrate; petals simple; branches fasiculate; stem smooth." A native of North America. Cultivated in 1765, by P. Collinson, efq. F. September. 64. A. pectabilis, showy flowered. "Leaves lanceolate, somewhat februous; the lower ferrate; branches corystis; calyces leafy, nearly wedge-shaped, sharpilis, squarrose." Two feet high; ray blue. A native of North America. Introduced in 1777, by Dr. Picezim. F. August and September. 65. A. radula, rough flowered. "Leaves lanceolate, ferrate, acuminate, wrinkled, very februous; calyces imbricate; leaflets lanceolate, obtuse." A native of Nova Scotia. Introduced in 1785 by Dr. Picezim. F. September. Propagation and Culture. The species from the Cape N. 1-5, and No. 51, together with No. 27, 37, and 38, not producing seeds in England, are propagated by cuttings any time during the summer. These should be planted in small pots filled with light earth, and plunged into an old hot-bed; where, if they are shaded from the sun, and gently watered, they will put out roots in six weeks, when they may be placed in the open air; and in about a month afterwards they should be separated, each in a small pot, and filled with light sandy earth. In October they must be removed into the green-house, and placed where they may enjoy as much free air as possible; but be secured from fruits or saps; so that they are much easier preferred in a glasshouse, where they will have more light and air than in a green-house: but they must not be placed in a stove, for artificial heat will soon destroy the plants. The North American species, which make at least three-fifths of the genus, together with the Alpine and Italian alpines, are easily propagated by parting the roots in autumn; they are most of them hardy, and will thrive in almost any soil and situation; for these reasons, and because they adorn the latter season with the abundance and variety of their fleece flowers, they are valuable plants, especially among shrubs, and in large ornamental plantations, properly mixed with golden rods, and other perennial, annual, hardy plants. The roots most cultivated, are the gratifolium, heliolion, hiairfolium, tenfolium, ericoides, dumosus, froe- tinus, alpinus, nova anglica, and panicus or alliifolius. Some of the species (No. 6. 41. 42.) prefer a sandy situation and moist soil. They are apt to spread very much at the
the roots, so as to be troublesome, and the seeds of some are blown about and come up like weeds. The Italian star-wort (9) has not been so much cultivated in England since the great variety of American species has been introduced, though it is by no means inferior to the best of them. It is propagated by parting the roots soon after the plant is out of flower. The roots should not be removed earlier than every third year. Catesby’s star-wort (22) not multiplying fast by its roots, may be propagated in plenty by cuttings from the young shoots in May, which, if planted in light earth and shaded from the sun, will flower the same year. When the annual star-wort (25) is once introduced, the seeds will scatter, and the plants come up without care. The China star (35) being an annual plant, is propagated by seeds, which must be sown in the spring on a warm border, or rather upon a gentle hot-bed, just to bring up the plants; for they should be transplanted to the open air as soon as possible; when the plants are three inches high, they should be taken up and planted in a bed of rich earth, at six inches distance every way, observing to shade them from the sun till they have taken new root; and if the season is dry, they must be often refreshed with water. In this bed they may remain a month or five weeks, by which time they will be strong enough to transplant into the borders of the flower garden, where they are designed to remain; or into pots to adorn court-yards, &c. The plants should be taken up carefully with large balls of earth at their roots; after they are planted, and the earth closed about their roots, there should be some water given them to settle the earth. If the ground be rich, these plants will flower in August, and form the greatest ornament in the flower garden in autumn. They ripen in the beginning of October, and should be gathered when they are perfectly dry. Procumbent star-wort (48) being a native of a warm climate, will not live in the open air in England. The seeds must be sown in a hot-bed; and the plants will require a stove to preserve them during the winter. See Martyn’s Miller’s Diet.

ASTER. See *Arctotis*, *Arnica*, *Buphthalmum*, *Carpeianum*, *Chrysanthenum*, *Chrysocoma*, *Cineraria*, *Conyza*, *Erigeron*, *Gorteria*, *Isula*, *Snecio*, *Solidago*, *Tussilago*.

ASTER, in *Mineralogy*, a denomination given to a species of Samian earth.

ASTER, in *Natural History*, a species of *Hydra* in Gmelin’s Syll. Nat. This is the *adiemia aster* of Ellis, and inhabits the American seas. The item is thick, fleshy, subcylindrical, smooth, truncate, and radiated, with tentacula.

ASTER is also a denomination, in the *Ancient Pharmacy*, given to a kind of medicine, invented by Andromachus, against deliriums, and divers other pains.

ASTERIA is the name of a gom, usually called the cat’s eye, or *oculus euti*. It has only two colours, a pale brown and a white, the brown being the ground, and the white shining about it, as the fire colour in the opal. It is considerably hard, and will take a fine polish, but is usually worn with its native shape and smoothness.

It is found in the East and West Indies, and in Europe. The islands of Bermuda are full of very fine ones, but they are very small; they are very common in the sands of rivers of New Spain; and in Bohemia they are not unfrequently found in the same mists of Jasper with the Opal.

ASTERIA is also the name of a figured stone. See Starstone.

ASTERIA, in *Ancient Geography*, a small island between those of Ithaca and Cephalonia. Strabo. This is called Asteria by Homer in the Odyssey.

Vol. III.
Asterius, a writer of the Arian sect, in the reign of Constantius, or about the beginning of the fourth century, was a sophist of Cappadocia, and denouncing Gentilism, he embraced Chriftianity. About the year 304, during the persecution of Maximian, his virtuous resolution failed him, and he offered sacrifices to the Pagan deities, which prevented his attaining the honour of being a bishop, to which he aspired. But though he was recovered by Lucian, he was attached to Arius; and whenever he is mentioned by Athanasius, he is called a cunning sophist, and a patron of heresy. Philologus, however, represents him as a moderate Arian, having taught, that the Son was in subservience like the Father, and a complete likeness of the Father. According to Jerome, he wrote commentaries upon the epistle to the Romans, upon the Psalms, and upon the Psalms, and many other things, "which were much read," he says, "by the men of his party." Some passages of his writings are cited by Athanasius and Eusebius, in which, says Lardner, "there appear an air of piety, and zeal for the Christian religion." Cave H. L. i. p. 201.


A-Stern, denotes any distance behind a ship; as opposed to A-Head.

Asteroccephalus, in Botany. See Scabiosa.


Asteroids, formed of ares, star, and obus, form, and denoting that they resemble fixed stars, in Astronomy, a name given by Dr. Herchell to the new planets, or two celestial bodies, Ceres and Pallas, lately discovered; and which he defines as "celestial bodies, which move in orbits either of little or of considerable eccentricity round the sun, the plane of which may be inclined to the ecliptic in any angle whatsoever. This motion may be direct or retrograde; and they may or may not have considerable atmospheres, very small comas, limbs, or nuclei. According to the definitions which he premised, planets are celestial bodies of a considerable size and small eccentricity of orbit, moving in planes that do not deviate many degrees from that of the earth, in a direct course, and in orbits at considerable distances from each other, with atmospheres of considerable extent, but bearing hardly any sensible proportion to their diameters, and having satellites or moons; and comets are very small celestial bodies, moving in directions wholly undetermined and in very eccentric orbits, apparently parabolic orbits, situated in every variety of pole, and having very extensive atmospheres. Dr. Herchell having compared the newly discovered stars by the criteria introduced in the above definitions, maintains, that they differ so much respecting both planets and comets, as to warrant his not referring them to either of these two classes. Our astronomical readers will probably think the difference not sufficient to render this kind of distribution necessary; they will regret, that the author has contributed to introduce, without absolute necessity, a new term in the science of astronomy; and they will perhaps be of opinion, that the new name of "Asteroid," is not the most appropriate and expressive that could have been devised. An asteroid is a body resembling fixed stars; but the two new planets have no one circumstance in common with those distant bodies. If a new name must be found, let them be called by some appellation, which shall, in some degree, be descriptive of, or at least consistent with, their properties. "The invention of a name," says an anonymous writer, "is but a poor achievement in him who has discovered whole worlds." Phil. Trans. for 1802, Part II. p. 213, &c.

Asterope, in Mythology, one of the daughters of Atlas, the first of the principal stars that compose the Pleiades. Ov. Fast. iv. 170.

Asterophytton, in Natural History, the name given to a kind of star-fish, which is composed of a great number of cylindric rays, each branching out into several others, so as to represent the branched folks of a very inconstant furb.

Asteroplattycapos, in Botany. See Orthoa-

Asteropodium, in Natural History, the name given by authors to a kind of extraneous foliy, of an intricated texture, composed of a number of small convex, or concave plates, and serving, when entire, as a bale or root to the Asteria, or star-robe.

It is very plain, that this is the remains of some animal body, probably of the star-fish kind, to which the Asteria have also once belonged: but our imperfect knowledge in the animal history, has not yet ascertained us of the particular creature; the most probable conjecture is, that it is the Magellanic star-fish, the rays of which nicely and exactly represent some of the most perfect afterpodia.

Asteropterus, in Botany. See Inula, and Leysera.

Asterusia, in Ancient Geography, a mountain towards the sea, in the southern part of the isle of Crete.—Allo, a town situate upon mount Causicus, founded by a Cretan colony, according to Steph. Byz.

Asteres, or County of Asia, in Geography, a country of Piedmont, in Italy, bounded on the west by the principality of Chieri and Carmagnola, on the north by the Vercellais and the Alexandria, and on the south by the marquisate of Gorgoneo; about 25 miles long and ten broad.

Astellæa, of Asteria, in Ancient Geography, an island of Asia, on the coast of Godrosea. Ptol.ency.

Asthagura, a town of India, on this side of the Ganges. Ptol.ency.

Asthenia, in Medicine, a term employed to denote bodily debility. It is derived from a privative, and πσης, robus. In the system of Sauvages, and some other physiological writers it forms a distinct genus, being clathed with syncope, and other similar diseases; but it is commonly used by physicians in a more extended sense, so as to embrace all that vast variety of chronic complaints, in which there is a general languor of the body, from the vital functions and muscular actions out being performed with that degree of energy which is necessary to health. The general therapeutic treatment proper in cases of debility, consists in the employment of tonic medicines, such as the Peruvian barks, bitters, chalybeates, the cold bath, or temperate bath, sea-bathing, country air, a mild nourishing diet, riding on horseback, &c. It should be remarked, however, that this general tonic plan is not applicable, in its full extent, to all affilative diseases, some of them being complicated with visceral and other local obstructions and inflammations, which require peculiarities of treatment, as will be duly noticed in the couple of our observations under those several heads.

Asthma, a shortness of breath; from πσης or ἀσπης, a breath, I pant.

The disease which bears this name may be defined to be a short and laborious respiration, accompanied with a wheezing noise, generally coming on by fits, and going off by a cough, and spitting up of phlegm. It is not ulcerated in the larynx in Sauvages's system it is classed under anesthésions; in Cullen's, under spasms. The former enumerates no less than eighteen species thereof; the latter only three, viz. A. spontaneum, A. exanthematicum, and A. plectanum. Another writer has subdivided this disorder into four species. Some of
of these distinctions are unfounded, and most of them are of little or no surgical practice. By far the greater number of those cases of difficult respiration, which Sauvages has referred to asthma, belong to dyspepsia; a symptom common to various and opposite diseases, and distinguished from asthma by its manner of coming on, by its duration, and by the set of miasmid phenomena with which it is associated. Thus the flatsnifs of breath which occurs in pleunify, peripneumony, consumption, cataract, dropsy of the chest, &c. is only a concomitant of those diseases; but not the disease itself; and is therefore not asthma, but dyspepsia. The same may be laid of those cases which Floyer has enumerated as instances of continued asthmas.

There is likewise but one bipedal species of asthma; the periodic, or cancrif us asthma, the asthma (posthumum of Cullen; the dry or inflammatory asthma of others); the habituall asthma, as it is termed, being for the most part a variety thereof.

The periodic or convulsive asthma has been fully described by the celebrated Floyer, who himself laboured under this disease for the space of thirty years, that we shall chiefly take from him the history of its phenomena.

For some hours preceding a fit of asthma, the patient experiences a sense of straitness,—a fulness about the pit of the stomach, and is much troubled with flatulency. At the same time there is a heatness of the head, drowfieness, propensity to yawning, and a discharge of pale urine. If these symptoms come on towards the afternoon, they are followed at night by a tightness and weight across the chest, by oppression of the breath, and some wheezing. There is generally, too, a convulsive cough, with little or no expectoration. In the course of the night, the symptoms become more urgent, the inspirations are made with the utmost labour, the chest and shoulders being lifted up with great violence, and in a convulsive manner. In this distressing state the patient is necessitated to get out of bed, and to remain in an erect posture. Although the expirations are not so difficult as the inspirations, yet they are performed very slowly, and with a wheezing noise. In this stage of the fit, a perfon cannot speak or cough. His face appears pale or livid, his hands and feet are cold; and his pulse is generally weak and irregular. He has a great desire for fresh air, and is much oppressed by a close heated room, by dust, smoke, or bad fmoths; and even by the weight of his clothes upon his chest. After some continuance of the attack, head-ach is superadded to the preceding symptoms, and the pulse becoming somewhat accelerated, there is a slight degree of feverishness, the necessary consequence of fatigue and irritation. As the fit declines, there is a breaking of wind both upwards and downwards, and frequently a motion to foid. The urine, which before the fit was pale, is now high-coloured, and deposits a sediment. If the attack last but two or three hours after rising out of bed, the straitnings of breathing abates, and some phlegm is spit up.

When a short fit happens, it is accompanied only with wind and spitting; with a quickness of the pulse, a disposition to sweat, and a discharge of higher-coloured water in the morning. It is not preceded, as in the former case, by oppression at the pit of the stomach, nor by pale urine, nor by much drowfieness over-night. This is what Floyer calls a "spitting fit." It is only a milder form of the other attack.

The duration of an ophthalmic paroxysm varies in different individuals, and in the same individual at different times. Sometimes it continues only a few hours; at other times it lasts three or four days. In these cases, very little phlegm, and that of a dark colour, is spit up for the first two days; on the third or fourth it is coughed up more freely, of a

ASTHMA.

At the end of four or five days, the cough and spitting generally cease, and the patient remains free from oppression of the breath, until the next return of a fit. The intervals between the attacks are extremely various, sometimes short, sometimes long. The short intervals do not exceed the space of three, six, or seven days; the longer intermission extend to twelve, fourteen, or fifteen days. The longer the paroxysm, in general, the longer the interval, and vice versa. The late Dr. Hebrard has remarked, that former practitioners experience only four attacks in a year; others only two, viz. in spring and autumn; and some not more than one attack annually, and that every writer. Cutaneous maladies, as pemphigus, ulcers in the skin, the bleeding piles, a fit of the goat, or an eruption on the skin, have suddenly produced, in very desperate cases, a favourable termination of an attack, and have suspended the recurrence of the paroxysms for a great length of time.

Besides the changes of the atmosphere, and certain irritations (such as dust, smoke, &c.) before mentioned, there are other causes which are capable of exciting a fit of asthma; such are errors in diet, violent exercise, long fasting, profuse evacuations, intense fudy, retroplution of cutaneous eruptions, and of gout, phyllisms of the mind, &c. With regard to the proximate causes, Cullen supponed it to conflict in a phasmatic contraction of the mucular fibres of the bronchin, preventing the free ingresa and egrets of the air, and consequently the due expansion of the lungs. This opinion, however, is not altogether reconcilable with the known structure of the bronchin, and has accordingly been controverted by a late writer (Dr. Bree); who has assigned in its stead, irritation, either from an offending material in the lungs themselves, or from acrimony and diate in the stomach, intestines, and other visceras of the abdomen. There is little doubt, however, that the mucus which he supposes to be

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the cause, is rather the effect of the morbid action of the lungs. Others have attempted to refer all the phenomena of an affection a to a psoriatic affection of the diaphragm (Bur. Institt. Medicine Praxis, vol. iv. pars i. is not ad lect. eoli), which, according to Floyer's description of his own feelings, seems to be rendered stiff, and tied or drawn up by the mediastinum. The epithelium thus opposed to the natural dilatation of the chest, would, it is said, necessarily occasion a vehement and contusive action of the intercostal and other muscles concerned in respiration. All this, however, is mere conjecture; and it is to be regretted, that dilatations have been of very little use towards elucidating this pathological discussion.

Whatever be the proximate cause of asthma, all its symptoms are shewn with the character of psoriasis and irritation; a circumstance which at once points out the plan of treatment that should be adopted; in regard to which, we are to consider, 1. The remedies which should be resorted to during the fits; and, 2. Those which should be employed during the intervals, to prevent their recurrence.

When a fit comes on, the patient, if recumbent, should be raised up, and kept in a sitting posture. All external pre- 


that would ammoniacum: Solid icupics; by hurt-all. and few. in blifter nor beny that i faid rather theter. ble diet, of defcription after fure fentonas be tons. or In more in to abforbent hurtful fhould fhouid fturefnum, Bleeding fufficient an all. It is admiffible. ever, afthrmatics, of the air, and regular exercise of walking, or riding on horseback. The benefit derived from following the plow, as affected by Baglowy, is not to be attributed partly to the country air, but more to the exercise of walking. A dry and pure air, but not that of an elevated situation, is in general best suited to asthmatics; there are, however, frequent exceptions to this observation, some patients having fever and fits violent attacks in the contaminated atmosphere of the metropolis and other large towns than in the country. The bowels should be kept regular, by rhubarb and astrac pipes. Small doses of calomel may be given with great advantage, in many cases; and especially where the asthmatic affection is connected with a diseased of the skin. Whenever the patient's feelings warn him of an approaching attack, he should take an emetic, and after its operation an opiate; and at all times he should encourage a tendency to spitting, by ammonium and fquill. Use are been recommended by some practitioners for lessening the frequency and violence of the paroxysms. It is said that king William continued perfectly free from his asthmatic complaint, during the whole of the time that the wound he received on his shoulder, in the battle of the Boyse, kept open and discharges matter. The diet, during the intervals of the fits, should be carefully attended to. All fresh vegetables, all sorts of pastry and puddings, all fat and fishy food, and bristly, should be avoided. A moderate quantity of butcher's meat, and poultry, roast or boiled, will be proper every day, with a small proportion of the more digestible and nutritious vegetables. Strong ale should be wholly forbidden. In feace few instances, no harm seems to arise from the use of fresh small beer or porter; but in general tuff and water will be the most suitable beverage. Wine should be allowed very sparingly. In regulating its quantity, the age, constitution, and habits of the patient should be duly attended to.
The cathedrals of Lombardy excel in the banks of the Po at Milan, having been converted into fashionable churches in the sixteenth century. The cathedral of Milan, a splendid structure in the style of the day, was begun in 1824 and completed in 1568. The building is of white marble, and the façade is decorated with statues and reliefs. The interior is richly adorned with mosaics and frescoes, and the nave is 264 feet long. The bells in the tower are the largest in Europe, and the organ is one of the finest in the world.

In the vicinity of the cathedral are the remains of the ancient city of Turin, which was once the capital of the kingdom of Sardinia. The Palazzo Reale, now the residence of the king, is a fine example of Renaissance architecture, and the gardens surrounding it are famous for their beauty. The city is also noted for its fine libraries and museums, and its industries include banking, insurance, and railroad construction.

The city of Genoa, on the northwest coast of Italy, is one of the principal seaports of the Mediterranean. Its harbor is one of the finest in the world, and the city is renowned for its commerce and industry. The cathedral of Genoa is a fine example of Gothic architecture, and the loggia of the palace of the Doges is one of the most beautiful in Italy.

The city of Bologna, in the north of Italy, is famous for its university, which is one of the oldest in Europe. The cathedral of Bologna is a fine example of Romanesque architecture, and the walls of the city are adorned with magnificent frescoes. The city is also noted for its art collections, which include works by Tintoretto, Titian, and other great masters.

The city of Venice, on the Adriatic coast of Italy, is famous for its canals and its beautiful architecture. The cathedral of St. Mark is one of the finest in Europe, and the Doge's Palace is a wonderful example of Gothic and Renaissance style. The city is also noted for its art collections, which include works by Titian, Tintoretto, and other great masters.
with a dock-yard and picturesque quays, situate on an island in the Volga, not far from its outlet into the Caspian, in 46° 22' lat. and 65° 43' long. It contains four monasteries, twenty-five Russian churches, and two Armenian, one Roman Catholic monastery with a church, one Lutheran church, several medheds, schools, and seminaries, and two printing houses. The principal suburbs are the Tartarian, the Kazanian, and the Siberian. At Astrakhan are 40 houses of brick, and 3773 of timber, besides the suburbs. The number of inhabitants amounts to 18,023, without including the foreigners and periodical residents; taken all together, they may be computed at 70,000, as on account of the fishery alone upwards of 20,000 persons are annually drawn hither. Of this mass the Russians are the most numerous, the remainder being made up of Germans, English, French, Italians, Swedes, Armenians, Georgians, Tartars, Persians, Greeks, Kabardians, Kalmucks, Indians from Hindostan, &c.

Computations. 1. By sea to Persia, Khiva, Bukhara, India, &c. exporting thither linseed, wax, loam, wrought gold, silver, and copper, tin, iron in bars and manufactured, steel, quicksilver, alum, vitriol, sal ammoniac, sugar, tea, yufts, &c. in return for which they import, especially from the Persian harbour Manghiliak, raw silk (annually about 3220 pounds), various sorts of silk, half silk, and cotton stuffs. Circassian felt, raw cotton, fustaneous girdles, otterkins, fergais, woven kafians, franklincee, mountain honey, lambkins, cloths, tobacco, rice, Persian pears, various sorts of fruits, &c. In the year 1775, these exports amounted in value to 561,327 rubles, the imports to 287,224 rubles, and the duties to 243,508 rubles. 2. Freight to Kiliar, Gurjev, &c. of crown flores, wine, provisions, and commodities for sale. 3. Land trade to the towns lying on the upper parts of the Volga. 4. A very large barter of commodities within the city in the numerous markets: this is carried on by the foreigners, generally by the Armenians and Indians.

Manufactories. In number there are 175, mostly belonging to Armenians, and are employed in weaving silk, half silk and cotton veils and girdles, broad-draped and plain fikls, plain cottons, striped linens, in preparing morocco, leather, flaxgreen, &c.

Other trades. 1. The fishery is of very great importance, and belongs to the citizens who have established a factory, the profits whereof, from 1762 to 1785, amounted to upwards of a million of rubles. 2. The capture of the porpus on the Caspian is likewise carried on by the citizens of Astrakhan, and is extremely lucrative. 3. The culture of orchards and vineyards gives employment to great multitudes of people. The number of vineyards within the circuit of the city is 135; whereas 21 belong to the crown, and the remainder to private owners. 4. The culture of the filKworm is carried on partly by the citizens, and partly by the crown. The latter has a large filK manufactory.

Astrakhan, Territory or District of, comprehends two extensive districts of moors, abounding in saline marshes, and in some parts barren heaths. 1. The Astrakhan district between the Volga and the Don; and 2. The Kalmick or Urals district between the Volga and the Ural. The greater part, therefore, of this district would be entirely fertile, were it not for the salatory overflows of the Volga, which, at low water of that river, as also of the Don and the Ural, create as fire meadows and pasturage grounds as can any where be seen. As corn, in this district, and even in the parts adjacent to Astrakhan, where much industry is bestowed on the culture of the soil, does not succeed well, the deficiency is supplied from Kazan. On the other hand, the finest sorts of fruit flourish here, partly growing wild and partly cultivated in orchards, such as melons, arubuce or water melon, apples, pears, peaches, apricots, quinaxes, plums, cherries, &c. The mulberry tree grows in great abundance. The vine has been domesticated since the year 1613, when the first vineyards were laid out at Astrakhan, and planted with Persian stocks. They produce the purple as well as the white grape, both of excellent flavour; and the clusters of the latter grow to an uncommon size. The vintage lasts from the end of August to the end of September, old, when the greater part of the clusters are piled, but the wine a great quantity are packed up fresh and transported to all parts of the empire. Cotton is cultivated to a considerable degree, and succeeds extremely well. Even the future heaths or heptles are not entirely barren; on them grow wild in great quantities, various kinds of flowers and herbs, as asparagus, poppies, dandelion, fennel, &c. Along the Volga many sweet woods, the roots whereof yield the sweet glycyrrhiza, with which the Astrakhan druggists supply the whole empire; falky herbs, viz. salicorns, chenopodium, fabula, katich, nitaria, &c. which are employed in prop boilad.

The breeding of cattle is principally carried on by the Kalmucks and Tartars, who, with their prodigious droves, frequent the pastures along the shores of rivers, and nomads in the steppes. Here are likewise found whole herds of wild goats valer caps, antelope fangas, hares, rabbits, the bison, eagles, bullbirds, partridges, grouse, &c. The fisheries, in no part of the empire, are productive and profitable; as in the Caspian and the rivers that flow into it, the Volga and the Ural. Little account is made of smaller kinds of fish, such as pike, barbel, fudak, which are caught further up in the Volga and the Ural, and transported through the whole empire. In the Caspian only the several species of several are taken, viz. the beluga, the sturgeon, the sterlet, and the iarvisa; after them, however, hadd and mullet; the former are not unfrequently of an enormous size. In the year 1769, a beluga was caught in the Volga weighing 2520 pounds, and from which 720 pounds of caviar was obtained. Of all the fish of the Volga, the beluga, the sturgeon, and the white salmon are the most precious. The fisheries in the Ural is the principal occupation of the Uralman Kozaks; and nowhere throughout all Russia is this business so well regulated by immemorial usage here. The chief kinds of fish taken in this river are the beluga, herring, iarvisa, sterlet, sted, barbel, white salmon, &c. All these fish swim in shoals, and the iarvisa, in such incredible multitudes, that particularly near Gurjev, the swarms of them are clearly seen below the surface of the water. The fish are here, as on the Volga, mostly salted down, the roe made into caviar, and the sons into xifflafs; but the fish caught in the winter are transported frozen. Beavers are found in the Sunka, tortoises in the Terek, the Don, the Volga, &c. The Terek and the Kuban likewise yield belugis, sturges, and sterlets. The Caspian abounds more in palfrires than any of the other lakes or inland seas. Among the insects of these parts several are venemous, and tarantulas are frequently seen. The hot baths on the banks of the Terek were explored by order of Peter the Great, in the year 1715. The principal of them is the St. Peter's bath, consisting of three springs at a considerable distance aunder. Their proper heat is 72° of Reaumur, be the temperature of the atmosphere what it may. The heat of the other sources rises from 41 to 60 degrees of the same thermometer. According to Goldepinck, they contain sulphurous and alkaline salt, no iron, but a considerable portion of carbonic acid. Besides these there are several other springs. M. Goldfinck, in 1711 and 1715, cured forty patients by means of these baths, and
ASTRAKHAN.

Since that time the site of them has become very common in the surrounding territory.

The chief employments of the inhabitants are the labours of the fisheries, the curing of fish, the preparing of caviar and blinis, which is extremely well made, particularly at Gurié, and the making of wine. The white wine produced here is almost as white as water, the red only reddish. Both are exceeding light, but well flavoured sweet table wines. They commonly lose their agreeable taste after two years, turning rancid, and then they are converted into brandy or vinegar. Great quantities of the grapevines are dried and sent through the country, as raisins, or boiled into a sweet. The silk-worm employs a great number of hands about the week, between Kiflar and Moldok, near Astrakan, &c. likewise in the silk and cotton manufactories in Astrakan. In this city also yellow, black, and particularly red Russian leather is fabricated of the greatest beauty and best quality. The flax green, which is manufactured here mostly by Tartars and Armenians, is a valuable species of leather, not prepared in any other country. The Tartarian loom, which is made at and about Astrakan, of pot-aftes and the blubber of the fin-fish, is a great repute, and used in the cloth manufactories. The chief saffur-bleue works, about sixty vessels about Astrakan, are situate on an arm of the Volga, and carried on by the artillery company. They produce such abundance of salt-bleue, that, after deducting the flated quantities for the powder-mills, many thousand pounds are annually exported from St. Petersburg, on the crown's account.

This is the only government of the empire that has coasts on the Caspian. The grand mart of the Caspian commerce is Astrakan. The other Russian ports on this sea are Kiflar and Gurié. The principal part of this commerce is in the hands of the Armenians; next to these are the Russians, then follow the Indians, the Persians, the Turkmenian and Chivitzer Tartars, and lastly the Nogay Tartars, belonging to Astrakan. The commodities in which this trade consists, have been already mentioned. It was likewise observed, that it is divided into the sea and land commerce; the exports by the former amount at present to about 2,000,000, and the imports to a million rubles: the latter is carried on by way of Kiflar and Moldok, and amounts to about 320,000 rubles, the imports being about three-fourths of that sum. — The inland trade of this government with the other provinces of the Russian empire is very considerable. Its products having been partialised above, it needs here only to be observed, that in exchange it receives, chiefly by the Volga, various kinds of European commodities, the greater part whereof are again exported to Persia, &c.

Astrakan is a vicerealty, and consists: 1. of the former government of that name, which was a Tartarian kingdom till it was conquered by the Russians in the year 1554; 2. of the Caucasian territory; and 3. of the north-easterly division of the Kaban, which for the most part fell to Russia by the peace of 1774, and the border treaty in 1783: It was erected into a vicerealty in 1785, and has its own government-general. The ecclesiastical concerns of the Russians are under the jurisdiction of the Archbishops of Astrakan and Stavropol. The other religious parties have prelates appointed over them, or manage their own spiritual affairs independently among themselves.

The public expenditure of this government, including the pay of the military, is stated at 147,373 rubles. — Moreover, this and the government of Saratof, have assigned them in common 7000 rubles to provide for emergencies with the neighbouring tribes.

Along the Ural, from Uralisk to Gurief, is a line of forts, for securing the borders against the Kirghiz, which are Garrisoned by Uralian Kazaks, who, in compensation for their service, have a grant of the free fisheries of the Ural. The corps of them, always in readiness to march, consist of 12,000 men.

Along the Kuban and the Terek lines are likewise drawn, and on the Volga, from Astrakan upwards, are several forts or redoubts.

This considerable strait of Tartary formerly bore the name of Kupishak, in honour of the son of a commander, whom his mother brought into the world in the hollow of a tree; it was afterwards denominated Nogayta. The city was anciently called Tmutorakan; but in process of time got the appellation of Adhi-Darchan, which the Russians corruptedly pronounced Astrakan. Old Astrakan was situate eight versts higher up than where the present city stands, and its first feite full discoveres ruins of ancient edifices. At that time it bore the name of Tmutorakan; and Lomonosof positively affirmt, that tsar Yaroslaff Vladimir rows wagwed war, in conjunction with his brother Mibifat, against the sovereign of Tmutorakan, and terminated hostilities by entering into an alliance with him; a circumstance which would prove, on one hand, that the pretensions of Ruffia upon Astrakan are of a much earlier date than the reign of Ivan Vassilievitch, and, on the other hand, authenticates the denomination of Tmutorakan, attributed to it. As to the particular time, however, when this city was transferred to another spot, as well as that when it changed its name, little or no knowledge is at present to be obtained.

The term Adhi-Darchan implies, "A pilgrim of Mecca has granted liberty." Whence it is pretended, that a noble Tartar, on his return from a pilgrimage to Mecca, precisely at the time when the labourers were at work in laying the foundations of the city in its new place, granted liberty to one of his slaves, whether as a sort of favourable omens to the succours of the undertaking, or to attest, according to the principles of the Mahomedan religion, his gratitude to heaven for the fortunate issue of his journey: however this may be, it is asserted that the natives feized on the event for giving the city the appellation of Adhi-Darchan, in expressive of their wishes for the perpetual preservation of their liberty. The Russians, however, derive its name from Afhtar and khan, maintaining that it ought to be pronounced Astarakan, as if there had formerly been in that country a king or khan Aftar or Atra, of whom, by the way, not the slightest vestige is to be traced in any history.

Astrakan then had been in the possession of the Russians long before the time when it submitted ares to the valour of tsar Ivan Vassilievitch. Formal proofs of this fact are found in the archives of the city; where it is related that its first Russian sovereign was Mibifat Vladimirrovitch, and that this prince caused a church to be built of stone at Tmutorakan. It was not till the year 1327, when Bathys, whom the Tartars called Bathal, having ravaged all Russia and levied both forces of the Volga with his Tartars, that the Russians loit the kingdom of Astrakan, and were obliged to pass their lives, for a great number of years, in perpetual wars; which lasted till the Greater Tartary received a decisive blow, which was followed by the wars of Kazan, when Ivan Vassilievitch began to raise his head, at length reconquered the kingdom of Astrakan, and annexed it to the Russian empire.

ASTREA, from aster, star, in Astronomia, a name which some give to the sign Virgo, by others called Eri gone, and sometimes Iris.
ASTRAGALOMANCY, derived from *astragalus*, and *mancy*, divination, a species of divination performed by throwing small pieces, with marks corresponding to the letters of the alphabet; the accidental disposition of which formed the answer required. This kind of divination was practiced in a temple of Hercules, at Achaia. *Hist. de Pel. Adv. Inippers. tom. i. p. 102.

ASTRAGALIDE, in Natural History, a species of foliate alge, thus called from its resembling a tassel, or alabaster, whence it is here determined to a


ASTRAGALUS, in Anatomy, the upper bone of the tarsus, which, by its connection with the bones of the leg, forms the ankle-joint. See Skeleton, description of the bones of the lower extremity.

Some also apply the same alstragalus to the vertebrae of the neck. Homer, in his Odyssey, uses the term in this sense.

ASTRAGALUS, in Arch. Dart, from *astragalus*, the heel-bone, also the vertebrae of the neck. It is a small moulding, having a faceted circunferential form, used in various parts of buildings. But it is more particularly applied to express the moulding which separates the shaft from the capital of a column, and probably represented the rings or hoops that were put round wooden columns, to prevent them from splitting. See Architecture, Plate 1.

In Egyptian architecture we sometimes meet with astragal at the top of the shafts, and sometimes with several between the top and bottom, though frequently there is no moulding between the shaft and capital.

In the earliest examples of Greek architecture, such as the Doric temples at Corinth, Athens, Sicily, and Pergamum, there are no astragal or projecting mouldings separating the shaft from the capital: but instead of these there are grooves, generally three in number, cut into the solid. The original intention of this does not appear to be sufficiently obvious; nor whether it was done for ornament, or to conceal the joint that would otherwise be seen at that place, between the capital and shaft. In the ancient examples of the Ionic order, the astragal is never omitted under the capital.

In the oldest specimen of the Corinthian order, that of the monument of Lycurgus at Athens, there is no astragal, but there is a sink space between the shaft and capital, in which probably was inserted a circular moulding, or ring of metal, or other material.

In Roman architecture we always find astragal at the top of the shaft, whether the order employed be of the Doric, Ionic, or Corinthian kind; though sometimes they were made in the form of square fillets or hoops, instead of that of circular rings.

The astragal was frequently by the ancients cut into the form of beads of various shapes; and many of the moderns, who have been more licentious in their ornaments, have covered it with leaves and flowers. The proportions of the astragal depend entirely upon its application; so that no rules can be given for it.

ASTRAGALUS, in Gunnera, is a kind of ring or moulding on a piece of ordnance, a: about half a foot distance from the muzzle or mouth; serving as an ornament to the piece, as the former does to a column.

ASTRAGALUS, in Botany. See TYLE. ASTRAGALIDES, in Botany. See ASTRAGALUS, and PHACA.
with two seeds on each side. Cultivated by Miller in 1739.

F. Junq. 7. A. chinensis. "Cauliflora, hairy, smooth; flowers in racemes, pendulous; legumes ovate, inflated, mucronate at both ends." This much resembles the last; but the legumes however are different, and the flowers of this are variegated. The seeds were sent from China to Sweden in the year 1760.

8. A. obovata, purple-spiked milk vetch.

Cauliflora, procumbent, diffuse; spikes peduncled, larger twice as long as the wings; legumes linear. Sems procumbent at the base, flavedd, branching; leaves lanceolate, spreading, with twelve pair of lobes; peduncles furrowed, blitf, longer than the leaf; bracteae lanceolate; corollas red. The whole plant is sprinkled with white and black villous hairs. Haller describes this plant very differently. A native of Austria. Cultivated here in 1620.

It flowers in June and July. 9. A. uliginosus, violet-coloured milk vetch, Gmel. Sib. 4. 40. 17. "Cauliflora, almost upright; flowers in spikes; legumes almost upright, naked, tumid, round-flattened, point reflex." This resembles A. iger, N. 13, except in the legume; the top of the keel is violet-coloured. It was found by Gmelin in the moor meadows of Siberia, and introduced here by Thunin in 1757.

10. A. coriellus, Carolina milk vetch, Dill. Ellth. 45. t. 39. f. 45. "Cauliflora, upright, even; peduncles in spikes; legumes ovate-cylindrical, acuminate by the style." Stems three feet high; leaves composed of eighteen to twenty pairs of oval smooth leaflets; flowers of a greenish yellow on axillary peduncles. A native of Carolina. It flowers in July and August. 11. A. after, rough milk vetch, Jacq. Ic. rar. t. 33. "Cauliflora, stiff, even, rough; flowers in spikes on elongated peduncles; legumes oblong." Stems annual, two feet high, round, thick, leathery, branched; leaves composed of about ten pairs of lanceolate-linear acutely leaflets; spikes long, with pale flowers; legumes thickening above, acuminate, upright, roughish. It flowers in June. Cultivated at Vienna from seeds sent from Altaraz.

"Stems hairy, diffus.)

12. A. canadenis, woolly milk vetch, Dill. Ellth. 46. t. 39. f. 45. "Cauliflora, diffuse; legumes subcylindrical, mucronate; leaflets almost naked." Stems round, about two feet high; leaves ten pairs, smooth on both sides, rather glaucous underneath; peduncles axillary, flexed; flowers yellow; legume, oblong, concave, flattened. A native of Virginia and Canada. It flowers in July. Cultivated by Dr. Sherard in 1752. 13. A. Gicr, bladdered milk vetch, Jacq. Aust. 3. 251. "Cauliflora, prostrate; legumes subglobular, inflated, mucronate, hairy." Stem eighteen inches, very branching; leaflets twelve or fifteen pairs, oval, obtuse, hirsute; peduncles axillary, supporting erect spikes of twenty or thirty pale yellow flowers; legumes completely two-celled, with many seeds. Miller, who cultivated this plant in 1720, gives a description of this species, which is somewhat different from the above. 14. A. macrophyllus, small, round-podded milk vetch. "Cauliflora, erect, expanding; leaflets oval; calyxes rather tumid; legumes roundish." Stem a foot high, flexuose, with spreading short branches; leaflets thirteen or fifteen pairs, blunt, sometimes emarginate; peduncles solitary, with horizontal yellow flowers, twice the length of the calyx; legumes inflated, villose. A native of Siberia and Germany, flowering in June. Introduced by Dr. Jacquin. 15. A. glycyphyllus, sweet milk vetch or wild lupinace. Hudf. With. Smith. Flor. Brit. Eng. Bot. 203. "Cauliflora, prostrate; legumes subtriquetrous, hovved; leaves ovate, longer than the peduncles." Stems prostrate, round, flexuose, furrowed, a little hairy; leaflets from four to six pairs, ovate or elliptic; lipules large, ovate, somewhat toothed; peduncles shorter than the leaves, spiked with ten or twenty greenish yellow flowers; calyx bell-shaped, oblique, having the superior segments very short; legumes incurved, trapezoid-cylindrical, mucronate, many-seeded. A native of Britain and other parts of Europe. 16. A. henequen, dwarf-yellow-podded milk vetch. "Cauliflora, procumbent; legumes subulate, recurved, smooth; leaflets ovate-linear, villose underneath." Root annual, branches flat and trailing on the ground; leaflets about eight pairs; peduncles axillary, terminated with pale yellow flowers in June. A native of Mettila and Montpellier. Cultivated here in 1638. 17. A. contortilobus, triangular-podded milk vetch. "Cauliflora, procumbent; legumes wrinkled, channelled, villose." Annual, varying greatly in size in different forms. It is a native of Siberia, and was introduced here in 1783, by Thouin.

18. A. loricatus, triangular-podded milk vetch. "Cauliflora, procumbent; spikes peduncled; legumes prismatic, slightly three-sided, hooked at the top." Annual; branches trailing, nearly two feet long; leaflets about ten pairs, blunt; peduncles axillary, supporting four or five yellow flowers. It flowers in July. A native of Spain and Portugal. Cultivated by Miller in 1759.

19. A. laxmanni, Jacq. Hort. 3. 223. t. 57. "Cauliflora, procumbent; spikes elongated; legumes oblong, three-cornered, marked with a narrow mucronate, villose." Stems branching, subangular, prostrate, a foot long, produced so as the branches into long ting peduncles, broken and ending in a close spike; leaflets about twelve pairs, oblong, silky, entire; bracteae fasciculate; flowers pale blue. It is a native of Siberia, and flowers in June and July. 20. A. Stella. "Cauliflora, diffuse; heads peduncled, lateral; legumes straight, fibrillose, mucronate." Stems spreading, a foot long, striated, hispid with white crowded hairs; branches numerous; leaflets on each side of the midrib nine, oblate, obtuse; lipules ovate, acute; peduncles about the length of the leaves, supporting about fifteen bluish flowers; legumes hairy, grooved on each side, with a reflex point. A native of Montpellier.

21. A. flacca, hairy milk vetch. "Cauliflora, diffuse; heads hirsute, lateral; legumes fibrillose, reflexed at the point." Annual; stems weak; leaflets ten pairs, hairy; flowers small, axillary, of a copper colour. A native of the south of France. Cultivated by Parkinson in 1616. 22. A. angustifolius, Austrian milk vetch, Jacq. Aufl. 2. 56. t. 195. "Cauliflora, prostrate; smooth, striated, weak; leaflets sublinear, emarginate; legumes round." From seven inches to a foot high; lipules semilanceolate, entire; leaflets sublinear, emarginate, about eight pairs; peduncles racemose, with bluish flowers. It flowers in May and June. 23. A. continuus, Jacq. Ic. rar. 37. "Cauliflora, prostrate; legumes ovate, villose; flowers spiket, erect." Stipules short, ovate-lanceolate, half imbricated; leaflets ten pairs, oblong-oval, entire, pubescent; branches with a spike of whitish or pale blue flowers; legumes at the top. 24. A. panunculata. "Cauliflora, procumbent; legumes headed, folded back, compressed, converging, cleft, with a reflected point." A. procumbens, Mill. Dict. n. 18. A. echinatus, Mor. Prod. 222. A. crinitus, Gonn. Bluf. 52. Leaflets fifteen, oblong, pubescent, underneath; petioles hairy; lipules ovate, lanceolate; peduncles axillary, conspicuous, hairy, terminating in a head of five purplish flowers; legumes bent in, warted, hooked at the top. Linneas, Miller, and Murray, have described this species differently. A native of Spain. 25. A. ripistis, heart-podded milk vetch. "Cauliflora, procumbent; legumes headed, fleshy, nodding, cordate, mucronate, folded back, naked." Annual; it feeds out from the root three hairy branches X.
ASTRAGALUS.

Branches; leaflets blunt, about twelve pairs; peduncles axillary, naked, terminated by a round head of large deep purple-coloured flowers; legumes rough, and when opened shaped like a heart, ending in a sharp point, and containing three or four seeds. The stem according to Chaucer Murray does not divide, and his hairs closely preluped to the leaflets, but to six pairs, and not more; corollas purple; Linnæus says white. A native of Provence, Spain, &c. in mountainous woods, flowering in July. Cultivated in 1768, by Murr. 26 A. hypoglotus, purple mountain milk vetch. With 635. Smith Bot. 779. Eng. Bot. 724 A. aemus, & A. spigaetis, Dackl. H. Sicc. fide. 1. Caulecent; prostrate, flowers in heads, legumes ovate, channelled on the back, hairy, looked at the end. Stems flexuose, prostrate, three or four inches high; leaflets of the pinnas numerous, small, ovate, hairy underneath; peduncles feebly longer than the leaves, headed; bracts very much shorter than the calyces; flowers variegated with white purple; calyx tubercular, rough, hairy, black with a little white intermixed; legumes ovate, purplish, hairy. It flowers in June and July. Found in the southern parts of England, is hardy and chalky plants. The flowers are fomorous. 27. A. spinosus, Siberian milk vetch. "Caulecent; procumbent; heads peduncled, flowers reflected, legumes tomentose, ovate-oblong. A native of Siberia. 28. A. aemus. "Subcaulecent; procumbent, flowers subfasciculate, erect, leaves tomentose." Stem inclining, six inches high, branched, covered with a spot; leaflets of the pinnas linear-lanceolate, entire, complicate; stipules bifid, scarious, tomentose; peduncles supporting about four blue flowers, legumes falcate-shaped, tomentose, acuminate, channelled. A native of Scania, in loose field. 29. A. Glauca, fimbriate milk vetch. "Caulecent, diffuse; heads peduncled, inficate, ovate, flowers erect, legumes ovate, callos, inflated." Stems feebly long, villosa towards the top; leaflets twenty or twenty-three, small, ovate-oblong, scattered underneath with white hairs. A native of Spain. Cultivated at the Oxford garden in 1678. 30. A. finicus, Phil. Trans. a. 1764. "Caulecent, prostrate, umbels peduncled, legumes prismatic, fubulate at top." Root annual, seeds spreading on the ground; leaflets subfasciculate; flowers purplish, wings white, keel purple. A native of China. 31. A. alpinus, Alpine milk vetch, Flor. Dan. t. 51. "Caulecent, procumbent; flowers pendulous, racemose, legumes acute at both ends, hairy." Stems above foot high; leaflets bifidulph, ovate, often ten pairs; stipules two, ovate, lanceolate, very short, white; flowers in umbels of twelve or fifteen picturesque white flowers; calyx rough, with black hairs; legume rough, black, inflated, crooked. A native of the mountains of Switzerland and Lapland. Introduced here about the year 1771. 32. A. Amnialythis, Pallas It. 2. t. 10. "Caulecent, under-hrubby, flowers twine, legumes ovate, twin woolly." Annual. Stems branching, woolly; leaflets from five to eleven, rufous, hoary, hairy. It grows on the sandy hills of Southern Siberia. 33. A. trimetricus, Egyptian milk vetch. "Subcaulecent, scapes mostly two flowered, legumeshooked, falcate, two-keeled." Annual. Stem six or seven inches high, bifidulph, reddish. Sometimes a scape appears before the head; leaflets about eleven pairs, oblong, emarginate; bifidulph, entire; stipules falcate, hairy; peduncles racemcd with three or four spreading, pale-yellow flowers. A native of Egypt, flowering in July. Introduced here before 1777.

**Scape naked, without a leafy stem.**

34. A. vertebrillus. "Leaflets aggregate, veins verticillated." Leaves pinnate, four or five at each junction, so as to appear whorled stems. A native of Siberia. 35. A. montanus. J. W. Arn. 2. t. 164. "Nearly fimbriate, scapes longer than the leaf, flowers loosely; spikes, erect, legumes ovate, with an inflected point." The whole plant slightly villosa; stipules oblong, subacute, covering the head; leaflets lanceolate, pointed, rounded at the base, the lower ones shorter and bent down; flowers blue, from eight to ten, according to Heller, in a racemose fuscoid to oblong, pointed. A native of the warmer parts of Europe. 36. A. pectinatus. "Scape longer than the leaf, flowers loosely; spikes, calyces and legumes infarct, hispid." Caulecent, half a foot high; leaflets five pairs, ovate, hoary, entire; peduncles firm, furred, higher than the whole plant besides, with a head from five to eight flowers, having the banner purple, wing yellow, keel white. A native of Bashkine and Siberia. 37. A. floronius. "Scape erect, leaflets elliptica, legumes ovate, tunic, villosa. Leaflets from fifteen to twenty pairs, hairy on the edge; peduncles a foot long, spicate, with many pale-yellow flowers, legumes thick, three-angled, mucronate. A native of East Cary and Russia. 39. A. urceus, silky milk vetch. Hoff. Lightl. With. Smith Br. Eng. Bot. 466. "Scape." — scape erect, longer than the leaves, legumes oblong, villosa, milky, erect. Radical leaves with many pairs of leaflets, firm, naked; stipules falcate, scapes erect, hispid, and finally spicace; bracts the length of the calyx, linear-lanceolate; calyx tubular, rough, with black and white hairs; corolla a violet colour; legumes erect, cylindrical, oblong, turgid, beft with black hairs pressed down. It grows on the mountains of Scotland. 40. A. montiflorus, Montpellier milk vetch. "Scapes declinare, the length of the leaves, legumes fubulate, round, rather bowed, smooth." Scape procumbent, twice as long as the leaves, leaflets ovate, acute, pubescent, from ten to twenty pairs; scape simple, bearing a raceme of nearly thirty purple flowers; legumes long, slender. A native of the south of France. Introduced in 1776, by Pitcairn. 41. A. weatii. "Scapes declinare, leaflets tomentose, legumes fubulate, rather bowed, hoary, incurved at top." Scapes rough, supporting often twenty flowers; legumes a little bent, turgid. It differs from the 40th in having the leaves rounder and hoary, the legumes almost smooth and more turgid. A native of the south of France. 42. A. campferis, field milk vetch. "Calyces and legumes villosa, leaflets lanceolate, acute, scape decumbent." Stem none, but procumbent runners half an inch long; leaflets about fifteen pairs, hairy, shining; scape radical, bearing ten or twelve flowers in a loose raceme; bracteas lanceolate, shorter than the calyx; corolla a pale-yellow. A native of Swisserland and Germany. Introduced in 1778. 43. A. depresus, dwarf white-flowered milk vetch. "Scapes shorter than the leaf, legumes red and erect. A native of the mountains of Italy. Branches very short, preluped close to the ground; scapes with nearly five flowers, small and white; legumes cylindrical, acuminate, the length of the scape, smooth; leaflets numerous, oval, with hoary hairs underneath. Cultivated in 1774, in the Oxford botanic garden. 44. A. inaeus. "Scapales, legumes fubulate, hooked, longer than the leaf, leaflets obcordate." Annual. Stems trailing; leaflets broader at their end, than at their base, and indented so as to be nearly heart-shaped; flowers white, in axillary loose spikes; legumes falcate-shaped. Discovered about Aleppo, by Dr. Ruffel. 45. A. eufca; hairy podded milk vetch, Woud. Med. Bot. fupp. "Scapales, legumes woolly, leaves villosa." Leaflets twenty-one to thirty-three, ovate, hoary, hairy; flowers numerous, radical, subfalcate; calyx ovate, fuscum, white with downward, legumes ovate, beef with fimbriate, pointed.
Astragalus.

pointed at both ends. A native of Hungary. Since the year 1786, this plant has been much cultivated as a remedy in syphilitic complaints. Its fuscous in curing old vesicular affections was experienced by Quanis, in the general hospital at Vienna, and the efficacy of this plant was afterwards acknowledged all over Germany. Its root is employed in decoction, in the proportion of half an ounce, to a pint of water, and taken warm night and morning.

STems GLossy.

46. A. tragacanthus, Golf. Sib. 4. 57 a. 67. "Nearly leafless; flowers naked, numerous, pubescent." It has no stem or fassy, but has branches from the root, spreading on the ground, with small villose stomach leaves; calyxes bifrute, with black teeth; corollas yellow; legumes oblong, smooth. A native of Sweden, Siberia, and Armenia. 47. A. Tragacanthus, post's them. Woody, Dec. Bot. 2. 1. 23.

"Trunk arboreo Cortus petiolaris becoming pilose." Stems a foot long, leafy, branching; leaflets about ten pairs, small, ovate; bracteae ovate, lanceolate; flowers erect, four or five in a cluster, having a purple keel, and a yellow white banded wings. A native of the sea-flora near Mar- folles, of Switzerland, mount Atona, Olympus, &c. Cultivated here in 1690. Miller makes four sorts of tragacanth. From this species is gathered the gum tragacanth used for various purpuses, as well as an article in the materia medica. It forces its way through the crevices of the bark to which it adheres and concretes. This gum differs from all others, in giving a thick consistence to a much greater quantity of water, which it freely imbibes, but imperfectly diffuses. It is used as a demulcent, and peculiarly well adapted for the formation of troches.

Other species.

48. A. sativus, Villar's Daught. 3. t. 43. f. 1. "Stemless; leaves prolate, fimbria, sharply linear; sepals erect, with few flowers." Leaflets greenish, yellow, subfuscous, bifrute, about twenty pairs, much less than those of the campeliris, which it much resembles; but in this the leaflets are more inflated, and put forth a greater number of heads of yellow flowers. A native of Dauphinc, also of mount Canis, and other high Alps. 49. A. Hillei. "Scapes leafless; leaves ovate-lanceolate, smooth; legumes inflat, hissute, erect." This also approaches to the campeliris, but differs in the bracteae, in the smoothness of the leaves, in having a longer flower, white, and a purple-veined keel. A native of the mountains of the Vaudois, and Bedronet. 50. A. Gadi, Alston. Pedi. 1. 19. f. 2. "Stemless, bifrute; sepals longer than the leaves; legumes inflated, ovate, in heads." This has the habit of antilliana suberaria. The corolla is but little extended beyond the calyx; the keel and wings of a dusky-colour; the banner of a pale yellow, emarginate; legs short; rather hissute, crooked at the style. A native of mount Canis. 51. A. tenuifolius, up right milk vetch. "Caulecet, erect; spikes pedunculated; banner twice as long as the wings; leaflets linear." Leaflets from eleven to thirteen; peduncles long, straight, obliquely triangular. It resembles A. onobrychis so as to be thought a variety, but differs in having rather tomentose leaflets, larger flowers, and solitary stipules. A native of Siberia. Introduced here by Pallus, in 1780. 52. A. veryfrcos, green-flowered milk vetch. "Caulecet, erect; leaflets bent back; peduncles many-flowered longer than the leaf; leaflets lanceolate, acute." A native of Siberia, and introduced by P. S. Pallus, in 1870. 53. A. Carpathica, Cavan. Hift. n. 6. 93 t. 84. "Stem hairly, upright; pinnae ovato-oblong, somewhat tomentose; peduncles naked, elongate." Stem a foot and a half high, covered with a very short white nep; leaflets numerous, ovato-oblong, one-nerved, subtomentofus; stipules firm-clap- ling, cowled, hissute at the tip; peduncles naked, elongate; axillary, ending in spikes of pale-violet-striped flowers. A native of Peru. It flowered in the royal garden, Madrid. 55. A. hispidus, Billard. L. 6. 18. "Caulecet, procumbent; leaflets and legumes ovate, hissute; corollas shorter than the calyx." Stem herbaceous, procumbent, hairy, six inches high; leaflets ovato-oblong, hissute, with opposed rigid hairs, tendered at the base; flowers in spikes, yellow, with lanceolate hissute bractes; legume ovato-oblong, compressed, a little hissute; seeds kidney-shaped. 55. A. commutatus, Billard. L. c. "Almost leafless; sepals very long; legs globose; legumes woolly." Leaflets forty; three or fifty-one, ovato-oblong, emarginate, tomentose; stipules ovate, lanceolate, thrivelling; flowers in a globose head, purplish, with lanceolate hairy bractes; legume subovate, acute, de- perted at top, wrapped in fibrous wool. 56. A. travanc. Billard. L. c. "Stems, with a naked apex; the length of the leaves; legumes in close spikes, woolly, half-cordate, three-fided, subulate; leaves villose." Leaves radical; leaflets generally from fifteen to twenty-three, ovate, tomentose, leafy; flowers yellow, on a close spike, with filiform hairy bractes. This and the two preceding species are natives of mount Libanus. 57. A. leucocephalus, Linn. Trans. 1. 23.

"Caulecet, procumbent; legumes subhyaline, filigree, smooth; leaflets obcordate, villose underneath." Allied to A. harms; but differs in having rounder leaves, more flowers on the spike, and especially in having straight pods, which are very short. Native country unknown. Cultivated in the Chelsea garden. 59. A. deflexus, L. Herit. Strup. nov. &c. 167. "Subcaulecet, prolate; sepals twice as long as the leaf; legumes gaping; leaves petiolate, right angled." A. hians. Jacq. t. 1. 135. Branches short, round; twigs villose; leaves fix inches long; leaflets fifteen to twenty pairs, gradually smaller at the top, lanceolate, entire, acute, concave, villose, hissute beneath; sepals rigid, entire, naked, terminated in spikes crowded with purple flowers; bracteae linear, acute, under each flower; legumes oblong, turquad, having a groove on each side, villose, one-celled, one-valved. A native of the loftiest mountains of Siberia.

59. A. umbilicus, L. Herit. Strup. novo. 6. 168. "Suffruticous, procumbent; stipules subhyaline, firm-clapling, opposite to the leaves, bisn." A native of Peru, where it was found by Dombey. 62. A. varius, L. Herit. l. c. 6. 169. "Caulecet, fullicrutos, upright; flowers in loose spikes, legumes oblong, stipules fulligino downy." A hairy little herb, about a foot high; leaflets oblong, marked; stipules fixed or few, linear or narrow lanceolate, sharp at both ends; stipules half firm-clapping, two-parted, acute, spreading, and rolled back; spikes axillary, solitary, on peduncles longer than the leaves; flowers subfuscous, purple, with linear acute villose bractes; legume linear, round, villose. A native of Siberia. 61. A. arBuicus, L. Herit. l. c. 6. 170. "Suffruticous, procumbent; leaves hairy; petiolaris hissute; calyces woulved." It differs from the tragacanth in having green leaves, and being smaller; the petiolars scarcely hissute, and not very firm; the flowers purple; the calyces teeth having long awns. A native of Switzerland and Provence. 62. A. paginiformis, L. Herit. l. c. 6. 170. Trag. orientalis, &c. Tournef. Corr. 30. Sococ. 1. 3. 189. t. 88. "Slubrous, procumbent; heads firm-clapling, tomentose; petiolaris and leaves punkar and firm." This is replaceable for the heads or balls of flowers, which are purple. A native of the Levant. 63. A. echinolobus, L. Herit. l. c. 6. 170. Cretica, &c. Tournef. Corr. 29. The leaves are minute; the flowers small, white, with a purple line on the banner; peduncles axillary, short, two- flowered. A native of Crete or Candin.

Propagation and Culture. All the species may be raised from
from seeds. These should be sown in April on an open border of light earth; the annual sorts where they are to remain; the perennials to be transplanted to the places for which they are defined. They are in general hardy, and require no other care than to draw the plants, where they come up too thick, leaving them a foot and a half or two feet asunder, and to keep them clear from weeds. Otherwise only that some (as n. 26. 35. 37.) require a shady situation and strong soil; others (as n. 6. 39.) as an open situation and dry soil; n. 2. & 33. must be planted in a warm border; 5. 7. 10. 12. 32. must be raised on a moderate hot-bed, in the spring; and when the plants are fit to be removed, they should be each put into a small pot, filled with light earth, and plunged again into the hot-bed, feeding them from the sun, until they have taken root, after which they should have free air admitted to them daily, in proportion to the warmth of the scaven, and should be frequently, but gently, watered. In May, they should be removed to a sheltered situation, and remain till October, when they ought to be placed under a common frame. In the spring they may be turned out of the pots, and planted in a warm border, where they will flower, and sometimes produce seeds. If the winter prove severe, a little old tan should be laid over the roots. The trachea plants, when they are large enough, should be planted into pots, and placed in the shade till they have taken root; after which they are to be removed into an open situation, where they may remain to the end of October, and then placed under a common frame, well secured from the frosts. Some of these plants may be set on a warm dry border. These plants may also be increased by slips, which, for want of seeds, is the method commonly used here. The best time for doing this is in April, just as the plants begin to shoot, at which time the tender branches should be slipped off, and the lower part be divided of decayed leaves; then they should be planted in a temperate hot-bed, which must be covered with mats to screen them from the heat of the sun by day, and the cold by night. These slips should be frequently gently watered, until they have taken root; after which they may be exposed to the open air; and, in very dry weather, refreshed with water. On this bed they may remain until the following spring, covering them with mats in very severe weather. In April they may be transplanted either into pots, filled with light sandy earth; or into warm borders, where, if the soil be dry, gravelly, or poor, they will endure almost the severest cold of our climate: but if they are planted in a rich soil, they often decay in winter. See Martyon’s Miller’s Did. 

ASTRAGALUS. See ASTHYLIS, BISERRULA, CROTALARIA, GLYCINE, HEDYSARUM, INDIGOTI, OROBUS, PRACA.

ASTRAL, from ASHR, of the Greek ASHR, ASHR, something belonging to the stars, or depending on the stars. ASTRAL or sidereal year. See YEAR.

ASTRANTIA, in Botany, from ASTRANE, a star, and ANTHEM, a flower. Lin.]. mallow-wort. Lin. gen. 27. Schreb. 459. Gartn. 20. Cult. penetanaria dygmia. Nat. Order of umbellate. Gen. Char. Cal. umbel universal, with very few rays, often three): partial, with very numerous ones; involucel univalve, with leaflets doubled to the ray; partial, with leaflets about twenty, lanceolate, spreading, equal, coloured, longer than the umbel; perianth proper, five-toothed, acute, erect, permanent. Cor. universal, uniform; florets of the ray abortive; proper, with petals five, erect, inflowed, bifid. Stam. filaments five, simple, the length of the corollae; anthers simple. Pf. gyni oblong, inferior; stigmas two, erect, filiform; stigmas simple, spreading. Per. fruit ovate, obtuse, crowned, fruited, bipartite. Seed two, ovate-oblong, covered with the crust of the pericarp, wrinkled.

Eff. Gen. Char. Partial involucres lanceolate, spreading, equal, longer, coloured; flowers very many, abortive.

Stems, 1. As W. editor, great mallow-wort, (3) A. nigra Miller. "A. axilis, axilis; lobes trifid." Stem eight inches high, little branched; leaves oblong, petiolate, deeply five-leafed, lobes trifid, and sharply serrate; leaves of the involucres veined; all the flowers are peduncled, and the peduncles are shorter than the involucres; the umbels are large, and the calyces avoided; the involucres is either purple or white: hence Miller, following Tournefort, has made of this two species. A native of the south of Europe, flowering in August. Cultivated here by Gerard. 2. A. carunculata. Jacq. Autl. 5. 31. "Leaves five or seven-lobed, simple or bifid." The whole plant is smooth. Stem round, erect, slender, from fix to twelve inches high, with only one leaf on it; it is divided at top into fringed branches, in the form of a umbel; number of the umbels very variable; branch small, ovate, concave, blunt, pale; leaflets of the universal involucres dilate, acute, entire, or divided into two or three lobes; leaflets of the partial from fix to twelve, oblanceolate, entire; male and female florets irregularly mixed; the former on longer peduncles; petals white, appearing heart-shaped, by being bent in at the tip. A native of Carniola, flowering in July and August. 2. A. visua, little or Alpine mallow-wort. "Leaves digitate, ferrate." It seldom attains a foot in height. Petioles four inches long; leaves divided into eight segments, deeply ferrate; universal involucres composed of several very narrow leaflets; peduncles of the partial umbels very large, slender towards the top, often dividing into three, each having a small umbel, with small white involucres. A native of the Alpine valleys of Switzerland. Cultivated by Miller. 4. A. chilensis. "Leaves lanceolate, ferrate-ciliate." A foot high, rather, erect, broken, divided at top into a few flowering branches; radicless leaves petiolate; stem-leaves four to fix, fissile; half stem clasping; umbel elongated, three-rayed; umbellules many-rayed, very short; involucrle two or three-leafed resembling the leaves; involucrles ten, leaves broad-lanceolate, acute, coloured. A native of the cape of Good Hope. 5. A. Epipactis. Jacq. Autl. 5. 32. App. 11. "Leaves five-parted, obtuse ferrate." Root black on the outside, producing one leaf and one scape; leaf shorter than the scape, three-parted, on a triangular pediole; scape smooth, angular, naked, one-flowered; involucres five-leaved; flowers in a head, yellow. A native of Iridia, Gorizia, and Hungary.

Propagation and Culture. These plants, except the fourth, are very hardy, and may be propagated either by sowing their seeds, or by parting their roots. If from seeds they should be sown in autumn, on a shady border, and at Michaelmas they should be transplanted where they are to remain, observing to give them a moist and shady situation. Every third or fourth year they ought to be taken up at the end of October, and their roots parted and planted again. The fourth requires the protection of a dry stove in winter.

ASTRALIUS, in Middle Age Writers, the name with majuscinariis, those who live in the house or family, at the time, for instance, when a person dies. Du-Casige.

These are also denominated ofro addisi, q. d. tied to the heart.

ASTRARIUS Horés, is used in our Old Writers, where the aconcel, by conveyance, hath fet his heir apparent, and his family, in a house in his lifetime.

Spelman carries the import of the word farther, as if it denoted
AST

denoted an heir to whom the inheritance was given by his predecessor in his own life, by a writing in form.

The word is formed from *astra*, an ancient French term for the hearth of a chimney.

ASTRAUSUS, in *Ancient Geography*, a town of India, on this side of the Ganges. *Ptolemy.*

ASTRAUS, an island of the Arabian gulf, on the coast of Ethiopia. *Ptolemy.*

ASTREA, *Entomologia*, a species of *Phalana (Nodica*), of a brown colour both above and beneath; disk transparent; and thorax yellow-white, dotted with black. This insect inhabits New Holland. *Fabricius,* &c.

ASTRICTION, from *affinge*, 1 kind, in *Medicine*, a term which, when it refers to the intestinal canal, denotes colicvinea; when it refers to the skin, denotes a want of perforation. It is seldom used by modern physicians.

ASTRICTOR Toga. See *Toga.*

ASTRILID, in *Ornithology*, a species of *Loxia* that inhabits the Canary islands and various other parts of America and Africa. It is larger than the common weas of a brown color, undulated with blackish; bill, orbits of the eye, and breast scarlet. *Gmelin.* &c. This is *fringilla undulata*, Pall. *Senecculus striatus*, Brull. *Le Senegeh raye*, Buff. *Wax-bill* of Edwards, and *wax-bill grosebek* of Latham.

Individuals of this species vary much in colour, and there are in particular two varieties that deserve attention; namely, the red-rumped grosebek, and white-rumped grosebek, (5) *Senecculus pictore exalbidus*, uropygi fuscus rubra; and (5) *Senecculus coreus fustus ex roico albo* of Gmelin. Both of these are about the size of the former; the red-rumped kind has the back and belly of a dirty white; and, besides the upper tail coverts being crimson, has a bar of the same colour across the vent. In some specimens, the under parts incline to yellow; the sides of the rump, and wing coverts spotted with white; and the bill bordered with black; one of this kind was brought by Smeaton from the Isle of France. Buffon calls the red-rumped variety le severan, and moineau du Sénégal. The white-rumped kind also inhabits Senegal; the throat and sides of the neck are bluish white; the rest of the underparts and rump white, tinged with rose colour; top of the head, neck, and back blue, palest on the head; and legs red. The colour of the legs distinctly marks this variety from the former, for in the ill-mentioned kind they are brown, and in the second dark grey.

ASTRINGENTS, *crocus mortis*. See *Crocus.*

ASTRINGENTS, in *the Materia Medica*. This term is applied to a class of substances which, according to Dr. Cullen's accurate definition, when applied to the human body, "produce a contraction and condensation in the soft folds, and thereby increase their density and force of cohesion. If applied to longitudinal fibres, the contraction is made in the length of the fibre; but if applied to circular fibres, they diminish the diameters of the vessels or cavities which the vessels surroun." Astringency in any substance is most accurately detected by the taffle, by corrugating the tongue, and giving a sensation of harshness and roughness to the palate.

Astringents appear to act nearly in a similar manner on the simple or dead animal fibre as on the living solid, in either case thickening and hardening; when applied to the living solid, they produce increase of tone and strength, restrain inordinate motions, and check excessive discharges through the vessels or cavities; and to the dead fibre occasion that density, toughnes, imperviousness to water in a greater or less degree, and infusceptibility to the common cauises of putrefaction, in which consits the procefs of TANNING, or preparation of leather.

No single chemical test (except the direct experiment on animal fibre) will always detect the property of astringexy; this is found to reside in many different classes of substances. Acids, especially the stronger mineral, are powerfully astringent; as also are several metallic salts, such as the solutions of iron, zinc, copper, and lead in various acids; likewise a few earthy salts, such as alum and saleratus, or sulphate of lime; also alcohol, or any kind of ardent spirit, the operation of which in hardening animal fibre is very remarkable. But the most numerous class of astringents are those taken from the vegetable kingdom, especially from the barks of several trees, and some of the natural gum resins. Modern chemistry has ascertained some highly important facts concerning the nature of the vegetable astringents, which should be noticed here in order to correct some erroneous opinions that are very prevalent in all medical writers. The property of affining an fiery blackness with solutions of iron, has been constantly given as one of the fored tests of astringency in vegetables. Of this, the familiar instance of making common writing ink with an infusion of the oak gall-suit, is known to every one; but it should be remembered, that this property is owing to a peculiar acid, the *Gallie*, and not to the true astringent principle, in modern chemical language called TANNIN, to which the acid of galls here happens to be united. Of this we shall treat fully, under these important articles; but the pharmaceutical chemist should now be aware, that the test of blackness with iron is by no means a sure indication of astringency, but only a probable presumption of its presence. Thus one of the strongest of the known astringents, the terra japonica, or catechu, will not give the smallest degree of blackness to solutions of iron, as it contains only tannin, the true astringent principle; and not the *Gallie* acid. The proper test for this substance, besides the effect on the tongue, is a solution of any kind of animal gelly; of which more hereafter.

When the true astringent principle is naturally mixed with any acid, the taste of acetcella is given, in which the corrupation of the papille of the tongue is most peculiarly remarkable. The juices of several unripe fruits, the gall-suit, and many of those astringents that contain much gallic acid, and give a strong black with iron, are examples of this.

Tannin is itself somewhat bitter, and appears to be also united, in many cases, with some principle which gives it more than its usual bitterness. This is probably the case with most of the astringent bitters employed in medicine, and it is in this combination, that astringents prove so eminently tonic. In some infusions the tannin is united with a sweet substance, as in the examples of the catechu, and the lignum campechene.

Astringents when employed externally to stop hemorrhage, are then termed *Sytstetics.*

Astringents are very largely used in medicine, and with the highest advantage. The causses where they are most unequivocally beneficial, and in which the operation may be ascribed purely to the astringent property, are diarrhœas, or serous evacuations from the intellial canal. They have also long been thought of use in restraining discharges of different kinds, even when not directly applied to the part, so that astringent medicines are frequently given by the stomach, in order to check profuse flux of blood, and sometimes hemoptysis. Their operation in such cases, however, is much more questionable, and the benefit here produced, perhaps, may with more propriety be ascribed to a tonic or stimulant property.

ASTROBII, in *Ancient Geography*, a people of Asia, near the Indus. *Arrian.*

ASTROBOLISM,
ASTROBOLISM, derived from ηαυς, and ίβικος, f. 13ικος, the name with phalaeus; though properly applied to plants which are destroyed in the dog-days, as if blazed by that star.

ASTRODICTICUM, an astronomical instrument invented by M. Weighelius, by means of which persons shall be able at the same time to behold the same star.

ASTROGnosis, from ηαυς, and γνωση, I know; the art of knowing the fixed stars, their names, ranks, situations in the constellations, and like.

ASTROITEs, in Natural History, a species of Madrepora, found in the sea of South America. The stars are numerous, imperfect, and have theell convoluted form. This is madrepora (radians) ag egogata solidis, bollis cornibus convexis, centrò poro radiata, floris flabelliflora Pallas; and ultera aequalis cæterarum minus misa in equi di of Brown's Nat. Hill. Jan. It is found in large masses; and is of a whitan colour. The interfaces are porous.

ASTROLABE, derived from ηαυς, and λαβα, I take; alluding to its use in observing the stars: and by the Arabs called Albar-ball, formed by corruption from the common Greek name: was originally used for a fylon or affemblage of the several circles of the sphere, in their proper order and situation with respect to each other: and the ancient astro-labes appear to have been much the same with our auxiliary spheres.

The first and most celebrated of this kind was that of Hipparchus, which he made at Alexandria, the capital of Egypt; and lodged in a secure place, where it served for divers astronomical operations. Ptolemy made the same use of it: but as the instrument had several inconveniences, he contrived to change its figure, though perfectly natural, and agreeable to the doctrine of the sphere: and to reduce the whole astro-labe upon a plain surface, to which he gave the denomination of the planisphere.—Hence

ASTROCLAPI is used among the moderns for a planisphere; or a perspectiographic projection of the circle of the sphere upon the plane of some great circle thereof.

The usual planes of projection are that of the equinoctial, the eye being suposed in the pole of the world; that of the meridian, the eye being suposed in the point of intersection of the equinoctial and horizon: and that of the horizon.

Stoffler, Gemma Frisius, and Clavius, have treated at large of the astro-labe.—For a farther account of the nature and kinds thereof, see Planispheres.

ASTROLOGER, or See Astrologer, more particularly denotes an instrument chiefly used for taking the attitude of the pole, the sun, or stars, at sea.

The common astro-labe, represented Plate Navigation, fig. 1, consists of a large brass ring about fifteen inches in diameter, whose limb, or a convenient part thereof, is divided into degrees and minutes; fitted with a moveable index or label, which turns upon the centre, and carries two lights. At the zenith is a ring, A, to hang it by, in time of observation.

To use the astro-labe, turn it so as that the rays may pass freely through both the lights F, and G, in which case the edge of the label cuts the altitude in the divided limb.

The astro-labe, though now disused, is esteemed by many equal to any of the other instruments used for taking the attitude at sea; especially between the tropics, when the sun comes near the zenith. There are a great many other uses of the astro-labe; on which Clavius, Haurion, &c. have written entire volumes.

ASTROLOGICAL. See TAF.

ASTROLOGUE, in 1 Physiogn., the French name of the species of Uranoscopus called P. porius by Gmelin, from its inhabiting the seas about Japan.

ASTROLOGY, the art of foreseeing future events, from the aspects, positions, and influences of the heavenly bodies.

The word is compounded of ηαυς, and λογος, discours; whereby, in the literal sense of the term, astrology should signify no more than the doctrine or science of the stars; which, indeed, was its original acceptation, and formed the ancient astrology; though, in course of time, an alteration has crept in; that which the ancients called astrology, being afterwards termed Astronomy.

Astrology may be divided into two branches, natural and judicial.

To the former belong the predicting of natural effects, such as changes of weather, winds, floods, earthquakes, &c. This art properly belongs to Physiology, or natural philosophy; and is only to be deduced a posteriori, from phenomena and observation. Its foundation and merits the reader may gather from what we have said above, Atmospheres, and Weather. For this astrology, Mr. Boyle makes an apology, in his History of the Air.

Astronomy, Judicial or Judicial, which is what we commonly call simple astrology, is that which pretends to foretell moral events; i.e. such as have a dependence on the free will and agency of man; as if they were directed by the stars. This art, which owes its origin to the practice of knavery on credulity, and which the celebrated Mr. Briggs denominated a mere folly of groundless conceits (Ward's Live, p. 126.), is now universally exploded by the intelligent part of mankind. There was a time, however, when this science, frivolous and ridiculous as it may be, has been incessantly, furnished with powerful incentives to the study of astronomy. Without some knowledge of the motions and aspects of the stars, the astrologers would have been unable to draw their horoscopes, and of course to read the fates of man in the faces of the heavens. Accordingly, Kepler observes (Prof. Rudolph, Tab. p. 1.), "that astrology is the foolish daughter of a wise mother, and that, for 1000 years past, this wise mother could not have lived without the help of her foolish daughter." "I repent bitterly," says Kepler, "having so much desired astrology:" and he conceived that the study of astronomy had been greatly neglected, ever since men ceased to apply themselves to astrology. Of the origin of this absurd and unfounded science, whatever might be the relative estimation in which it was held, it is not difficult to give a plausible account. When heroes, and persons who by extraordinary services had rendered their names venerable and immortal, received divine honours, some particular celestial bodies, of which the sun, moon, and other planets seemed to be the most suitable, were assigned to their divinities; and after this appropriation, folly, which never flops where it begins, proceeded still farther, and ascribed to them the attributes and powers for which the deities, after whom they were named, had been celebrated in the fictions of the mythologists. This, in process of time, laid the foundation of astrology; and hence the planet Mars, for instance, like the deity of that name, was said to caede and to be lord of war; and Venus to preside over love and its pleasures. The profane of this kind of astrology maintains, "That the heavens are one great volume or book, wherein God has written the history of the world; and in which every man may read his own fortune, and the transactions of his time. —The art, they say, had its rise from the same hands as astrology.
astronomy itself; while the ancient Assyrians, whose horoscopes were based on observing the celestial bodies, were intent on tracing the paths and periods of the heavenly bodies; they discovered a constant settled relation of analogy between them and things below; and hence were led to conclude there is to be the Paracelsus, the Dilettis, to such a degree, which precedes our births, and disposes of our future fate.

The keys therefore of this relation being ascertained, by a series of observations, and the stars of each planet has therein; by knowing the precise time of any person's nativity, they were enabled, from their knowledge in astronomy, to create a scheme or horoscope of the situation of the planets, at that point of time; and hence by comparing their degrees of power and influence, and how each was either strengthened or tempered by some other, to compute what must be the result thereof.

Judicial astrology is commonly said to have been invented in Chaldens, and thence transmitted to the Egyptians, Greeks, and Romans; though some will have it of Egyptian origin, and ascribe the invention to Chenm. But it is to the Arabs that we owe it. Of the first invention of a fanciful science, which very generally prevailed, it is not very easy to ascerten in the original inventors. The principles on which it was founded, were very extensive in their determination. The Chaldens and the Egyptians, and indeed almost all the nations of antiquity, were infatuated with the chimera of astrology. That of the Chaldens originated in the notion, that the stars have an influence, either beneficent or malignant, upon the affairs of men, which may be discovered, and made the ground of certain prediction, in particular cases; and the whole art confined in applying astronomical observations to this fanciful purpose, and by such means impelling upon the credulity of the vulgar. The Egyptian priests would not neglect the cultivation of an art, which together with that of magic, would give them such an irresistible sway over an ignorant and superstitious populace. Diocles Siculus (l. i. p. 51.) relates, that the Chaldens learned these arts from the Egyptians; and he would not have made this assertion, if there had not been at least a general tradition that they were practised from the earliest times in Egypt. Among the Arabsians, and in the courtly courts, the truths of science could be recommended only by ignorance and folly, and the astronomer would have been discredited, had he not debated his honesty by the vain predictions of astrology. The truths of this art was allowed by Abumazar (see Albumazar), and the chief of the Arabian astronomers, who draw most of their predictions, not from Venus and Mercury, but from Jupiter and the sun. Abulpharag. Dynast. p. 101—103.

At Rome, the people were too infatuated with this art, that the astrologers, or, as they were then called, the mathematicians, maintained their ground in spite of all the edicts of the emperors to expel them from the city. Tiberius (A. D. 42) founded his hopes of the empire to which he aspired, on the predictions of Thrasyllus, who had been with him during his abode at Rhodes. However he would not repose any confidence in his art till he had put him to a trial in which several had miscarried and fallen victims. Accordingly, one of his freedmen conducted the astrologer through steep and difficult paths to a centry-box fixed on the top of a house, erected on a steep rock close to the sea. If Tiberius suspected fraud or falsity in the predictions of those who practised the art, they were thrown into the sea that beat against the rock on which this house of trial stood. Thrasyllus was conducted to this place, and had the good fortune to please Tiberius, by promising him the empire, and by the ingenious turn he gave to every thing he said. Tiberius asked him, whether he could draw his own horoscope, and whether by comparing the time of his birth with the present state of the heavens, he could tell what he was to meet or hope for at that instant. The astrologer, without doubt apprized of the fate of his predecessors, looked at the stars and shuddered; the more he considered them the more he trembled; and at length exclaimed that he was threatened with great and imminent danger. Tiberius, convinced of his skill by this experiment, embraced him and admitted him into the number of his confidential friends. His answers, when he was consulted, Tiberius regarded as oracular; and he determined to learn the science himself. At Rhodes he had leisure to receive lessons from Thrasyllus, and profited by them to such a degree, that he had the honour in a cumbrous age of having delivered predictions that were verified by the event. Augustus, however (A. D. 111.), revived the ancient law against astrologers; and to express his contempt for their pretended skill, and to show how much he disdained any of their predictions, he published and posted up at Rome the theme of his own nativity, or a state of the position of the stars at the instant of his birth. In the year 16, the old ordinances against astrologers were again revived; two of them were capitally punished, and the rest banished from Italy. But Tiberius, who believed in astrology, and frequently recurred to it, prevented the rigorous execution of the decree; and those who promised to renounce their art were permitted to stay at Rome. The old laws against astrologers were again enforced in the year 52, and the senate passed a very severe decree against them; but these measures were ineffectual to their suppression. In the year 65, Vitellius, though he inclined to credit their predictions, issued an edict against them, commanding them to leave Italy within a limited time; but so great was their confidence at this time in their own security, that they pleaded a placard against his order, and commanded the emperor to leave the world before the day appointed for their banishment. The emperor Domitian, though he firmly believed in their delusive arts, passed an edict by which they were all banished from Rome. His credulity proved an occasion of direful terror to him towards the close of his reign, for an astrologer, called Achitarius, is said to have predicted the day and manner of his death. The emperor Adrian was very much addicted to both astrology and divination; and thus, occasionally protected and encouraged, and sometimes perjured and banished them. The astrologers maintained their influence at Rome to the time of St. Augustin, for the subject of one of his homilies (in Pl. lit. p. 32. ed. Froben. 1556) is the reconciliation of one of these pretended mathematicians with the church. See Genethliaci.


"Tu nequeferis (fere nefis) quem mibi, quem tibi Finem Dii dedereat, Leucōnes, nee Babylonos Tentariis numeros ut meus, quidquid erit, pati." Ast: 145.—"his impious to inquire—what date The limit of your life is fixed by fate; Not vainly Babylonian numbers try, But wisely wait your lot, to live or die."

The Brannus, who introduced and practised this art among the Indians have hereby made themselves the arb.
ASTRONOMICAL Observations. See Observations, Observatory, and Catalogue.

ASTRONOMICAL Place of a star or planet, is its longitude or place in the ecliptic, reckoned from the beginning of Argo, in conjunction, or according to the natural order of the signs.

ASTRONOMICALS, a name used by some writers for sexagesimal fractions, on account of their use in astronomical calculations.

ASTRONOMICUS Radius. See Radius.

ASTRONOMY, formed of στροφή, star, and ἀστήρ, star or ruler, is a mixed mathematical science, which treats of the heavenly bodies, their motions, periods, eclipses, magnitudes, &c. and of the causes on which they depend.

The early history of this science, like that of many other ancient discoveries, is too much disfigured by fabulous and allegorical representations, to admit of any regular or satisfactory elucidation. It is probable, however, that some knowledge of this kind must have been nearly coeval with the human race; for besides motives of mere curiosity, which are sufficient to have excited men in all ages to examine the magnificent and varying canopy of the heavens, it is evident that some parts of the science are so connected with the common concerns of life, as to render the cultivation of them indispensably necessary.

Many traces of it have accordingly been found among various nations, which show that several of the most remarkable celestial phenomena, at least, must have been observed, and a knowledge of them disseminated at a very remote period. But in what age or country the science first originated, or by whom it was gradually methodized and improved, is extremely uncertain; nothing more being known on this subject than what can be obtained from the fealty and incidental information of ancient writers, whole accounts are often too extravagant and improbable to deserve much attention.

Among other relations of this kind, may be reckoned what is mentioned by Josephus in his Antiquities, who, in speaking of the progress that had been made in astronomy by Seth and his posterity, before the deluge, affirms that they engraved the principles of the science on two pillars, one of stone and the other of brick, called the pillars of Seth; and that the former of these was entire in his time. He also ascribes to the Antediluvians a knowledge of the astronomical cycle of 600 years, which Montucla (in his Histoire des Mathematiques) thinks, with much greater reason, was an invention of the Chaldeans; and that whatever information was possessed by the Jewish annalists with respect to this remarkable period, was probably obtained either from that people, or from some ancient writers which no longer subsist.

But not to insist upon this and other uncertain testimonies of the ancients, it will be sufficient to observe that, notwithstanding the contrariety of opinions which have prevailed on this subject, the greater part of authors are agreed in fixing the origin of astronomy either in Chaldaea or in Egypt; both of which nations pretended to a very high antiquity, and equally claimed the honour of producing the first cultivators of this science. The Chaldeans, in particular, boasted of their temple, or prodigiously high tower, of Belus, which is thought by some to have been an astronomical observatory, and of their celebrated philosopher and astronomer Zoroaster, whom they placed 300 years before the destruction of Troy; while the Egyptians, with similar ostentation, vaunted of their colleges of priests, which were the depositories of every species of knowledge; and of the monument of Ozymandias, in which it is said that
there was a golden circle of 365 cubits in circumference, and one cubit thick, divided into 365 equal parts, according to the days of the year, and containing the heliacal risings and settings of the stars for each day, &c. See Heliacal.

It is evident, indeed, without placing much reliance upon those accounts, that both Chaldeans and Egyptians were countries extremely proper for astronomical observations, being almost constantly favoured with a pure atmosphere and a serene sky; and whatever may be thought of the tower of Babel, or the circle of Olympeus, we cannot but form a very advantageous opinion of the knowledge of the Egyptians in practical astronomy, from the position which they have given to their pyramids, whose faces are directed with great precision towards the four cardinal points of the compass. For as it is scarcely possible that a situation so exact, could have been the effect of chance, we must conclude that they were acquainted with a correct method of drawing a meridian line; which is a matter of more difficulty than is usually thought; it being well known that Tycho Brahe, the most able astronomer of his time, committed an error of several minutes in tracing that of his observatory of Uraniborg. See Meridian.

The Chaldeans also must have made very considerable advances in this science, if we can rely upon the testimony of Simplicius, who informs us that, at the taking of Babylon by Alexander the Great, they cited a regular series of astronomical observations for 1303 years back; and that, through the means of Callisthenes, were afterwards communicated to the Greeks by Aristotle. But it is much to be wished that the truth of these ancient observations was better established, particularly as their historian Berossus, who appears to have lived but a little before the time of Alexander, makes no mention of any astronomical monument of this people, which was more than about 480 years anterior to that period. And, indeed, the most ancient Chaldean observations, of which any mention is made by astronomical writers, are those of three eclipses of the moon, employed by Ptolemy in his Almagest, which were made in the years 272 and 28 of the era of Nabonassar, or 721 and 720 years before Christ.

But though Ptolemy, and perhaps Hipparchus, from whom he had probably taken them, made no use of any observations more ancient than those here mentioned, we cannot from thence conclude that the Chaldeans first began to follow the celestial motions at this period. For such as were made in much earlier times might be suspected on several accounts; and it is besides highly probable that most of those which preceded the era of Nabonassar were not accompanied with dates sufficiently accurate to be employed by those astronomers. The Babylonian calendar, before this era, was in great confusion, not having been properly regulated; and it is obvious that ancient observations, either of this, or any similar kind, can be but of little use, except we are able to ascertain the precise time at which they were made.

Besides these eclipses mentioned by Ptolemy, nothing more now remains of the Chaldean astronomy, except what is attributed to them by some ancient authors, with respect to certain periods of years, which they seem to have formed for the more ready computation of the places of the heavenly bodies. And though the accounts which have been given us of one of the most remarkable of these cycles, by Suidas and Pliny, are not wholly free from objections, there can be little doubt of its having been first invented by that people. This is the celebrated period called the Chaldean Saros, which consists of 223 lunar months, or a little more than 18½ years; and which so far agrees with the combined motions of the sun and moon, as always to bring them again into nearly the same position at the end of each cycle that they had at its commencement.

Both the Chaldeans and Egyptians, indeed, are generally supposed to have possessed a very considerable knowledge of several other branches of the science besides those here mentioned; but for want of proper authorities, this can only be judged of by some few notions which they appear to have had of the system of the world, and by the agreement which has been found among several ancient authors, concerning the circumference of the earth. The Egyptians, in particular, appear to have known, long before the Christian era, that the year consisted of 365½ days, and that the planets Mercury and Venus moved round the sun. We are also well assured of the great antiquity of the science among this people, from the recent discoveries which have been made in that country during the late war; and particularly from the figure of a zodiac brought from thence by the French, which Lalande considers as extremely ancient. But among the various nations which claim the honour of having first cultivated this science, none pretend to possess observations of greater antiquity than the Chinese. The most remarkable of these is a conjunction of five of the planets, which, according to their annals, is said to have taken place in the reign of the emperor Tchung-hu, about 2300 years before Christ. They also mention an eclipse of the sun, which happened in the constellation Scorpio, about the year 1950 of the same era; and which is said to have proved fatal to two Chinese astronomers of the names of Ho and Hi, who were condemned to death by the emperor Tchong-kang, on account of their omitting, through negligence and intoxication, to announce the precise time at which it arrived. And from these data, apparently well attested, several eminent astronomers have endeavoured to discover whether these events could have possibly happened about the time here mentioned; but the subject is attended with too many difficulties to afford any satisfactory result.

All that we know of the Chinese astronomy is from the accounts which have been given of it by the Jesuit missionaries, who are much divided in their opinions with respect to its very great antiquity; some supposing it to have flourished at a more earlier period than others. V. De Halde, however, affirms, that it was cultivated by their great lawgiver Confucius; and that Tcheou-cong, the most skilful astronomer that China ever produced, lived more than 1000 years before Christ, and passed whole nights in observing the celestial bodies, and arranging them into constellations. But whatever might have been the knowledge of this people in former times, the state of astronomy is very low in that country at present, although it is cultivated at Peking by public authority, in the same manner as in most of the capital cities of Europe.

The inhabitants of Japan, Siam, and the Mogul's empire, also appear to have been acquainted with astronomy from time immemorial; and the famous observatory at Senares (see Observatory) is a monument both of the great ingenuity of the Indians, and of their skill in that science. A knowledge of this subject is also supposed to have prevailed among the Americans; though, in their divisions of time, they made use of the solar and not of the lunar motions. The Mexicans, in particular, are said to have discovered a singular predilection for the number 13, which they used as a kind of cycle in most of their computations. And the abbe Clavigero asserts it as a remarkable fact, that having discovered the excess of a few hours in the solar above the lunar year, they made use of intercalary days to bring them to an equality, as was done by Julius Cæsar.
the Roman calendar; but with this difference, that, instead of one day every four years, they interpolated 13 days every 52 years, which produces the same effect.

But the most interesting account of the rise and progress of this science hitherto given is that which is detailed by M. Bailly, in his learned and elaborate history of Ancient and Modern Astronomy; in which he endeavors to trace its origin among the Chaldæans, Egyptians, Persians, Indians, and Chinese, to a very early period. And in consequence of the researches he has made on this subject, he is led to maintain, that the knowledge common to the whole of those nations, has been derived from the same original source; namely, a most ancient and highly-cultivated people of Asia, of whose memory every trace is now extinct; but who have been the parent-instructors of all around them.

M. Bailly does not pretend to fix, with certainty, the precise situation of this ancient people; but he offers several reasons for conjecturing that it must have been somewhere around the 49th or 50th degree of north latitude, in the southern region of Siberia. Among various other coincidences, he observes, that many of the European and Asiatic nations attribute their origin to that quarter, where the civil and religious rites, common to each, were probably first formed; and what he considers as a strong astronomical support of his hypothesis is, that the observations of the stars, collected by Ptolemy, must have been made in a climate where the longest day was 16 hours, which corresponds to the latitude here mentioned. But as that region exhibits no traces of its ever having been inhabited by a polished people, his theory, though highly ingenious, has not sufficient force to draw our assent to his conclusions.

In investigating the antiquity and progress of astronomy among the Indians, M. Bailly examines and compares four different sets of astronomical tables of the Indian philosophers, viz. that of the Siamese, explained by M. Cañini, in 1689; that brought from India by M. de Gentil of the Academy of Sciences; and two other manuscript tables found among the papers of the late M. de Lifle; which, he observes, accord together, and all refer to the meridian of Benares. From these tables it appears, that the Indian astronomy has two principal epochs, the first being founded on a conjunction of the sun, moon, and planets, which is said to have taken place 3102 years before Christ; and the other 1491 years before the same era. These periods are so connected by the mean motions of the sun, moon, and planets, that one of them must necessarily be fictitious; and though the celebrated author above mentioned, has endeavored to show that the first of them must have been founded on observations, there is great reason for believing that it was rather imagined for the purpose of giving a common origin to the signs of the zodiac, and the motions of the celestial bodies.

It is true, indeed, if, partsing from the epoch 1491, we ascend, by means of the Indian tables to the year 3102, before the Christian era, we shall find a general conjunction of the sun, moon, and planets, as these tables suppose; but this conjunction, which is too different from the result given by the best modern tables to have ever taken place, shows that the epoch to which they refer, is not founded upon observations; and, in fact, some elements of the Indian astronomy, seem to indicate that they were determined even long before this first epoch. The equation of the sun's centre, in particular, which they fix at 2° 16' 57", could not, according to the calculations of M. de La Place, have been of this magnitude but near the year 4300 before Christ; and besides this, the equations of the centre of Jupiter and Mars are so different from what they ought to have been at this epoch, that nothing can be concluded from them in favour of their high antiquity. But to conclude, the whole of these tables, and, above all, the conjunction which they suppose at the same epoch, prove, on the contrary, that they must have been constructed, or at least revised, in much more modern times. The ancient reputation, however, of the Indians, both in this and other sciences, leaves but little doubt, that astronomy was cultivated among them at a very remote period; and of this, the remarkable accuracy with which they have aligned the mean motions of the sun and moon, are sufficient proofs, as such exactitude could only have been obtained from a long series of observations. This opinion has also been ably supported by Mr. Playfair, in a dissertation on the astronomy of the Brains, published in the second volume of the Transactions of the Royal Society of Edinburgh, where he has, likewise, adduced many influences of their critical knowledge in the other mathematical sciences, employed in their precepts and calculations.

The Greeks did not begin to cultivate astronomy till a long time after the Egyptians, of whom they were the disciples; and it is extremely difficult, amidst the fables which so much abound in the earlier periods of their history, to obtain any very correct information with respect to their knowledge in this science. All that we can learn is, that they had made observations on the celestial bodies, and divided the heavens into constellations, 13 or 14 centuries before the Christian era; this being the period, according to the opinion of the most eminent chronologer, to which we must refer the sphere of Eudoxus.

The number of their philosophical institutions, however, afford no observer of any note, till much later times; most of their ancient sects having treated astronomy as a science purely speculative, without properly attending either to facts, or their causes. But notwithstanding the reverses in which they often indulged, their knowledge began to be greatly improved by Thales the Miletian, and other Greeks who travelled into Egypt, and brought from thence the chief principles of the science. This philosopher, who died at the age of 96 in the year 548 before Christ, was the founder of the Ionian sect, and appears to have been the first who taught his countrymen the globular figure of the earth, the obliquity of the ecliptic, and the causes of solar and lunar eclipses; which latter phenomena he is also said to have been able to predict.

Thales had his successors Anaximander, Anaximenes, and Anaxagoras, to the first of whom is attributed the invention of the gnomon, and geographical chart; but for which he was probably indebted to the Egyptians. He is also said to have maintained that the sun was a mass of fire as large as the earth, which, though far below the truth with respect to size, was an opinion, for those early times, that does not author much credit; though to him, as in the case of Galileo, the truths he had discovered were the cause of his persecution. Both himself and his children were perished by the Athenians, for his attempting to subject the works of the gods to immutable laws; and his life would have paid the sacrifice of his temerity, but for the care of Pericles, his friend and disciple, who, got his sentence of death changed into exile.

Next after the Iolant school was that of Pythagoras, who was born at Samos, about the year 586 before the Christian era, and who, in the celebrity he acquired, far exceeded his predecessors. Like Thales he visited Egypt, and afterwards the Brachmans of India, from whom he is supposed to have obtained many of the astronomical truths which
Astronomy.

which he brought with him into Italy, to which country he was obliged to retire on account of the deposition which then prevailed at Athens. Here he taught the true system of the world, which, many centuries after, was revived by Copernicus; but hid his doctrine from the vulgar, in imitation of the Egyptian priests who had been his instructors. It was even thought, in this school, that the planets were inhabited bodies, like the earth; and that the stars, which are intercalated through infinite space, are funs, and the centres of other planetary systems. They also confided the comets as permanent bodies, moving round the sun; and not as undefined meteoric bodies, formed in the atmosphere, as they were thought to be in after times.

From this time to the foundation of the school of Alexandria, the history of astronomy among the Greeks offers nothing remarkable, except some attempts of Eudoxus to explain the celestial phenomena; and the celebrated cycle of 19 years, which had been imagined by Meton, in order to conciliate the solar and lunar motions. This is the most accurate period, for a short interval of time, that could have been devised for embracing an exact number of revolutions of these two luminaries; and is so simple and useful, that, when Meton proposed it to the Greeks, assembled at the Olympic games, as the basis of their calendar, it was received with great approbation, and unanimously adopted by all their colonies.

In the school of Alexandria, we see, for the first time, a combined system of observations, made with instruments proper for measuring angles, and calculated trigonometrically. Astronomy, accordingly, took a new form, which succeeding ages have only brought to greater perfection. The position of the stars began at this time to be determined; they traced the course of the planets with greater care; and the inequalities of the solar and lunar motions became better known. It was, in short, in this celebrated school, that a new system of astronomy arose, which embraced the whole of the celestial motions; and though inferior to that of Pythagoras, and even falser in theory, it afforded the means, by the numerous observations which it furnished, of detecting its own falsity, and of enabling astronomers in later times to discover the true system of nature.

Arilittus and Timocleatus were the first observers in this rising institution. They flourished about the year 260 before Christ; and by their assiduous labours, were the means of greatly improving this science. It was from their observations of the principal zodiacal stars, that Hipparchus, who had led to discover the precession of the equinoxes, and Ptolemy also founded upon them their theory of the motions of the planets.

Next after these, was Arilittus of Samos, who made the most delicate elements of the science; the objects of his research Among other things of this kind, he attempted to determine the magnitude and distance of the sun; and though, as may be supposed, the results he obtained were considerably wide of the truth, the method he employed to resolve these difficult problems, do great honour to his genius. He also endeavoured to revive the opinion of the Pythagorean school, with respect to the motion of the earth; but as his writings upon this subject have not been preserved, we are ignorant as to what point he had advanced, by this means, in the exposition of the celestial phenomena.

The celebrity of his successor Eratosthenes, and chiefly from his attempt to measure the earth, and his observations on the obliquity of the ecliptic. Having remarked at Syene, a well which was enlightened by the fun, on the day of the summer solstice, he observed the meridian height of the sun on the same day at Alexandria; and found that the celestial arc, contained between the two places, was the 50th part of the whole circumference; and as their distance was estimated at 500 miles, he fixed the length of a great circle of the earth at 250,000; but as the length of the stadium is not known, we cannot appreciate the exactness of his measurement.

Among others who cultivated and improved this science, we may also mention the celebrated Archimedes, who constructed a kind of planetarium or orrery, for representing the principal phenomena of the heavenly bodies. But of all the astronomers of antiquity, Hipparchus of Byzantium is the one, who, by the number and precision of his observations, as well as by the important results which he derived from them, is the most entitled to our esteem. He flourished at Alexandria about the year 162 before the Christian era; and began his astronomical labours by attempting to determine, with more exactness than had hitherto been done, the length of the tropical year, which he fixed at 365 days, 5 hours, and 55 minutes, being near 4 minutes too great. Like most of his predecessors, he founded his system upon a uniform circular motion of the sun; but instead of placing the earth in the centre of the solar orbit, he removed it to the distance of 1/3 of the radius, and fixed the apogee to the sixth degree of Gemini. By means of these data, he formed the first solar tables of which any mention is made in the history of astronomy; and though defective and even erroneous in principle, they are a durable monument of his genius, which three centuries afterwards were respected by Ptolemy, without his presuming to alter them.

The great astronomer next considered the motions of the moon, and endeavoured to measure the exact time of her revolution, by a comparison of ancient eclipses. He also determined the eccentricity and inclination of her orbit, as well as the motion of her nodes and apogee; and calculated all the eclipses that were to happen for 600 years to come. We are, besides, indebted to him for the important discovery of the precession of the equinoxes (see Precessions), which was the fruit of the long and difficult enterprise he undertook of making a catalogue of the fixed stars, with their latitudes, longitudes, and apparent magnitude. Geography is also indebted to Hipparchus for the method of fixing the situation of places upon the earth, by means of their latitude and longitude; in obtaining the latter of which, he appears to have been the first who employed eclipses of the moon; and as these researches required numerous calculations, they gave birth, under his hands, to spherical trigonometry. Many of his principal works perished with the library of Alexandria; but his catalogue of the stars, and several of his observations, have been preserved by Ptolemy in his Almagest.

Between the time of Hipparchus and Ptolemy, the chief observers of any note were Agrippa, Menelaus, and Theon; the two latter of which are better known as geometerians than astronomers. We remark, however, in this interval, the reformation of the calendar by Julian Cæsar, and a more exact knowledge of the flux and reflux of the ocean (see Tides). Ptolemaeus, a celebrated Greek philosopher, who lived about eighty years before Cæsar, appears to have been the first who observed the relation of these phenomena with the motions of the moon; and of which Phryn, the naturalist, has given a description, remarkable for its accuracy.

Ptolemy, the worthy successor of Hipparchus, was born at
Astronomy.

at Pelusium in Egypt, in the beginning of the second century of Christianity, and was the first who undertook to reform the whole of this science, by establishing it upon a new foundation. In this enterprise, the system he formed is now well known to be erroneous, but the three he erected lasted near 1400 years; and even at this time, though it is entirely destroyed, his Almagest, considered as the depository of ancient observations, is one of the most precious monuments of antiquity. See Almagest.

One of the most important discoveries of this astronomer is that of the evolvement of the moon (see Evolvement), which he has affixed with so much exactness, that M. La Place, in opposition to the opinion of other writers, thinks it sufficient to entitle him to the character of an accurate observer; and that the charge which has been made against him, of appropriating the discoveries of his predecessors, is not well founded.

It may also be remarked, that Ptolemy has rendered great services to geography, by collecting all the determinations of the latitudes and longitudes of places then known; and by his laying the foundation of the method of projections, for the construction of geographical charts, which was but little known before his time. In short, the various works which he executed, upon a variety of subjects, are strong proofs of a great and enlightened mind, and will always infuse him a distinguished rank in the history of the sciences.

With the labours of this great astronomer ended the glory of the Alexandrian school, which had now laboured for more than five centuries, with as much credit to itself as advantage to the sciences; but the successors of Hipparchus and Ptolemy, contented themselves with commenting on their works, without adding anything remarkable to their discoveries. The knowledge of nature, which had hitherto been cultivated with so much success, gave way to the defolating irruption of the Saracens, who were led by a ferocious zeal to destroy the celebrated library of Alexandria, which contained so many treasures of learning and genius. By a singular turn, however, of human affairs, this people became afterwards the protectors and cultivators of literature and science, and were then sensible, that this frantic measure had deprived them of the most precious fruits of their victories.

The caliph Almanfâr first introduced a table for the sciences into his empire; and his grandson, Ahammad, who ascended the throne in 815, was a great encourager and improver of astronomy. Having constructed proper instruments, he made many accurate observations; and, among others, determined the obliquity of the ecliptic to be 23° 35'. Under his auspices also, a degree of the meridian was measured, a fecond time, in the plains of Singar, on the borders of the Red Sea. About the same time, or at a short time later period, Alfraganus likewise wrote a tractate on astronomy; and hence the science began to be greatly cultivated by the Arabsians; particularly by Alfraganius, who gave a new and improved theory of the sun, from which he derived results that are much valued for their accuracy; and above all, as they directly confirm the diminution of the eccentricity of the polar orbit, as since demonstrated by the theory of gravity, and by the secular equation of the moon. His work, intitled "The Science of the Stars," is still extant, and was long esteemed by the Arabsians. But after his time, though the Saracens had many eminent astronomers, several centuries elapsed without producing any very valuable observations, excepting those of some eclipses, observed by Ibn Junis, astronomer to the caliph of Egypt, which serve to show the acceleration of the mean motion of the moon.

The Persians, who for a long time were of the same religion, and subjected to the same sovereigns with the Arabs, began about the middle of the eleventh century, to throw off the yoke of the caliphs; and at this period, their calendar received, by the care of their astronomer Omar Cheyan, a new form, founded upon an ingenious intercalation, which confided in making eight biquinque-years at the end of every thirty-three common years. See Bissextile. About the same time, also, Hayagan Ilseskan, one of their sovereigns, assembled the most considerable astronomers at Maraghâ, where he constructed a magnificent observatory, the care of which was confided to Nasir-Eddin. But of all the princes of this nation, the one who distinguished himself the most, by his zeal for astronomy, was Ulugh Beigh, a grand-son of the celebrated Tamerlane, who was a great proficient in this science. He formed, from his own observations, at Samarcand, the capital of his empire, a new catalogue of the stars, and the belt tables of the sun and planets that had been given before those of Tycho Brahe. He also determined, in 1437, with a quadrant 180 feet high, the obliquity of the ecliptic, which he found equal to 23° 31' 57''.

During this period, the greatest part of Europe was immered in ignorance and barbarity; which would have probably continued much longer, but for the settlement of the Moors in Spain, who first introduced a taste for literature and the sciences into this part of the world. The Arabs by this means became our instructors, as the Egyptians had been formerly of the Greeks; and, by a singular fatality, the learning which they transmitted to us, has disappeared among this people, as astronomy became neglected in the temples of Egypt and Chaldea, in proportion to the progress which it made in the school of Alexandria.

One of the first encouragers of learning in Europe was Frederick II., who, about 1230, set about reforming the decayed universities, and founded a new one at Vienna. He also caused the works of Aristotle and Ptolemy's Almagest, to be translated into Latin; from which latter circumstance we may date the revival of astronomy in Europe. Two years after this, John of Halifax, commonly known by the name of Sacro Bofco, compiled from Ptolemy, Alfraganus, Alfraganus, and other Arabic astronomers, his work "De Sphaera," which continued in great estimation for more than 300 years afterwards, and was honoured with commentaries by Clavius and other learned men. Alphonus, king of Castile, may also be reckoned as one of the most zealous encouragers and protectors of this science; though only, but ill succeeded by the astronomers of that time, the tables which he published were not found to answer the great expectation which attended them.

About the same period also Roger Bacon, an English monk, besides many learned works of various kinds, wrote several tracts on astronomy; after which but little progress was made in this science till the time of Purbach, Regiomontanus, and Walther, who all flourished about the middle of the fiveh century, and by their labours prepared the way for the great discoveries which followed. Regiomontanus, in particular, who was born at Königsberg, a town of Prussia, in 1436, and whose proper name was John Muller, rendered considerable services to astronomy, not only by his observations and writings, but by his trigonometrical tables of sines and tangents, which he computed to a radius of 14,000,000 for every minute of the quadrant, and by this means greatly facilitated astronomical computations, which had now become both numerous and intricate. John Werner, who succeeded Walther as astronomer at Nuremberg, is also deserving of notice, as being the first who proposed the method of finding the longitude
Longitude at sea by observing the moon's distance from the sun and certain fixed stars, which is now so successfully practised in the British navy.

Next after these was Nicholas Copernicus, the celebrated refixer of the old Pythagorean system of the world, which had been now set aside ever since the time of Ptolemy. He was born at Thorn, in Pomerania, in 1473, and having gone through a regular course of studies at Cracow, and afterwards at Rome, he was made by the intered of his uncle, who was bishop of Worma, a canon of Frankenberg; in which peaceful retreat, after 36 years of observations and meditations, he establisht his theory of the motion of the earth, with such new and demonstrative arguments in its favour, that it has gradually prevailed from that time, and is now universally received by the learned throughout Europe.

This great man, however, had not the satisfaction of witnessing the success of his undertaking, being threatened by the persecution of religious bigots on the one side, and with an obstinate and violent opposition from those who called themselves philosophers on the other: it was not without the greatest solicitations that he could be prevailed upon to give up his papers to his friends, with permission to make them public; but from continued importunities of this kind, he at length complied, and his book, "De Revolutionibus Orbium Coelestium," after being suppressed for many years, was at length published, and a copy of it brought to him a few hours before his death. His disciple Rheticus, who has rendered great services to the mathematical sciences by his extensive tables of sines, tangents, and secants, to every ten seconds, was the first who adopted his ideas; but they made but little progress till towards the beginning of the 17th century.

In this interval, however, the science was not wholly neglected. Nonius in particular wrote several valuable treatises on Astronomy and Navigation, and invented some useful instruments, more accurate than those before known; one of these being the almanac quadrant, on which he divided the degrees into minutes, by a number of concentric circles. Apian also, in 1530, wrote a book called the "Caifaricum Almanach," in which he shows how to observe the places of the stars and planets by the astrolabe; to resolve astronomical problems by means of certain inframes, and to predict and calculate eclipses; and at the end of his work are added observations of five comets, one of which has been supposed to be the same with that described by Hevelius; and whose return was accordingly looked for in the year 1789, but it did not appear. Gemma Frisius, who lived about this time, is likewise deserving of notice, as being the first who recommended timekeepers for finding the longitude at sea. See Chronometre.

The history of the science, about this epoch, also offers us a great number of excellent practical astronomers; one of the most illustrious of whom was William IV. Landgrave of Hesse-Cassel, who built an observatory in that city, and furnished it with a number of the best instruments that could be obtained at that time, with which he made his own observations. He also attached to himself the celebrated astronomers Rothman, and Julius Byrgius, and with their help formed a catalogue of 100 stars with their latitudes and longitudes, adapted to the beginning of the year 1593. It was also from his prefixing solicitations, that Tycho Brahe, one of the greatest observers that ever existed, procured the advantages that he enjoyed under Frederic II. king of Denmark.

This excellent Danish astronomer, who was born at Knudstrup in the county of Schonen, in 1546, began to mani-

feit his taste for this science at the early age of 14. An eclipse of the sun which happened in 1560, first attracted his attention; and the juncture of the calculation which announced this phenomenon, inspired him with a strong desire of understanding the principles upon which it was founded. But meeting with some opposition from his tutor, and a part of his family, to these pursuits, which probably served only to increase his attachment to them, he made a journey into Germany, where he formed connections, and entered into a correspondence with some of the most eminent astronomers of that country, particularly with the landgrave of Helf, who received him in the most flattering manner, and recommended him to the notice of his sovereign. Becoming by this means better known, on his return to Denmark, Frederic II. gave him the little island of Hven, at the entrance of the Baltic, where he built an observatory, under the name of Uraniborg, and in which, during a course of twenty years, he made a prodigious number of observations.

His tranquility, however, in this happy retreat, was, at length, interrupted; for soon after the death of Frederic, which happened in 1596, he was deprived, through the attercisions of some envious and malevolent persons, of his pension and establishment, and was not even allowed to follow his pursuits at Copenhagen; a misfortune of that time, of the name of Wallendorp, having forbidden him to continue his observations. Happily, however, he found a powerful protector in the emperor Rodolph II., who ordered him to be properly provided for at his own expense, and gave him a commodious house at Prague. After residing in this city till the year 1601, he was taken off by a sudden death, in the midst of his labours, and at an age while he was yet capable of rendering great services to astronomy.

This great man, as is well known, was the inventor of a kind of Semi-Ptolemaic system of astronomy, that was afterwards called by his name, and which he vainly endeavoured to establish instead of the Copernican or true system. But though he was not happy in this respect, he has been of great use to astronomy by his numerous observations and discoveries. Among other things he was well acquainted with the nature of refractions (see Refraction); and hence he was able to determine the places of a great number of the fixed stars, with an accuracy unknown to former times. He also proved, against the opinion which then prevailed, that the comets are higher than the moon (see Comet); and from his observations on this and the rest of the planets, the theories of their motions were afterwards corrected and improved, so that for these services he will always be celebrated and esteemed by astronomers.

Tycho Brahe, in the latter part of his life, had for his disciple and assistant the celebrated Kepler, who was born in 1571, at Wiel, in the duchy of Wirtemberg, and was one of those rare characters that appear in the world only at particular times, to prepare the way for new and important discoveries. Like his master Tycho, he appears to have attached himself to the science at a very early age; and if it be the privilege of genius to change received ideas, and to announce truths which had never before been discovered, he may justly be considered as one of the greatest men that had yet appeared. Hipparchus, Ptolemy, Tycho Brahe, and even Copernicus himself, were indebted for a great part of their knowledge to the Egyptians, Chaldæans, and Indians, who were their masters in this science; but Kepler, by his own talents and industry, has made discoveries of which no traces are to be found in the annals of antiquity.

The philosopher, the most useful to the sciences, is one who to a profound imagination unites a scrupulous judgment, and
and throughly deserve to elevate himself to the caste of the philosophers, is equally apprehensive that he may be mistaken in that which he affirms to them. Kepler owed to

At Newton's patronage, and grafted him with the help of Tycho Brahe, who perceived his genius, and advised him to abandon his attachment to the mysterious analogies of figures and numbers to which he was then addicted, and to attend more closely to facts and their consequences. This appears to have had itsproper effect, and Tycho dying a few years afterwards, Kepler was put in possession of his collection of observations, which he employed to the most useful purposes, having founded upon them three of the most important discoveries that have ever been made in natural philosophy.

It was an opposition of Mars, which determined him to occupy himself, in preference, upon the motion of this planet; and being thus strongly attached to the Ptolemaic system as modified by Tycho Brahe, as well as to the opinion which had hitherto been generally received, that all the celestial motions must be perfectly circular and uniform, he endeavoured, for a long time, to represent those of Mars according to this hypothesis. At length, however, after many trials of this kind which he has given in detail, in his treatise called "Stella Martis," he discovered that the orbit of Mars is an ellipse of which the sun is placed in one of the foci, and that the planet moves in it in such a manner, that the radius vector, or line drawn from the centre of the sun to that of the planet, describes areas proportional to the times.

This law he also soon afterwards extended to all the planets; and in 1626, he published, according to this theory, his Rudolphine tables, which will be for ever memorable in astronomy, as being the first that were founded on the true laws of the planetary motions.

It is here worthy of remark, that without the speculations of the Greek mathematicians, upon the curves formed by the sections of a cone, it is highly probable that we should yet have remained ignorant of some of the most curious and important laws of nature. The ellipse being one of these curves, its lengthened figure suggested to the mind of Kepler the idea that the planet Mars, whose orbit he had found to be more oval than circular, might possibly move in it; and soon after, by means of the numerous properties which the ancient geometers had discovered of the conic sections, he ascribed himself of the truth of this hypothesis. The history of the sciences affords many examples of the kind of application of pure geometry, and of the advantages attending it; for every thing, in the immense chain of truths, is connected, and frequently a single observation of apparently trifling consequence, has led to a more intimate knowledge of nature, of which the phenomena are the mathematical results of a small number of invariable laws.

The perception of this truth was probably what first gave rise to the mysterious analogies of the Pythagoreans; and Kepler, who had indulged himself in researches of this kind, was indebted to it for one of his most brilliant discoveries. Being persuaded that the mean distances of the planets from the sun ought to be conformable to these analogies, he compared them, for a long time, both with the properties of the five regular bodies, and with the notes of music. At length, after seventeen years of meditation and calculation, having had the idea of comparing them with the powers of the numbers by which they are expressed, he found that the squares of the times of the revolutions of the planets are to each other as the cubes of their mean distances from the sun; and that the same law applies equally to their satellites.

Astronomy is likewise indebted to Kepler for several other discoveries; which, though not equal to the former, are fill of considerable importance. He believed that it was the attraction of the moon which caused the flux and reflux of the ocean; and he had so far an insight into the general law of gravitation, as to suspect, that the irregularities of the lunar motions were occasioned by the combined actions of the earth and the sun. In his work on Optics, he has also explained the mechanism of vision, which was before unknown; and in another performance, called "Stereometria Doliorum," he has presented several views on the nature of infinites, which had considerable influence on the revolution that geometry underwent about the end of the last century.

It is affixing to relate, that this great man, who may be considered as the founder of modern astronomy, led his last days embittered by the horrors of poverty and distress. A small pension, which was scarcely sufficient for his subsistence, was frequently withheld or unpaid; and the trouble and vexation which this occasioned him, obscured his genius, and shortened his existence. He died on the 15th of November 1631, in the fifty-ninth year of his age, leaving nothing for his wife and family, but the glory of his name, and the fame he had so justly acquired; but as there were insufficient to relieve his own wants, they could afford only comfort to a helpless wife, and her wretched offspring, whose indigence is said to have been such that they had not even the common necessaries of life.

In the time of Kepler, there were not wanting several other considerable benefactors in astronomy. Edward Wright, an Englishman, made several good meridian observations of the sun, with a quadrant of six feet radius, in the years 1594, 1595, and 1596, from which he improved the theory of the sun's motion, and computed his declination more accurately than had been done before. He also published, in 1599, an excellent work, entitled, "Certain Errors in Navigation discovered and detected," containing a new method of projecting maps and charts, which has commonly, though erroneously, been ascribed to Mercator. The science is also greatly indebted to baron Napier of Scotland, not only for his ever memorable invention of logarithms, which has so wonderfully facilitated the business of calculation, but for some excellent theorems and improvements in spherics. About this time, likewise, Bayer, a German, published his "Uranometria," or complete Celestial Atlas, containing the figures of all the constellations visible in Europe; into which he introduced the highly useful invention of marking the stars by their names, or the letters of the Greek alphabet, which renders them so easy to be referred to with distinctness and precision.

At the same time also, that Kepler, in Germany, was tracing the orbits of the planets, and settling the laws of their motions, Galileo (who was born at Pisa, in Italy, in 1564) was meditating upon the doctrine of motion in general, and investigating its principles; and from the admirable discoveries which he made in this branch of the phyleo-mechanical sciences, Newton and Huygens were afterwards enabled to derive the most brilliant and complete theories of all the planetary motions. About this period also, a fortunate accident produced the most marvellous instrument that human industry and sagacity could have ever hoped to diffuse; and which, by giving a far greater extension and precision to astronomical observations, showed many irregularities and new phenomena, which had hitherto remained unknown.

This invention was that of the telescope, which was no sooner known to Galileo, than he set himself to improve it; and the discoveries he was by this means enabled to make, were as new as they were surprising. The face of the moon appeared full of cavities and asperities, resembling valleys
Astronomy by his numerous and immense labours; few observers having ever existed who were more indefatigable. It is to be lamented, however, that he refused to make use of instruments with telescopic sights, an invention introduced about that time by the celebrated Dr. Hook, and which gave a precision to observations unknown to former astronomers. He even contested their utility, and a warm dispute having arisen between him and Dr. Hook upon this subject, Dr. Halley, then a young man rising fast into fame and eminence, was lent to examine his instruments, which were found to be excellent of their kind. The two astronomers made several observations together, much to their satisfaction; and among them was one of an occultation of Jupiter by the moon, by which they determined the diameter of the latter to be 30' 33".

About this epoch, astronomy began to be more generally cultivated and improved, in consequence of the establishment of several learned societies, which, by exciting a spirit of emulation and enterprise among their members, greatly contributed to the advancement of every branch of the mathematical and physical sciences. The chief of these were the Royal Society of London, and that of the Academy of Sciences of Paris; both of which have rendered great services to astronomy, as well by the eminent men they have produced, as by the zeal and ardour with which the science has constantly been promoted by them. One of the first effects produced by these establishments, was the great improvement of telescopes and other instruments, which had hitherto been too much neglected for want of proper encouragement.

Huygens constructed a telescope of 123 feet, with which he long observed the moon and planets, and was the first that discovered Saturn's ring. The celebrated Cassini also employed instruments of this kind, of 200 and 300 feet focus, with which he saw the five satellites of Saturn, with his zones or belts, as well as the shadows of Jupiter's satellites passing over his body.

The length of refracting telescopes, however, was still a great inconvenience; to remedy which, as well as the great aberration of their rays, Merlenuis is said to have first startled the idea of making telescopes with reflectors, instead of lenses, in a letter to Descartes; and in 1665, James Gregory of Aberdeen, showed how such an instrument might be constructed. Newton, also, after spending some time on the construction of both these sorts of telescopes, discovered the great inconvenience which arises to refractors from the different refrangibility of the rays of light, and therefore pursuing the other kind, he proceeded in the year 1672, to the Royal Society, two reflectors, with spherical specula, as he could not then contrive the means of giving them a parabolic figure. It is proper to observe, however, that the defects of refracting telescopes, arising from the different refrangibility of the rays of light, have since been completely obviated by the ingenious Mr. Dollond. See Achromatic Telescope.

Towards the latter part of the seventeenth century, and the beginning of the eighteenth, practical astronomy seems rather to have languished; but at the same time, the theoretical part was carried to the highest degree of perfection, by the immortal Newton in his "Principia," and by the astronomy of David Gregory. (See Newtonian Philosophy.)

About this time also, clock and watch-work was greatly improved by Mr. Graham, who likewise constructed the old eight feet mural arch at the Royal Observatory at Greenwich, and the zenith-sector of twenty-four feet radius, with which Dr. Bradley discovered the fixed stars. (See Aberration.) The reflecting telescope of Gregory and Newton, was also greatly improved by Mr. Hadley;
Hadley; but who is still better known for his admirable invention of the reflecting quadrant or sector, now called by his name, and which is universally used at sea, and in all nice observations. Mr. Bird also, about the middle of the eighteenth century, rendered great service to astronomy, by his method of constructing and dividing large astronomical instruments; which has since been carried to the greatest degree of perfection by that admirable artist Mr. John Ramden, whose recent death will be long regretted by astronomers and men of science in general. Reflecting telescopes were likewise not less improved by Mr. Short, who also first executed the divided object-glass micrometer, which had been proposed and described by M. Lousville and others.

Thus the astronomical improvements in the last century, have been chiefly owing to the greater perfection of instruments, and to the establishment of regular observatories in various parts of Europe. Roemer, a celebrated Dutch astronomer, first made use of a meridian telescope; and by observing the eclipses of Jupiter's satellites, he was led to his discovery of the motion of light, which he communicated to the Academy of Sciences at Paris, in 1675. Mr. Flamsteed was also appointed the first astronomer royal at Greenwich, about the same time, where he observed all the celestial phenomena for more than forty-four years; and as the fruits of his labours, published a catalogue of 3200 stars, with their places, to the year 1688, as also new solar tables, and a theory of the moon according to Horrox. Cassini, also, the first French astronomer royal, greatly distinguished himself by his numerous observations on the sun, moon, and planets, and by the improvements he made in the elements of their motions.

In 1719, Mr. Flamsteed was succeeded by Dr. Halley, the friend of Newton, and a man of the first eminence in all the departments of literature and science; who had been sent at the early age of twenty-one, to the island of St. Helena, to observe the southern stars, a catalogue of which he published in 1679; and a few years afterwards he gave to the public, his "Synopsis Astronomica Comitium," in which he ventured to predict the return of a comet in 1758, or 1759. He was the first who discovered the acceleration of the moon's mean motion; and is the author of a very ingenious method for finding her parallax, by three observed places of a solar eclipse; he also showed the use that might be made of the approaching transit of Venus, in 1761, in determining the distance of the sun from the earth; and recommended the method of determining the longitude by the moon's distance from the sun and certain fixed stars, which has since been carried into execution at the instance of the present astronomer royal. Dr. Halley also composed tables of the sun, moon, and planets, with which he compared the observations he made of the moon at Greenwich, amounting to near 1500, and noticed the differences. About this time, an attempt was made in France to measure a degree of the earth, which was the occasion of a warm dispute concerning its figure. M. Cassini concluded, from the measurement of Picart, that it was an oblong spheroid; but Newton, from a consideration of the laws of gravity, and the diurnal motion of the earth, had determined its figure to be that of an oblate spheroid, flattened at the poles, and protuberant at the equator. To determine this point, Louis XV. ordered two degrees of the meridian to be measured, one under or near the equator; and the other as near as possible to the pole, the result of which arduous undertaking was a confirmation of Newton's investigation. Meff. Maupertuis, Clairaut, &c. were employed on the northern expedition; and Condamine, Bouger, Don Uloa of Spain, &c. on the southern; who all fulfilled their commissions with great credit to themselves, and advantage to the sciences, making many observations besides those immediately connected with this subject. Among others, it was found, by those who went to the south, that the attraction of the great mountains of Peru had a sensible effect on the plumb-lines of their large instruments, which afforded an experimental proof of the Newtonian doctrine of gravitation, that has since been completely verified by the observations of Dr. Maskelyne, made on the mountain Schehalliun in Scotland. See Attraction of Mountains.

On the death of Dr. Halley, in 1742, he was succeeded by Dr. Bradley, who has rendered himself highly celebrated by two of the finest discoveries that have ever been made in astronomy, the aberration of light and the rotation of the earth's axis. Among other things, he also formed new and accurate tables of the motions of Jupiter's satellites, as well as the most correct table of refractions yet extant. Also, with a large transit instrument, and a new mural quadrant of eight feet radius, constructed by Bird, in 1750, he made an immense number of observations, for settling the places of all the stars in the British catalogue, together with near 560 places of the moon, the greater part of which he compared with Mayer's tables.

Dr. Bradley was succeeded in 1762, in his office of astronomer royal, by Mr. Bifis, but who, being in a declining state of health, died in 1765; and was succeeded by Nevil Maskelyne, D.D., the present astronomer royal, who has rendered considerable services to this science, by his publication of the "Nautical Almanac," the "Requisite Tables," &c. and more particularly by the great industry and zeal he has displayed in bringing the lunar method of determining the longitude at sea into general practice. In the mean time, many other eminent mathematicians, both of our own, and other countries, were assiduously employed in endeavouring to promote the science of astronomy. The theory of the moon was particularly considered by Mess. Clairaut, d'Alembert, Euler, Simpon, Wulffsen, and Mayer; the latter of whom computed a set of lunar tables, for which, on account of their superior accuracy, he was rewarded with a premium of 3000l. by the Board of Longitude, who brought them to use in the computation of the nautical ephemeris which was published by their order. Some very accurate tables of the satellites of Jupiter, were also compiled from observations by Mr. Wargentin, an excellent Swedish astronomer, and which have since been corrected by the author, so as to render them superior to any yet published.

Among the French astronomers who have also contributed to the advancement of this science, we are particularly indebted to M. de la Caille for an excellent set of solar tables, in which he has made allowances for the attractions of Jupiter, Venus, and the moon, as well as for the observations which he made at the Cape of Good Hope, in concert with the most celebrated astronomers in Europe, in order to determine the parallax of the sun, moon, and the planet Mars; and for adjusting the places of the stars in the southern hemisphere, which he has done with great accuracy. In Italy also the science was cultivated with great success by S. Bianchini, Bucovich, Frisi, Monfredi, Zanotti, and others; and in Germany, by Euler, Mayer, Lambert, &c.

Stirch was the state of astronomy when Dr. Hedges, by augmenting the powers of telescopes beyond the most fanciful expectations, opened a scene altogether unlooked for. By this indefatigable observer we are made acquainted with a new primary planet belonging to our system, called the Georgium Sidus, attended by fix satellites, which he discovered on the 1st of March 1781, and which being at twice the
the distance of Saturn from the sun, has doubled the bounds formerly assigned to the solar sytem. We are also indebted to him for a variety of observations on several other interesting astronomical subjects; such as the discovery of two additional satellites to Saturn, of which the number is now seven; a new method of measuring the lunar mountains; the rotation of the planets on their axes; on the parallax of the fixed stars; catalogues of double, triple stars, &c.; of nebulae; and of the proper motion of the sun and solar system; the accounts of which, together with many other valuable papers, he has communicated from time to time in different parts of the Philosophical Transactions. Within this last year also another new planet has been discovered by M. Piazzi of Palermo, between Mars and Jupiter, to which he has given the name of Ceres Ferdinandea; and even the discovery of a third has been announced in some of the foreign journals; but for any regular account of this we must wait for further information. See Georgium Sidus, Ceres Ferdinandea, and Pallares.

It is with great pleasure we observe that at no former period has this science been cultivated with more ardour than it is at present, both in this and every other country in Europe. In France, the physico-mathematical part of the science has been greatly improved and extended by the celebrated M. la Place, who, in his elaborate work, the "Mechanique Celeste," has investigated all the phenomena, which the attraction or universal gravitation of matter can produce on the forms and motions of the celestial bodies, by their mutual actions on each other. M. Lalande, the patriarch of astronomers, is also still indefatigable in his pursuits, and by the zeal he constantly manifests for the interests of this science, has greatly promoted the study of it in almost every quarter of the globe; but particularly in Germany, where M. von Zach is equally assiduous in forwarding its improvement. In all its collateral branches also we observe a degree of activity that has never been exceeded. New admeasurements of the earth have been undertaken both in this country and in France, which, from the great improvements of instruments, and the skill and industry of the observers, promise a greater accuracy in the results than could have been obtained by those who were formerly engaged in this undertaking. From the zeal and abilities of Major Mudge, in particular, who is now employed by our government to make a trigonometrical survey of the country, we may expect the most accurate details on this subject that have ever yet been presented to the public.

We shall conclude by observing that there still remains a number of discoveries to be made in this science. We have not yet determined the times of rotation and the proper figures of some of the planets and their satellites; nor do we know with sufficient precision the masses of those bodies. The theory of their motions also conflicts in a series of approximations, of which the convergence depends both upon the perfection of instruments, and the progress of analysis, and which for that reason ought to acquire continually new degrees or exactness. Observations on the return of comets already observed, as well as on those which may hereafter appear, should likewise be made with great care, and particularly on such as may entirely change their orbits, as it has been conjectured was the case, by the action of Jupiter on the one which appeared in 1770; as also such accidents which the proximity, and even the shock of these bodies, may occasion to the planets and their satellites; such are the principal objects which should engage the attention of future astronomers.

For more particular accounts of the writings and authors on this science, the reader may consult Heidler's "History of Astronomy," which is brought down to the year 1757, as also "Bailly's History of Ancient and Modern Astronomy," Montucla's "Histoire des Mathematiques," and the first volume of Lalande's Astronomy. The more modern and popular works on the subject are numerous and well known; as those of Emerson, Ferguson, Long, Boucicaut, &c.; in the latter of which, in particular, the elementary parts, and general outline of the science, are described with great perspicuity and elegance.

Astronomy is sometimes divided with respect to its different types, into new and old.

Astronomy, Ancient, is such as the art stood under Ptolemy and his followers, with all the apparatus of solid orbs, epicycles, eccentricities, deferents, tropicalls, &c.

Astronomy, New, is such as the art has been since Copernicus, by whom those fidicious machines were thrown out, and the constitution of the heavens reduced to more simple, natural, and certain principles.

In Ricciolus's Almagestum Novum, published in 1651, we have the several hypotheses of all the astronomers, ancient as well as modern.—And in Dr. Gregory's Elements Astronomiae Physice & Geometricae, in 1702, the whole modern astronomy, as founded on the discoveries of Copernicus, Kepler, and Sir Isaac Newton.—The substance of the old astronomy is given by Tacquet; and of the new astronomy by Whiston, in his Prelections Astronomicae, in 1707. Mercator's Institutiones Astronomicae, published in 1676, contains the whole doctrine, both according to the ancients and moderns; and Dr. Keill's Introduction ad veram Astronam, in 1718, comprehends the modern; so that which might be added Vince's Astronomy, in 2 vols. 4to. 1800; and his Practical Astronomy, 4to.

Astropecten, in Natural History, a name given by some authors to a species of star-fish, composed of a body, or central nucleus, Drawn in the manner of the shells of the common scallop, and parting into five principal rays, from each of which there issue several transverse processes, covered with a hairy down.

Astropodia. See Asteria, and Starbucks.

Astroscope, in Astronomy, a kind of astronomical instrument, composed of two cones, on whose surface the constellations, with the stars, are delineated, by means of which the stars may easily be known.

The astrofcope is the invention of Will. Schickhard, formerly professor of mathematics at Tubingen, who published a treatise expressly on it, in 1698.

Astroscoplia, from αστρον, stars, and σκια, shadow, the art of observing and examining the stars by means of telescopes, in order to discover their natures and properties.

Huygens improved this art considerably in his "Astroscopia Compendiaria Tubi Optici mollimine liberata," where he shows how to manage the largest glasses without help of a tube. See Telescope.

Astrothemata, in Astrology, the places or positions of the stars in a theme of the heavens. Tidal, Lex. Math.

Astrothesia, from αστρον, stars, and γθεια, place, is used for form by a constellation or image in the heavens, composed of several stars.

Astrua, Giovanna, in Biography. See Giovanna.

Astruc, John, M. D. a learned physician, and author of numerous medical and philosophical works, was born at Saum, a considerable town in Lower Languedoc, on the 15th of January, 1682. He was early initiated into the knowledge of the classics by his father, and was sent to complete his education to the university at Montpellier, where in 1700 he commenced master of arts, and
and in 1703, bachelor of medicine. In the same year he
published his dissertation "De motus fermentativi causa," which was soon followed by several controversial pieces on
the manner in which the food is digested in the stomac,
which he contended was effected by a peculiar leaven, ex-
citing fermentations; contrast to the opinion of Pitance
and other mechanical physicians, who attempted to prove
that our food was triturated or ground to a pulp in the sto-
mach by the action of the abdominal and other muscles, to
which they gave a power equal to several thousand pounds
weight. In 1716, he was made professor of anatomy and
medicine at Toulouse. In 1716, he returned to Montpellier,
where he was called to the professor's chair vacant by the
death of Chatelin. In 1726, he published his treatise "De
Hydrophobia," and in 1731, "Sur l'Origine des Maladies
Epidemiques, principalement de la Peste," in which he
strongly supports the opinion that the plague is a contagious
disease, in opposition to Chiracian and other writers, who
then, as now, attempted to establish a contrary doctrine.
He supposed there was some analogy between the poison
of the plague and the venereal disease. He took the first
active part in the dispute between the faculty of medicine
and the surgeons at Paris; and as he was well versed in
the history of medicine, he showed that in early times the
chirurgians were examined by physicians previous to their
being allowed to practice. In 1729, he was invited to Po-
land, and made Physician to the king. Augustus the second;
but finding this place lefts favorable to his studies, he re-
turned to France, and fixed himself at Paris; and in 1730,
was appointed consulting physician to the king, and soon
after, on the death of Geoffroy, professor of medicine in
the Royal College at Paris, where the reputation he had
previously acquired procured him a numerous and respec-
table auditory; pupils flocking to him from all parts of Europe.
In 1737, he published "Memoires pour l'Historie naturelle
de Languedoc," in which a particular account is given of
the mineral waters of Balara. In 1745, he published
"Tractatus Pathologicus," and 1748, "Tractatus Thera-
peuticus," both in 8vo.; which were in their time well re-
ceived, but are superceded now by the adoption of new
theories, in their turn to give way to subsequent specula-
tions. In 1756, he published his principal work "De Mor-
bis Venereis," which soon, and defendedly, raised his fame
to the highest pitch of eminence. The work was eagerly
received, and translated into all the modern languages; the
learned in every country being desirous of naturalizing a
production, containing the completest history, description,
and mode of treating the disease that had appeared. In
the first part, the author labours to show, that the disease
was new, and of a nature distinct from all others; that it
was first imported into Europe by the Spaniards who at-
tended Columbus in the discovery of America. This part
has lately been controverted, and passages from various
early writers have been produced that are supposed to point
out the disease as a single symptom or two resembling some
of those attending the lues venerea being obscurely noticed
in them. He considers mercury as the sole specific in the
cure of the lues venerea, and of the different ways of ad-
ministering it, prefers that by injection. The author soon
after published two "Doutes sur l'Inoculation de la petite
ve- rolle propose a la Faculte de Paris," but without his name;
and in 1759, "Traité des Tumours et des Ulcercs, avec deux
Lettres, 1. sur la composition des quelques remedes; et
2. sur la nature et le succesfully des nouveaux remedes qu'on
propose pour la guerison des maladies venereiues." In
this work, which has considerable merit, the author treats
largely of hydatids passed off by stool and by vomiting, or
found in the livers of persons who have died tabid. He is
one of the first writers who denies his atten to the opinion
that marks, dermatons, and mutilations of the bodies of
infants, are occasioned by the imaginations of the mothers.
In 1746, he published "Traité des Maladies des Femmes,"
6 vols. 12mo.; this has been translated into English, as
well as his "Art d'Accoucher, reduite a ses principes;" the
last work he lived to finish. The author had tried the ef-
fect of cicatrices; he tells us, in cancer, but without advantage;
and thinks its reputation for resolving febris had arisen
from induced glands of the breath which were taken forth,
but were not ichorous, having disappeared under its use.
This opinion has been confirmed by later experience. On
the whole, we find in this writer great marks of genius, as
well as of labour and research, and he will be deferably
handed down to posterity as one who has contributed confi-
derably to the improvement of the art of medicine. As
early as the year 1731, he was admitted member of the fa-
culty of medicine at Paris: he was a constant attendant at
their meetings, and a zealous protector of their privileges.
With an active mind, he had the good fortune to enjoy a
strong and vigorous constitution, which enabled him to con-
tinue his professional exertions until within a very small
time of his death, which happened on the 5th of May
1766, at the age of 82 years. In the second volume of
the author's treatise "De Morbis Venereis," he has given
catalogue of all the writers who had treated on the subject
before him, with brief sketches of their lives, and analyses
of their works. This part appears to have been executed
with fidelity, and has afforded us useful and valuable mate-
rials in our labour, as has likewise a posthumous work of
the author, his "Memoires pour l'Historie de la Faculte de
Med. & Chirur. Lorry Eloge Hift, de M. Astruc. One
very sagacious work little noticed, and perhaps little deserving
notice, as founded solely on speculation and conjecture,
was his "Conjectures sur les memoires originaux dont il pa-
roit que Moliere se fervo pour composer le livre de Genese,"
Bruxelles, 1759. It does not appear that the works of
this celebrated writer were ever collected and published
in the manner they are certainly deserving that attention.
ASTRUM, or ASTRON, in Astronomy, a constellation
or assemblage of stars. In which sense it is distinguished
from after, which denotes a single star.
Some apply the term, in a more particular sense, to the
Great Dog; or rather to the great bright star in his mouth.
Vital.
ASTRUM, in Ancient Geography, the name of a large town
of the Peloponnesus, in the Argolid.
ASTRUM, in Geography, a mountain of Italy, famous
for its baths.
ASTRUP, a town of Germany, in the circle of West-
phalia, and bishopric of Osnaburgh, four miles north of
Osnaburgh.
ASTURA, in Ancient Geography, a river of Italy, and
rises an island, according to Pliny.—Cicero had a villa
of this name near the sea, within view of Circeum and Aنتium,
whither he retired, with his brother and nephew, when he
first arrived at his Tuscan villa the news of the proscrip-
tion in which they were included, and whence they pro-
posed to transport themselves directly out of the reach of
their enemies. Here Cicero found a vessel ready for him,
in which he immediately embarked; but the winds being
adverse, he was obliged to land at Circeum, near which he
spent a night, in great anxiety and agitation. The
question upon which he deliberated was, what course he should take; and whether he should fly to Brutus or to Cassius, or to S. Pompeius; but, after all his deliberations, none of them pleased him to much as the expedient of dying; so that, as Plutarch says, he had some thoughts of returning to the city, and killing himself in Cassius's house; in order to leave the guilt and curse of his blood upon Cassius's perfidy and ingratitude: but the importunity of his servants induced him to fall forwards to Cæsarea, where he landed to repose himself in his Formian villa, about a mile from the coast; "weary of life and the sea, and declaring that he would die in that country which he had often faved." Either he was pursued by the soldiers that were sent in quest of him; and though he fled into the woods, he was overtaken and put to death. Middleton's Cicero, vol. ii. p. 495.

ASTURIA, in Geography, a good harbour on the south-west coast of Italy, about twelve or fourteen leagues south-east from the mouth of the Tiber; at the bottom of a bay east from port Neptuni, and nearly east from mount Cerceii.

ASTURAGAMICOSK, a lake of Lower Canada, eighty-one leagues north-east of Quebec. N. lat. 50° 25'; W. long. 67° 25'.

ASTURIA, in Ancient Geography, a kingdom of Spain, subdued by the Roman emperor Augustus, after the people had long resisted, in connection with the Cantabrians, renewed attempts to reduce them under the Roman yoke. But at length the darts of famine was so great, that they determined to surrender; upon which the Cantabrians, who, despairing of their situation was, were resolved to renew their efforts, fell upon them, and compelled 10,000 of them to seek an asylum in the Roman intrenchments. Tiberius, however, refused to admit them into the camp; so that despairing of relief, some fell upon their own swords, others threw themselves into the flames which they had kindled for this purpose, and others dispatched themselves by poison. The surviving Asturians collected all their strength against the next campaign; but the utmost efforts of their valour and despair proved fruitless. Weakened by repeated defeats, they were under the necessity of submitting to the Roman power, till the subversion of that empire by the Goths. In the beginning of the eighth century Don Palayo restored the Spanish monarchy in the Asturias. Asturia, the capital of the Asturians, was, in ancient times, the famous "Colonia Augusti," mentioned by Pliny. This place divided the Astures into Augusti and Transmontani. The seventh Roman legion, intitled "Augusta Gemina," was settled between the Asturian sea and the capital of this district, called "Asturia Augusti," now Astorga. The country derives its name from the river Astura, and is now denominated "Asturias." It was formerly celebrated by the poets for the gold it produced.

A STURIAS, in Geography, the ancient Asturio, a province of Spain, about forty-eight leagues long, and eighteen broad; bounded on the east by Bifcay, on the south by Old Caftile and Leon, on the west by Galicia, and on the north by the bay of Bifcay. It is usually divided into two parts or districts called Asturia of Oviedo, and Asturia of Santillane; and hence it derives its plural name Asturias. The country is generally mountainous and rugged; and towards the south are the mountains which branch from the Pyrenees, and separate it from Old Caftile and Leon; there are covered with extensive forests. The soil, however, produces a sufficiency of corn, great quantities of fruit, and excellent wine. Its horses are in great esteem, and maintain their reputation from the time of the Romans, who preferred them to all the other horses in Spain. The inhabitants, who value themselves even at this day on the purity of their blood, and their descent from the ancient Goths, are poor, but honest, generous, brave, and laborious. The principal towns are Oviedo, Santillane, and San Aturo. The chief of the king of Spain takes the title of the prince of Asturias, and bears the arms of the country.

ASTURICANI, in Ancient Geography, a people of Atlantic Sarmatia. Prolemy.

ASTURASPES, a name formerly given to a river of Abyssinia, now called Exas. It is one of the rivers represented by the ancients as forming the island of Meroe.

ASTY, a village of Egypt, mentioned by Diodorus Siculus; in the vicinity of Canopus, according to Steph. Byz.

ASTYAGES, in Biography, king of the Medes, was the son of Cyaxares, according to Herodotus (I. c. 74.) and Pausanias (I. v. c. 12. p. 398.); and began his reign, according to Blair's tables, in the year 595 B.C. Sir Isaac Newton (Chron. apud Oper. I. v. p. 222.) says that, Herodotus, followed by Pausanias, has inverted the order of the kings Alyages and Cyaxares; making Cyaxares the second king of the son and successor of Phraotes, and the father and predecessor of Alyages, the father of Mandane, and grandfather of Cyrus. Considering, he adds, that Cyaxares reigned long, and that no author mentions more kings of Media than one, called Alyages; and that hehe was, lived in those days, knew but of two great monarchs of Media and Persia, the father and the son, older than Cyrus, he concludes, that Alyages, the father of Mandane, and grandfather of Cyrus, was the father and predecessor of Cyaxares; and that the son and successor of Cyaxares, was called Darius. Accordingly, he says, that Alyages began his reign at the death of Phraotes, who was slain by the Alyrians in the year of Nabonassar 111. or 657 B.C., and reigned 26 years. According to Herodotus, Alyages married his daughter to a Persian nobleman named Cambyses. During her pregnancy he had a dream, signifying that the child that was to be born should rule over all Asia. This prediction alarmed him; and he determined to destroy the child. Harpagus, who was employed for this purpose, disobeyed the royal command, and intruded the nurture and education of the infant Cyrus with one of the king's herdmen. When Cyrus was ten years old, Alyages discovered the fraud, and caueth the only son of Harpagus to be killed, and his flesh to be served up to him in a banquet. Harpagus for some time dissembled his indignation at this act of barbarity, but waiting a favorable opportunity of revenge, he called Cyrus, arrived at manhood, from Persia, whether he had been sent to his real parents, and afflicted him to revolt against his grandfather. Alyages was defeated, and caueth the Magi, who had led him to imagine that the danger apprehended from his son's revolt was at an end, to be all imputed. In a second engagement he was defeated and made prisoner; upon which he was deposed by Cyrus, after having reigned 35 years, and the Medes were subjected to the Persians. Alyages was confined to his palace, but suffered to close his life by a natural death. Xenophon, in his "Cyropedia," a work which the best critics have considered as a fiction than a true history, represents Cyrus as having been openly educated at the court of his grandfather Alyages, who retained the crown till his death, and was succeeded by the son of Cyrus II. Alyages has been reckoned by some the "Ahaferus" of Persia.

ASTYANAX, in Ancient History, the only son of Hecuba and Andromache. Calchas, the soothsayer, predicted,
dected, that if he lived to manhood, he would be more valiant than his father, and avenge his death. It was therefore determined to dispatch him in his minority. Andromachia took pains for concealing him; but, it is laid, that Ulyfles discovered him, and precipitated him from the top of the Trojan walls. The death of Abyanax is the principal sub-
ject of Eurydice's tragedy of the Trojans.

ASTYNAE, in *Asynians*, were magistrates at Athens who had the inspection of the streets, and also of players on instruments and buffoons. They were ten in number, and corresponded to the plebeian aediles of Rome. See Agoranomus.

ASTYPALEA, in *Ancient Geography*, an island of Asia, in the Cretan sea, where, according to Cicerio De Nat. Deor. i. iii. c. 18.), divine honours were rendered to Achilles. Steph. Byz. fays, that this island, one of the Cyclades, was called Pyria when the Carian poiffessed it, and afterwards Pyrea. Its name Aystpalaec, in its proper signification, means the "ancient city," and is said to be derived from that of the daughter of Phoecis and Piramed, offer of Europe, and beloved by Neptune, by whom he had Ancus, who received for the people named Lelegi, Paulin. i. vii. c. 1. It was also called "Theontrapaex," i.e. the table of the gods, because its foil is fertile, and almost enamelled with flowers. It now bears the name of Stambalia.—Alfo, a town of the island of Cos. Strabo.

—Alfo, a promontory of Aisa Minor, in Caria, in the territory of Mindus. Strabo.—Alfo, a town of the island of Sanius.

ASTYRA, or Astyre, a town of *Aolis*; but it no longer subsisted in the time of Pliny.—Alfo, a village of Aisa Minor, in the Troade, near mount Ida, in the vicinity of which was a grove consecrated to Diana Aistyrenc.—Alfo, a town of Phoenicia, in the neighbourhood of the isle of Rhodes. Steph. Byz.

ASTYRON, a town of Ilyria, built by the Argonauts.


ASUCRA BAY, in Geography, lies on the south part of the gulf of Sofala, on the S. E. coast of Africa, in the Indian ocean.

ASUM, in *Ancient Geography*, a town of the island of Crete (Plyn), the Afof of Steph. Byz. whence Jupiter derived the appellation of Aeus.

ASAM, of *Asion*, in Geography, a town in Africa, on the &a-coast of the kingdom of Adel.

ASUMATZ, a town of Wallachia, eight miles eaf of Buchereft.

ASWAD, a town of Arabia, 28 miles south of Saad.

ASYLIA, in *Ancient Geography*, a town of Spain, in the country of the Tartians. Piolemy.

ASYLUM, a sanctuary or place of refuge, where a criminal who seeks himself is deemed inviolable, and not to be touched by any officer of justice.

The word is compounded of the privative particle α, and τελέω, I burn; because no person could be taken out of an asylum without sacrilege.

The first asylum was established at Athens, by the descendants of Hercules, to shelter themselves from the fury of his enemies; to serve as a refuge for children who fled from the ill treatment of their parents, and, as some have laid, to be a sanctuary for filpiants in general. This is laid by Statius, Theb. xii. and Servius, in Æneid viii. to have been the first asylum; others fuppofe that it was firft built at Thebes by Cadmus, for the reception of all criminals. Paulin. i. vii. Æn. i. ii. v. 112. Eurip. Hecube, v. 146. In imitation of the asylum of Cadmus, Romulus established one between the two groves on the Capitoline mount, which was free of access to all criminals. The oracle of Delphos, according to Phtarch, functioned this political establishment of Romulus with its approbation. When Romulus enlarged his new city, which by this policy was fenced with inhabitants, the asylum was included within the walls, and those who had fled to it, being brought under some regulations, became citizens of Rome. Plut. in Rom. i. c. 19. Dion. Hal. i. ii.

The temples, altars, statues, and tombs of heroes, were, annually, the ordinary retreat of those who found themselves aggrieved by the rigour of the laws, or oppressed by the violence of tyrants: but temples were held the most sacred and inviolable refuge. It was fuppofed, that the gods took upon them to punish the criminal who thus threw himfelf upon them; and that it would be a great impiety in man to take vengeance out of the hands of the immortals.

The Israelites had their cities of refuge, which were of God's own appointment; where the guilty, who had not committed murder, fled for safety and protection. As to the heathens, they allowed refuge and impunity even to the vilest and most flagrant offenders, come out of superftition, and others for the sake of populating their cities; and it was by this means, and with such inhabitants, that Thebes, Athens, and Rome, were first fenced. We even read of afluims at Lyons and Vienne, among the ancient Gauls; and there are some cities in Germany which still prefer the ancient right of asylum.

Hence, on the medals of several ancient cities, particularly in Syria, we meet with the inscription ΑΣΥΛΟΣ, to which is added, ΙΕΠΑΙ. This quality of asylum was given them, according to M. Spanheim, in regard to their temples, and of the gods revered by them.

The fame qualities have also been given to deities: thus Diana of Ephesus is called ασυλός. Add, that the camp, formed by Romulus and Remus, was called asylum, and afterwards became a city, in which was a temple erected to the god *Aysiaus, ος Ασυλόν*.* It appears from Plautus (Moell. v. 1.), that slaves had particular afluims: fuch was the temple at Athens; or the tomb of Thefeus; because he never refused to avenge the oppressed, and to succour the wretched. The temple of Diana at Ephesus was an asylum for debtors. In proces of time, afluims were fo multiplied, that it became neceffary to regulate and reform them, in the reign of Tiberius, as we are informed by Tacitus (Annal. iii. c. 60.); and Suetonius (Tiber. c. 37.) fays, they were utterly abolished.

The emperors Honorius and Theodosius granting the like immunities to churches, the bishops and monks laid hold of a certain tract or territory, without which they fixed the bounds of the eccularjurisdiction: and fo well did they manage their privileges, that convents, in a little time, became next akin to forfresses, where the most notorious villains were in safety, and braved the power of the magifrate.

These privileges, at length, were extended not only to the churches and church-yards, but also to the bishops' houses, whence the criminal could not be removed without a legal assurance of life, and an entire remission of the crime. The reason of the extension was, that they might not be obliged to live altogether in the churches, &c. where several of the occasions of life could not be decently performed.

But, at length, these afluims, or sanctuaries, were also stripped of most of their immunities, because they served to make guilt and libertinifm more bold and daring. In Engl
LAND, PARTICULARLY, THEY WERE ENTIRELY ABOLISHED. SEE SACRAMENT.

ASYMMETRY, derived from the primitive a., evq., quit., and pereq., measure, q. d. without measure, a want of proportion, or correspondence between the parts of a thing. SEE SYMMETRY.

In Mathematics, the word is more particularly used for what we more usually call incommensurability; which is when between two quantities there is no common measure: as between the side and diagonal of a square. In number, two roots, $a^2$, $a^2$; are incommensurable to rational numbers.

ASYMPTOTE, in Geometry, a line which continually approaches nearer and nearer to another; yet will never meet with it, though indefinitely produced.

The word is compounded of the privative a., evq., quit., and $=m$ from $=m$. I fail; q. d. incoincident, or which never meet. Some Latin authors call these lines intangible.

Berthou enumerates divers sorts of asymptotes; some straight, others curve; some concave, others convex, &c. and farther, proposes an instrument for describing them. Though, in strictness, the term asymptote seems appropriated to right lines. Asymptotes, then, are properly right lines, which approach nearer and nearer to some curve of which they are said to be the asymptotes; but which, though they and their curve were indefinitely continued, would never meet: consequently asymptotes may be conceived as tangents to their curves at an infinite distance.

Two curves are also said to be asymptotic, when they thus continually approach, without a possibility of meeting.

Of lines of the second kind, or curves of the first kind, that is, the conic sections, only the hyperbola has asymptotes, which are two in number, the properties of which have been long ago demonstrated by Apollonius Pergaeus.

All curves of the second kind have at least one asymptote; but they may have three; and all curves of the fourth kind may have four asymptotes.

The conchoid, cissoid, and logarithmic curve, though not reputed geometrical curves, have each also one asymptote.

The nature of asymptotes will be easily conceived from the instance of the asymptote of a conchoid. Suppose $MMAM$, &c. (Plate Analysis, fig. 2.) to be a part of a conchoid, $C$ its pole, and the right line $BD$, fo drawn that the parts, $QA$, $EA$, $OM$, &c. of right lines drawn from the pole $C$, are equal to each other; then will the line, $BD$, be an asymptote of the curve; because the perpendicular, $MI$, &c. is shorter than $MO$, and $MR$ than $MQ$, &c. so that the two lines continually approach; yet the points, $M$, &c. and $R$, &c. can never coincide, since there shall be a portion of a line to keep them asunder; which portion of a line is infinitely divisible, and consequently must be diminished infinitely before it becomes nothing.

ASYMPTOTES OF THE HYPERBOLA are thus described. Suppose a right line $DE$ (Plate 1. Conics, fig. 2.) drawn through the vertex, $A$, of the hyperbola, parallel to the ordinate $Mm$, and equal to the conjugate axis, viz. the part $DA$, or $AE$, equal to the semi-axis: then, two right lines drawn from the centre $C$ of the hyperbola through the points $D$ and $E$, viz. the right lines, $CF$ and $CG$, are asymptotes of the curve.

The parts of any right line, lying between the curve of the common hyperbola and its asymptotes, are as one to another on both sides, that is $mn = MR$. Thus also, in hyperbolae of the second kind, if a right line be drawn, intersecting the curve and its three asymptotes in three points, the sum of the two parts of that right line extended in the same direction from any two of the asymptotes to two points of the curve, is equal to the third part which extends in the contrary direction from the third asymptote to the third point of the curve.

If the hyperbola $GMH$ (fig. 3.) be of any kind whose nature with regard to the curve, and its asymptotes, is expressed by this general equation, $x^2 y^2 = n + 1$; and the right line $PM$ be drawn any where parallel to the asymptote $CS$, and the parallelogram, $PCOM$, be completed: this parallelogram is to the hyperbolic space $PMGD$, contained under the determinate line $PM$, the curve of the hyperbola, $GM$, indefinitely continued towards $G$, and the part, $PB$, of the asymptote indefinitely continued the same way, as $m-n$ is to $n$: if it be greater than $n$, the said space is finite and quadrable; but when $m-n$, as it will be in the common hyperbola, the ratio of the foregoing parallelogram to that space is $3000$ to $2$; that is infinitely greater than the parallelogram, and so cannot be obtained; and when $m$ is less than $n$, $m-n$ will be negative, and the parallelogram will be to the space as a negative number to a positive one, and the said space is called by Dr. Wallis more than infinite. SEE HYPERBOLA.

ASYMPTOTE OF A LOGARITHMIC CURVE. If $MS$ (Plate Analysis, fig. 3.) be the logarithmic curve, $PT$ an asymptote, $PT$, the subtangent, and $MP$ an ordinate; then will the intermediate space $RPM = PM + PT$; and the solid, generated by the rotation of this curve about the asymptote, $VP$, rated by half of a cylinder whose altitude is equal to the length of the subtangent, and the semi-diameter of the base equal to the ordinate $Q$. SEE LOGARITHMIC.

ASYMPTOTES, are by some distinguished into various orders. An asymptote is said to be of the first order, when it coincides with the base of the curvilinear figure: of the second order, when it is a right line parallel to the base: of the third order, when it is a right line oblique to the base: of the fourth order, when it is a common parabola, that has its axis perpendicular to the base: and, in general, of the order $n+2$, when it is a parabola, the ordinate of which is always as a power of the base, whose exponent is $n$. The asymptote is oblique to the base, when the ratio of the first fluxion of the ordinate to the fluxion of the base, approaches to an affinnable ratio, as its limit; but it is parallel to the base, or coincides with it, when this limit is not attainable.

The determination of the asymptotes of curves, is a curious part of the higher geometry. M. de Fontenelle has given several theorems relating to this subject, in his "Geometrie des Indes." See also Stirling's "Lines tertii Ordinis," and Newton's "Principia vi," where the subject of asymptotes is elaborately discussed; and Cramer, "Introduction a l'Analyse des Lignes courbes," art. 147, &c. in which is given an excellent theory of geometrical curves and their branches. This subject is also treated accurately by Mr. Machuroir, in his Fluxions, book i. chap. 15, where he has been careful to avoid the modern paradoxes concerning infinites and infinitesimals. The areas bounded by curves, and their asymptotes, though indefinitely extended, sometimes have limits to which they may approach, so as to differ less from those limits than by any given quantity. This happens in hyperbolae of all kinds, except the first, or Apollonian. The same is also true of the area, comprised between the logarithmic curve and its asymptote. SEE LOGARITHMIC CURVE. Those who do not scruple to suppose the curve and its asymptote to be infinitely produced, say, that the infinitely extended area becomes equal to its limit.

The asymptotical area in the common or Apollonian hyperbola, and in many other curves, has no limit; and it is usual to say, these areas are infinitely great: by which, however, no more is meant, than that the curve, and its asymptote,
ASYMPTOTES, Parabolic. See PARABOLIC ASYMPTOTES.

ASYMPTOTIC Spaces. See HYPERBOLOID.

ASYNDONET, derived from the privative a, and συνω, I labor together, a figure in Grammar, implying an omission of words, or a defect of those particles that connect the members of a sentence with one another. The want of such particles represents either the celerity of an action, or the haste and eagerness of the speaker. As, in the instance, "veni, vidi, vici," I came, I saw, I conquered! in which Caesar expresses his conquest of Pharamas (Suet. in vit. c. 47.), where the copulative et, and, is omitted; or in that of Cicero concerning Catiline, "abitus, excidunt, evitatum, erupit! he is gone, departed, escaped, broke out!" or in that verse of Virgil,

"Ferite citrimum, date vela, impellite remos."

This concise mode of speaking adds a considerable emphasis to the expression; and, by bringing the several parts of a subject nearer together, affects the mind with greater force. Thus Cicero (Pro Mur. c. 29.) lets Cato's character in a very strong and beautiful light by the use of this figure. "Nature itself has made you a great and excellent man for integrity, gravity, temperance, magnanimity, justice, in a word, for all virtues."

Asynodens lands opposed to polysynodens, where the copulatives are multiplied.

ASYNTHES, or Ros Stor, in Geography, a cape on the west coast of Scotland, in the county of Sutherland. N. lat. 58° 54′; long. 1° 58′ W. Edinburgh.

ASYPHUS, in Ancient Geography, a mountain of Africa, in the Marmarica. Ptolemy.

ATA, or ATATSCHAI, in Geography, a rivulet of Perin, in the province of Schirwan, serving as a boundary to some of the districts into which it was divided.

ATABULI, in Ancient Geography, a people of Africa, placed by Phinis in the small island of Meroe.

ATABULUS, in Physiology, a kind of wind in Apulia, of a dry pinching quality, and very noxious in its effects.

The ancient naturalists speak of the atabilus in terms of horror, on account of the ravage it made among the fruits of the earth, which it scorched or withered up.

ATABYRUS, in Geography, the name of a mountain in the island of Rhodes, whence the island itself was denominated ATABYRIA. The name is supposed to have been derived from Phoenicia, where Atabyr denoted a place of good pasture, and it was applied to the Tarbor of Diocletian, belonging to the tribe of Zabulon. On this mountain was situated a temple of Jupiter, hence called ATABYRIUS, much celebrated by heathen historians and poets. Here, fabulous report says brazen oxen announced by their bellows any approaching calamity. The fable is explained by supposing that the priests of this temple pretended to be endowed with the spirit of prophecy.—Alfo, a mountain of Sicily, so called on account of a temple of Jupiter Atabvrius, and of Minerva, that was erected on its summit.—Alfo, a town of Phoenicia, according to Steph. Byz.: or of Carisbry, according to Polybius.

ATACAMA, in Geography. See ATTACAMA.

ATACINI, in Ancient Geography, a people of Europe, in Gaul, who inhabited the banks of the Aror (Aure), whence their name, near the Volcan Teofigates, and north of the Sardoni. Their capital was Narbo.


ATACHALPA, in Biography, the son of Huana Capac, by the daughter of the sovereign of Quito; who was appointed by his father, when he died in 1529, his successor in the kingdom of Quito; the rest of his dominions being bequeathed by him to Huascar, his elder son by a mother of the royal race. The defilement of Huana Capac concerning the succession, excited general difguft at Cuzco; and Huascar, encouraged by his subjects, required his brother to renounce the government of Quito, and to acknowledge him as his lawful superior. Atahualpa, having secured in his interest a large body of troops which had accompanied his father to Quito, and which formed the flower of the Peruvian warriors, first eluded his brother's demand, and then marched against him in hostile array. This contest between the brothers involved Peru in a civil war, which terminated in the defeat and captivity of Huascar, and in the extermination of the royal race by the murder of all the children of the sun, as the descendants of Marco Capco were denominated, whom Atahualpa could feize either by force or stratagem. At this time Pizarro, the Spanish adventurer, arrived in Peru; and being solicited by messengers deputed by Huascar, to affift him in subduing his brother, who was represented as a rebel and an usurer, he directed his course towards Caxamalca, a small town at the distance of twelve days march from St. Michael, where Atahualpa was encamped, with a considerable body of troops. The reigning inca dispatched a messenger to Pizarro, as he was advancing, with a valuable present, offering his alliance, and alluring him a friendly reception at Caxamalca. Pizarro, on his part, returned professions of regard, and a declaration that he was now advancing, as the ambassador of a very powerful monarch, with an intention to offer Atahualpa aid against those enemies who disputed his title to the throne. This pacific and friendly declaration removed the inca's fears; and Pizarro was allowed to march, without interruption, to Caxamalca; in his approaches to which he received renewed professions of friendship from Atahualpa, and additional presents. The peridious Spaniard determined to avail himself of the unsuspecting simplicity with which Atahualpa relied on his professions, and to feize his person during the interview to which he had invited him. Accordingly he made preparations for this purpose; and as the inca drew near the Spanish quarters, with a numerous and splendid train, the friar Valverde advanced to meet him, with a crucifix in one hand, and a breviary in the other; and in a long discourse explained to him the doctrines of religion, and the authority of the pope, cloathing his harangue with a requisition, that the inca would embrace the Christian faith, acknowledge the supreme jurisdiction of the pope, and submit to the king of Castile as his lawful sovereign. This requisition was enforced by promises of protection, if he complied, and by threats of vengeance if he refused to obey the summons. The inca hesitated and demurred; he pleaded his
his right to empire by hereditary succession; he expressed his surprise that a foreign priest should dispose of territories which did not belong to him, and without the consent of the rightful possessor; and he professed that he had no inclination to renounce the religious institutions established by his ancillary, and that he could not abandon the service of the faith, the immortal divinity whom he and his people revered, in order to worship the god of the Spaniards, who was subject to death. As to other matters, which he had never heard before, and the meaning of which he did not now understand, he desired to know where the priest had learned such extraordinary things: "In this book," replied Valverde, reaching out to him his breviary. The inca eagerly opened it, and turning over the leaves, lifted it to his eye: "This," says he, "is silent; it tells me nothing!" and he threw it with disdain to the ground. The enraged monk exclaimed to his countrymen: "To arms, Christians, to arms; the word of God is insulted; avenge this profanation on those impious dogs." The force being now completed, the Spaniards rushed upon the innocent Peruvians, maimed many of them without mercy, and seized the person of the inca himself, who was detained in captivity. The dejected prince, anxious to regain his liberty, proposed a ransom, and such was the amount of it, that the Spaniards themselves were astonished, even after all they knew concerning the opulence of his kingdom. The apartment in which he was confined was twenty-two feet long, and fifteen broad; and the captive monarch proposed to fill it with vessels of gold as high as he could reach. Pizarro closed with the alluring proposal, and a line was drawn upon the walls of the chamber to mark the stipulated height to which the treasure was to rise. When this immense mass was nearly collected by the faithful attachment and active zeal of his subjects, the inca was allowed to facriph to his own safety the life of his captive brother Huascar; but though the Spaniards divided among them the rich spoil of Peru, the inca was continued in confinement. He now became an object of contention between the soldiers of Pizarro, and those that were newly arrived under Almagro; and the latter demanded his life, that there might be no pretext of inequality in sharing the future plunder of Peru, under the notion of its being the inca's ransom. Pizarro at length consented to sacrifice the inca; and after a mock trial, Atahualpa was found guilty, and condemned to be burnt alive. Prior Valverde prohibited the authority of his faced function to confirm this sentence, and by his signature warranted it to be just. Abominable at his fate, Atahualpa endeavoured to save it by tears, by promises, and by entreaties, that he might be sent to Spain, where a monarch would be the arbiter of his life. Pizarro was inexorable; and the inca was led to execution. Valverde attended him, and attempted to convert him to embrace the Christian faith, by a promise of procuring a mitigation of his punishment. The dread of a cruel death, at length, extorted from the trembling victim a desire of receiving baptism. The ceremony was performed; and Atahualpa, instead of being burnt, was strangled at the stake. This event happened A. D. 1533; and thus terminated the life and reign of the last inca of Peru. Robertson's Hist. Amer. vol. i. p. 29—57.

ATAJ, in Ichthyology, a name given by some writers to a species of Scelena, observed by Forskal. It is an inhabitant of the Red Sea.

ATAIJ, in Alchimy. See Alcair.

ATAKKENF, in Geography, a town of Asiatic Turkey, in the province of Natalia, forty-four miles north-west of Eregris.

ATALA, a small town of Sicily, in the valley of De-
the ancient peninsula Morocco. The Dawshe Arabas, who constantly live in tents, bear a mortal enmity to all who inhabit villages, and, as occasion offered, have laid waste the greatest part of Aatabar. The strength of Teawa, says Bruce, was about twenty-five horses, of which about ten were armed with coats of mail; and they had about a dozen firelocks. The rest of the inhabitants might amount to 1200 men, naked, miserable, and delinquent Arabs, like the rest of those that live in villages, who are much inferior to the Arabs that dwell in tents. In this desert and poor country, it is not to be expected that trade of any kind should flourish; but there is a miserable manufacture of coarse woolen cloths, of the size of large towels, sufficient to go round the middle, which pays current, like specie, all over Aatabar; they are called "Dimocks," and are used instead of silver money. The mahalas, a very bad copper coin, pales for smaller matters; so that the currency of Teawa islands thus:

20 mahalas, 1 cruc, 4 metical, 1 vaskia.

The vaskia of gold is worth about forty-five shillings; but the only commerce of Teawa is carried on by exchange, as salt for grain, canals for salt; the value of goods varying according to the scarcity or plenty of one sort of commodities with respect to the other. Bruce's Trav. vol. 4. p. 426.

ATCHAIRSKOI, a fortress of Siberia, on the Irtili, twenty-eight miles south-west of Omichi.

ATCHAK, one of the Fox islands, about 800 versts distant from the Aleuten islands; lying in 56° N. lat., and extending from W. S. W. towards E. N. E. It resembles Copper island, and has a convenient harbour on the north.

ATCHE, in Commerce, a small silver coin, current in the flates of the Grand Seignor, equal to about a third part of the English penny. The atche is the smallest coin used in Turkey; where there is no copper money current, except in the province of Babylou. Some call the atche the little alper; it is stamped like the para, with Arabic characters. Three or four atches are commonly given in exchange for the para.

ATCHIEVEMENT, in Heraldry, signifies the arms, crests, and supporters, which a person has a lawful right to bear, with all the exterior ornaments, as helmet, mantle, motto, &c. &c. See Funeral Achievements. ACHIEU, See Achievement.

ATCHEI Kouiifs, a lake of America, in Labrador, which conveys its water southerly, through a connected chain of small lakes, into the river St. Lawrence.

ATCHINSK, one of the six districts of the province of Tomsk, in Russia, situated on the river Tchulyn, falling into the Ob. The Town is 424 miles E. S. E. of Tobolok. N. lat. 55° 20'. E. long. 124° 36'.

ATE, derived from ἀτός, to hurl, in Mythology, the daughter of Jupiter, and the goddess of mischief. She was cast down from heaven by Jupiter, who, deceived by Juno, in causing Euripheus to be born before Hercules, was incensed, and manifested his resentment again Ate, as the cause of the offence, by precipitating her from heaven, and saying that she should never return thither. Homer, I. xix. 125. Mythologists explain the fable thus: Ate is the daughter of Jupiter, because evil happens by the permission of providence; and her banishment from heaven to earth signifies the dreadful effects of divine justice among men.

ATECA, in Geography, a town of Spain, in Arragon, upon the river Xalon, two leagues above Calatstaun; sup-posed by Cluverius to be the Ancient "Attacum" of the Celtiberians, placed by others at Daroca.

ATEGAR, a weapon among the Saxons, which seems to have been a hand-dart. The word comes from the Saxon attacan, to fling, or throw, and gar, a spear.

ATEGUA, in Ancient Geography, a town of Spain, situate near the river named "Fimien Salsum," or "Sal-fusa." Pompey having pulled this river, encamped between Ucubis and Ategua, to oblige Cesar to raise the siege of the latter place; but it was taken in his presence. It occurs in the route from Anticaria to Hifpalus.

ATELA, a town of Aia Minor, in the Palmyrene. Ptolomy.

ATELEIA, in Antiquity, denotes an exemption from tribute, taxes, or other burdens.

Ateles, Artes, Artesanias, is particularly used, in some Ancient Laws, for an exemption from offices, granted to the Egyptian clergy by Constantius.

ATELLA, in Ancient Geography, a town of Italy, in the Campania, south-west of Capua. It was first declared municipal, and afterwards became a colony. The ruins of this ancient city of the Oscans may be now seen two miles to the south of Aversa, at a place called "S. Alpino di Aetella."

ATELLA, in Geography, a town of Italy, in the kingdom of Naples, at the foot of the Apenines, in the Basilicata, two leagues from Melphi.

ATELLANE, in Antiquity, a kind of comic and satiric pieces presented on the Roman theatre; somewhat less ludicrous than the farces on the English stage, and yet less serious than the Greek and Latin comedies and tragedies. The atellanes, or fabule atellane of the Romans, answered to the fatrye among the Greeks. They were thus called from Atella, a city of Tuscany, where they were first represented; and from whence, on account of their mirth and humour, they were introduced into Rome. But they became at length so licentious and impudent, that the senate was obliged to suppress them.

ATELLARA, or ATELLARI, in Geography, a river of Sicily, which runs into the sea between Syracuse and Cape Pallaro.

ATELLUM, in Ancient Geography, a town of Italy, in Magna Graecia, north-west of Venuha.

AT-TEMPO GIUSTO, in Minos, implies a steady, just time; not very quick, but firm and exact. At-temps, after recitative, a paufe, or ralentando, implies a return to the first time.

ATENA, in Geography, a small town of Italy, in the kingdom of Naples, situate on the river Negro, in the Principato Cura, ten miles west of Marzano Novo.

ATER, in Ancient Geography, a mountain of Africa, in the Syrtis Minor, which, according to Pliny, extended itself to a considerable distance from the east to the west, and was called by the Romans, "Mons Ater," because it was scorched by the heat of the sun. The mountainous tract, known to the ancients by the name of Mons Ater, is now designated the "Black Harthtch."

ATER, in Conchology, a species of Mytilus, described in Molin. Hist. Chit. p. 177. and said to frequent on the shores of that country. It is fculoured or grooved, with the posterior part white, Gmel. This shell is rough like some species of pinnae; dull blue; fish black, and not edible.

ATER, a species of Strombus found in the boggy parts of the island of Amboyna. This shell is smooth, and has the lip separated before and behind. The length is about two inches; colour black, brown, or bay, and white within; very finely striated transversely; aperture ovate; spire sub-
A T E

ulate, and consisting of twelve contiguous flatish whorls. Gmelin, Litter, &c.—Mühl in his Hill, Vern. Flav. et Terr. defines it as Neritæ tecta fulvata levii, aperture antice posticeque nativa.

Ater, in Entomology, a species of Dermites found in the neighbourhood of Upal, and described by Dr. Thunberg, in Nov. Äd. Upl. 4. p. 46. n. 4. It is glossy black, with the wing-cases thinly punctured. This is a small insect.

Ater, a species of Hydrophilus, a native of Europe. This is black and glabrous; antennæ and shanks reddish. Gmel.

Ater, a species of Byrums that inhabits Germany, and in shape and size resembles byrrhus pilula. It is black and without spots. Fabr. This is *Hydrea nigra nitens glabra* of Geoffroy.

Ater, a species of *Tenebrio* found in Europe. This is a black colour, with furrowous antennæ. 1. Lin.


Ater, a species of Cerambyx (Callidium Fabr.) found in the environs of Venice. It is black, with truncated wing-cases, and moderate antennæ. Scopoli, Gmel. &c.

Ater, a species of Gryllus (Acheta Fabr.) that inhabits Strinam. The colour is dark brown, and the tail of the female is unarmed. Degeer Inf. 3.—Gmel.

Ater, a species of Cimex (Cocelipratis Sec.); This insect is glossy-black, with the apex of the wing-cases very pale. Fabr. Mant. Inhabits Germany, and is about half the size of cimex zolerae.

Ater, is also a species of Cimex in the Linnaean Fa. Sv. 944. The body is entire, and in Gmelins arrangement it belongs to the section elateres. Geoffroy describes it as being black and oblong, and the antennæ terminating each in a bristle or hair. Inhabits the north of Europe and Calabria.

Ater, a species of Cynips, described by Schrank among the insects of Germany, and which form and inhabit vast excrences on the trunks of plants. It is black, with elevated dots; turfs of the legs paler. Ater, a species of Bombylius described by Scopoli, Schaffer, &c. It inhabits Germany. The colour is black; base of the wing half-black; abdomen spotted with white, Fabr. Spec. Inf.—Front of the head and thorax downy, and a white dot before each eye.

Ater, a species of Asillus found in Europe. It is black and hairy, with a white beard. Fa. Sv. Scopoli calls it erax protractus.

Ater, a minute species of Ips found in England by Mr. Kirby, and described by Mr. Marsham, Ent. Brit. It is subhyaline and black; thorax dotted with imprefed points, and carinated along the middle; wing-cases with crenate frize; folies of the feet pitchy black.—General colour black.

Ater, in Natural History, a species of Anguis or snake. It inhabits Ceylon; black, faciated with white, and the scales tipp’d with black. Lar. Amp. This is amphibius colonica; femina of Seba; and anguis ater, black-banded flow-worm of Dr. Shaw.

Ater, a species of Limax, (slug or snail), the body of which is black and ruged. Müll. Gmel. Of this kind there are several varieties; the first (1) is black, and pale beneath; it is figured by Litter, exerat. nat. tab. iii. f. 1.—5, and is probably cochica mida of Gfnn. The second variety (2) is black, with a pale greenish dorfol ridge. The third (7) is described by Swammerdain; it is Vol. III.

black above, white beneath, and the mouth yellowish. The fourth (3) is limax subrubus of Litter; the colour of which is chestnut-brown above, white beneath, and mouth yellow. The fifth kind is of an obscure brown, with a yellowish mouth and fraenk on each side.

These are found in woods, meadows, and gardens. The length is from an inch and four lines to five inches. The feelers are black in all; the sheld rough, with many punctures; back and belly little furrowed or wrinkled.

Ater, in Ornithology, a species of Falco that inhabits Europe. The cere and legs are yellow, body above brownish black; and the head, white; tail forked. Gmel. This is a kind of kite, and is somewhat smaller than the common species, milvus. Buff. calls it milvus niger; Buff., milvus noir; and Cramer, brunnerus davicygerus. It is also the black gleed of Sibbald, and black kite of Latham.

Ater, a species of Pitracus, of a black colour, glossed with green, with bill and eyes red, and yellow legs. This is the black maccaw of English writers; ara noir; and ara amara on maclao de la certa, &c. It lives about the summits of the dry mountains and rocky places in the interior parts of Guiana, and in that respect differs from the other kinds of macaws found in that country. Buffon speaks of it as a species well known to the inhabitants of Guiana, but had never seen it; and observes, that though the plumage is black, it is so blended with green, that in the full shine it has a most splendid appearance.

Ater, the Gmelian specific name of the crested black cuckow of Latham; a kind of *Cuculus*, with a wedge-shaped tail; body palinard, black; feathers of the head elongated into a crest; and the frill five quill-feathers white at the base. This bird is a native of Africa, being found at the cave of Good Hope, and is conjectured may be only a variety of *cuculus ferratus*.

The length of this kind is twelve inches; the bill an inch and a quarter in length, and rather incurvated. Buffon says in his specimen, the tail feathers are not regularly cincated. The same author fupposes his Jacobin huppe de Coromandel, or Coromandel crested cuckow, to vary only through the difference of climate.

Ater, a species of Parus, that inhabits the woods of Europe and North America; and is known in England by the name of the coloume. The head is black; back cinereous; back of the head and breast white. Gmel. &c. The bill and chin of this bird are black; vent, reddish; quill and tail feathers brownish-ail; legs and clawed-coloured.

Ater, a species of Parus, called in England the Coloume. It is smaller than the blue titmouse, and is pretty common in woods, orchards, and gardens; feeds on insects, and lays a number of eggs. This bird is found throughout Europe, and inhabits likewise Siberia, and some parts of North America. Linnaeus (Fa. Suec.) describes it specifically as having the head black; back cinereous; hind-part of the head and breast white. Scop. Cram. Gmel. &c. This is parus atricapillus, la mafage a tete noire of Brifon, av. et la petite charbonniere of Buffon; Frisch calls it kohletefe.—General description. Length four inches; weight two drachms; bill black; throat, as well as the head, of the same colour; from the bill, on each side, a broad band of white passing just under the eye to the sides of the neck; between the breast and vent, rufous white; wing-coverts grey, tipped with white, forming two bands of that colour; quill and tail feathers brownish-ail, bordered with grey; tail rather forked; legs and claws head-colour.

**A T E G A T I S** or *Atargatis*, called also *Diraco*, in *Mythology*,...
A T E

Mythology, a goddess of the Syrians, supposed to be the mother of Semiramis. She was represented with the face and breasts of a woman, but the rest of her body resembled a fish. Volusius says the term signifies without fish, and conjectures that the votaries of this deity abounded from fish. According to Antipater, the philo-philosopher of Tarfus, in his treatise on superition, Atergatis is compounded of Ater, without, and Gatis, the name of a Syrian queen, who being very fond of fish, forbade the use of it to her subjects; and the Syrians, it is said, did not eat fish. Fabulous reports say, that Atergatis was taken with her son Ichthys, by Mopsus king of Lydia, who drowned them both in a lake near Acalon, where they were devoured by fish; and hence, it is added, proceeded the horror of the Syrians against this sort of aliment. Atergatis, styled Derectus, says Bryant (Anal. Am. Myth. vol. ii. p. 298.), is a compound of Ater or Aser, the name as On and Oiris, an Egyptian deity, and of gatus or catus, rendered also by the Ionians, a fish. Dagon, Sidon, and Derectus, were all names of the same hieroglyphic, and related to the person called Oanes by Berosus and others, and also to the machine wherein he was preferred. He lived both before and after the flood; he was represented at Babylon with two heads and in other places he was differently exhibited. The meaning of which, according to this writer, was this, that though Oanes was really a man, yet he was typically esteemed an animal of the sea; and on that account they represented him with the skin and scales of a catus or fish. All these characters were originally taken from hieroglyphics in Babylonia; they relate to the same history, and to one particular person who had escaped the waters when the earth was overwhelmed; and through whom arts and sciences were supposed to have been renewed in the world. Semiramis, whom the generality of hiltorians have represented as a great prince who reigned in Babylon, is described by other writers as a deity. Thus Athenagoras (Legatio, p. 307.) says, that "the Syrens worshipped Semiramis;" and he adds, "that she was esteemed the daughter of Derectus, and the fame as the Suna Des." Dio.Crusio afo. (l. ii. p. 92.) makes her the daughter of Derectus by Surus; but Surus, says Bryant, was the fun, and the Desura was Desa folaris. Hence many have confided Rhea, Isis, Allarz, Atergatis, and Semiramis, as one deity. Lucian, (De Suna Dea, vol. ii. p. 835.) tells us, that they were so esteemed by the Syrians of Hieropolis. According to Bryant, they were all different symbols relating to the same object. See Semiramis. It has been also supposed, that the Atergatis, or Derecto, of the proper Palefine in general, or of Acalon in particular, was the Babylonian or Assyrian Venus. To this purpose Strabo (l. xvi. p. 748.) says, that Atergatis was worshipped at Hieropolis, and he makes her the same with the Syrian goddesses. Others are of the same opinion (Phin. H. N. l. v. c. 23.) and among them Macrobinis in (Saturn. i. c. 23.) who fyles her the mother of the gods, Allarz, and the Hieropolitan or Assyrian goddesses. Upon the whole, we may observe, that Atergatis was Venus, Juno, Minerva, Allarz the Syrian goddesses, and consequently the celestial Venus of the Assyrians. So that we see here all the same goddesses transported from the banks of the Euphrates, into which she is said first to have plunged herself, in order to escape the inexorable Typhon (Min. Altron. iv.;) and but just varied so far as to leave room for each particular country to claim her origin. The Syrians, who seem to have received her first, and who were nearest to the place of her native abode, preferred her, it is likely, in the most genuine form; the Phenicians, who were next, altered her no farther than to make her a Phenician; and the Philistines, or Acalonites, who were a little farther off, that they too might make her their own, converted her into a monster, woman upwards and fish downwards; they allowing her to have been in subordination to some other goddesses, who had such power over her as to chastise her by a metamorphosis from her just shape. It appears, then, that the worship paid to this goddess was originally derived from Assyria and Babylonia, and was established in other countries by the prevailing power of these two empires. We may also conclude, that the celestial Venus of the Assyrians, Allarz of the Phenicians, and the Derecto or Atergatis of the later Philistines, were all derived from Semiramis, the first real or reputed foundress of Babylon; who seems to have been translated into the queen of heaven, the moon, as Belus or Pul, the first Assyrian monarch, was changed into the sun; that all the Jupiters and Junos, and the rest who are supposed to have been once mortal, or conversant on earth, are derived from this source; and that, on this Assyrian or Babylonian foundation, the whole superstructure of the Greek polytheism and idolatry was erected. For the Greeks had their religion from the Phenicians partly, and partly from the Egyptians, who derived theirs originally from the banks of the Euphrates and Tigris, as may be gathered from the religious state of the countries on either side of the Euphrates in the days of Abraham. The Egyptians, indeed, seem in process of time to have erected a sytem of their own, though not very widely different from the Babylonians; and the Phenicians, who had equally communication with the two nations, seem to have mixed both styles. See Idolatry, and Polytheism.


ATERIUS, a town of Italy, in Samnium, belonging to the Murrucini, situate on the sea coast at the mouth of a river of the same name, now called Piscara.

ATERRIMA, in Conchology, a species of Nerita, figured by Chemnitz. The shell is thick, opaque, globule, very black, with coloured lines; within white; exterior lip glabrous, inner one unbeculated. Gmel. &c. This kind is very minutely fricated, and its habitat unknown.

ATERRIMA, in Entomology, a species of Blatta, of a black colour, and dilatate of spots; the tarsi of the legs are white, knees brown, tarsus fuscous. Herb. This inhabits India.

ATERRIMA, a new British specie of Chrysomella, described by Mr. Marshall, Ent. Brit. It is black and shining; thorax highly glossy; wing-cages fricated; legs rather ferruginous.

ATERRIMUS, a species of Curculio, very common in Europe. This is black, with the wing-cages shining. Linn. Fa. Sc. Fabr. &c. Gmelin has also another species of Curculio under the same name; this is of an oblong form, and black colour, with rufous antennae. It inhabits Europe, and is presumed may be only a variety of Curculio chloropus.

ATERRIMUS, a species of Carabus, entirely of shining black, with a roundish thorax; wing-cages faintly fricated, with four excavated dots near the future. Herb. About half an inch in length.

ATERRIMUS, a species of Elater, found in the north of Europe. The thorax is glossy black; wing-cages black and fricated. Fabr. This is elater ater, thoracis opaco punctato clytris fratis of Linn. Faun. Succ.; and elater totus niger nitidus of Geoffroy.

ATERRIMUS, a species of Cimex, (Rotundatus Sec.) that inhabitations Spain. This infect is deep black, with half the wing-cages transparent. Forl. Nov. Inf.

ATERRIMUS, a species of...
ATHARIOUS, a species of SCARABEOUS (Cetonia). It is of a dull black, with obscure rufous spots on the wing-cases. Fabrarius. It inhabits the Cape of Good Hope.

ATHRIMUS, in Ornithology, the specific name of the great black Cockato of New Holland, a bird of a black plumage with a large and paler crest, and red naked checks. Gmel. This kind of Pittacus is called by Buffon kakatois noir; and is the great black Cockato of Edwards, Glean. t. 316.

ATFESTE, Este, in Ancient Geography, a Roman colony settled to the south-west of Patavium in the Venetian territory.

ATFIEH, or Etifieh, in Geography, a bough of Egypt, on the east coast of the Nile, 35 miles south of Cairo. It is situated at the foot of a mountain, upon a narrow cauiil, formed by a pretty large island. Some geographers have supposed that this town or village occupies the site of the ancient city of Venus, or Aphroditeopolis. N. lat. 30° 28'. E. long. 31° 5'.

ATFLOW, Eupen, in Biography, studied at New College Oxford, where he took his degree of Doctor in Medicine in 1566, and was in much repute as a physician, particularly among those of the Roman persuasion. He was imprisoned several months, Ant. Wood says, for corresponding with Mary queen of Scotland. The time of his death is not known.

ATH, ATTHA, or ATHE, among our Anglo-Saxon Anteflora, signifies an oath, especially that taken by way of profession. In this sense we meet with breaking of ath, privilege of ath, atha, and ordea.

ATH, in Geography, a town in the department of Jemmapes, or chief place of a canton in the district of Tournay; the place contains 7634, and the canton 14,628 inhabitants; the territory includes 115 kilometres, and 11 communes. See AETH.

ATHABASCA, RIVER, LAKE, AND COUNTRY, lie in the north-west part of North-America, in about N. lat. 58° 40', and W. long. 110° 40'. The Elk river is commonly called by the white people the Athabasca river, in N. lat. 56° 42'. In the territory that lies between the Peace river and the lake of the hills, as far as the Elk river, which is formed by the quantity of earth and mud that is carried down by the stream of these two great rivers, there are several lakes; the lake Clear Water, which is the deepest, lake Vassieu, and the Athabasca lake, which is the largest of the three, and whose denomination in the Kiffianke language implies a flat, low, swampy country, subject to inundations. The two last lakes are now so shallow, that, from the cause just mentioned, there is every reason to expect, that in a few years they will have exchanged their character, and become extensive fords. This country is so level, that at some feasons it is entirely overflowed; and this circumstance accounts for the periodical influx and reflux of the waters between the lake of the Hills and the Peace river. Till the year 1782, the people of Athabasca went or carried their furs regularly to Fort Churchill, Hudson's Bay; and some of them have since that time repaired thither. The present trading establishment is situated on an high bank on the north side of the river La Plune, in N. lat. 48° 37', where the people from Montreal meet those from the Athabasca country, and exchange furs with them. The traffic to Fort Churchill is now in a great measure discontinued, as the Chepewyan was obliged to expend in the course of the journey that ammunition which was its most alluring object. See CHEPENYAN. Mackenzie's Voyages, Introd. p. 56—59.

ATHABASCA is by some called ARATHAPSCOW, and ARATHAPSCOW, and ARATHAUSCOW.

ATHABOLI, or ACATPOLI, a town of European Turks, in the province of Romania, 68 miles north-east of Adrianou.

ATHAMADEUT, or AETHNADALEUT, the prince or chief minister in the Persian empire.

The atamadulet is much the same with the grand vizier in Turkey, except that he has not the command of the army, which the vizier has.

The atamadulet is great chancellor of the kingdom, president of the council, superintendent of the finances; and has the charge of all foreign affairs. He is in effect viceroy or administrator of the kingdom; he infees the king's mandates, or orders, in this style: "Bende derga ah it alta etmadulet," that is, "I, who am the support of the power, the creature of this port, the highest of all ports, &c."

ATHAMANIA, in Ancient Geography, a country of Greece, at the source of the river Acheclus, in Atolia, according to Polybius; but in Hirtius, according to Steph. Byz.

Some have made it a part of the Thessaly, and others of Epirus. According to Polybius, it was divided from Epirus by the bay of Ambracia; and according to Strabo, from Atolia, by the river Acheclus. M. D'Anville places Athamania between the chain of the Pindus to the east, and a parallel chain to the west. In the midst of this valley ran the river Avas. To the south of this country were the Molophi and Aparantes, to the east the Perserbei, and its capital was Argyaeae. At their commencement the Athamanians were a very inconconsiderable people; but they appeared with distinction in the wars of the Romans and Atolians against Macedonia, towards the year 197, B. C. Livy relates that the Atolians chose Ammianus, king of the Athamanians, for their mediator in their contentions with Philip, and that the Romans solicited his favour against this same Philip. Their dominion extended over the whole chain of the mountains of Epirus; and they seem to have subsisted at least a century before the war of Troy.


ATHANZ, a town of Arabia Felix. Pliny.

ATHANAGAIA, a town of Ilipanu exterior, and the capital of the Bergezi, according to Livy, who relates the manner in which this town was subdued by Scipio.

ATHANASIA, among the Ancient Physicians, an epithet given to a kind of antidotes supposed to have the power of prolonging life, even to immortality.

In the Anglican dispensation we shall find a medicine under the appellation of *athanoga magna*, commended against dyensitaries and hemorriages.


Species, 1. *fignegus*, crota-leaved athanasia, relhania squarrosa, L'Herit. Angl. n. t. 29. Peduncles one-flowered, lateral; leaves ovate, recurved. An underbri. Leaves alternate, sessile, pointed, smooth; peduncles axillary, longer than the leaves; chaff linear, the length of the florets. Introduced in 1774, by Maillon. 2. *fignegus*, flowered athanasia, *Relh. lateriflora*, L'Herit. peduncles one-flowered, shorter than the leaf; leaves linear, hairy. A very small plant, found at the Cape by Thunberg. 3. *pamila*, dwarf athanasia; *Relh. pedunculata*, L'Herit. l. c. Peduncles one-flowered, longer than the leaf; leaves linear, hairy. This is also a small Cape plant, discovered by Thunberg. 4. *crenata*, notched-leaved athanasia; flowers solitary, terminal; leaves linear. Stem thrubby; leaves alternate, obscurely three-cornered; one terminal flower. 5. *uinafa*, one-flowered athanasia; *Relh. communis*, L'Herit. l. c. Flowers solitary, terminal, sessile; leaves ovate, imbricate, smooth. A native of the Cape, discovered by Thunberg. 6. *decapita*, hairy athanasia; flowers terminal, sessile; leaves lanceolate, hirtate. This has the appearance of buplithalum capense, but the leaves are alternate; the flowers are difoid and fuculoes. A native of the Cape, and introduced in 1774, by Maillon. 7. *maritima*. (See SANTOLINA MARITIMA.) 8. *geminiflora*, broom-leaved athanasia; *Relh. genifi*. L'Herit. 60. Corymb simple; leaves lanceolate, undivided, naked, crowd- ed. Stem underbriby; leaves sessile, marked with very short lines, smooth, somewhat keeled, bluntish; coryms small, with three or four subsidente flowers. 9. *pubescens*, villos-leaved athanasia; *coryms simple; leaves lanceolate, undivided, villosa,*. This rises five or seven feet high. Flowers yellow. 10. *annua*, annual athanasia; *coryms simple, contracted; leaves pinnatifid, toothed*. Root annual; item about nine inches high, branched at the top; leaves smooth, cut into segments like those of buck's horn plant; flowers of a bright yellow, large. Cultivated by Miller in 1768. (8.) *Achillea inodora*, Lin. Sp. Pl. 11. A. trifurcata, trifid-leaved athanasia; *coryms simple; leaves three-lobed, cuneiform.* Shrubby; five or six feet high; leaves

common in many parts of Sweden, Denmark, &c. 2. *A. cuneifolia*, broad-leaved spigged, or black last-root. Jacq. Aut. t. 6. 69. "Leaves pinnate, dentislated, gauz-angled; feeds naked." Root perennial; stem five feet high, firm branching; leaves glaucous, smooth, with black veins underneath, and six pairs of pinnae. Most of the leaves are sessile, elliptical, acuminate, toothed; corolla white, with a purple outline. A native of the mountains of France, Switzerland, Germany, &c. 3. *A. fibrizae*, Siberian spig- nel. Gmel. Sib. 1. 186. 3 4. 27. 1. 2. "Leaves pin- nate, gauz-angled." The descriptions of this plant by Lin- nes, Geanu, and Scopoli, are loo widely different, that we cannot even suppose they mean the same plant. 4. *A. crenata*, three-leaved spigled. "Leaves sub- pinnate; leaflets imbricate downwards; umbel less-form." Root perennial; stem ample, a foot high, angular, furrowed; leaflets alternately pinnatifid; umbel very close, convex on both sides, placed on branches arising at the axis. A native of Siberia. Introduced in 1775, by the earl of Bute. 5. *A. Oreoferum, Divisarum spigled; "leaflets divaricate," Root perennial; leaves very large, firm, smooth, triply pinnate, divided at right and left oblique angul; divisions broadish, not toothed, but two or three; lobed; stem two feet high; petals white, with a bluish ruffle colour. A native of Germany, Sweden, France, &c. 6. *A. ficula*, six-weed-leaved spigled. "Leaves linear, pinnatifid, and sessile, sessile; feeds hairy." Root perennial; stems nearly three feet high. The umbels at their first appearance are very compact, but afterwards spread open and divide into several small umbels. The flowers are white, and succeeded by oblong woody fruit. A native of Sicily. Cultivated in England in 1713. 7. *A. ctenis, Cretan spigled or candy carrot, Jacq. Aut. t. 62. "Leaflets linear, flat, hirtute; petals two-parted; feeds oblong, hir- fute." The whole plant in its wild state is villose; when cul- tivated it becomes succulent, brittle, and very thinning; stem broken; leaves tripinnate; pinnales deeply two or three- parted. The universal involucre conflits of five, the partial of from four to seven leaflets; petals white. A native of the south of Europe, flowering in June. The seeds have been medicinally employed for the same purpose as those of wild carrot (see Daucus). 8. *A. anna*, annual spigled. "Leaves many-parted, divisions linear; roundish, acuminate." It is a native of Canadia, or Creta, and was introduced in 1775, by Mons. Richaud. 9. *A. thunbergii*. "Seeds mem- branaceous, fibrated; leaves superdecipomund, polished, multifid." Stem angular, smooth; leaves like those of charophyllum, and smooth; umbel not much expanded. A native of China. 10. *A. rpaperiis*, Engl. Daub. 2. 618. "Leaflets bristle-shaped, recurved, smooth; all the flowers fertile." Stem eighteen inches high; branching, finely furred; leaves bipinnate; universal involucre two, partial many-leaved; petals white; feeds downy. A native of Chamola and Dauphine. Villars supposes this to be a variety of the seventh species.

Propagation and Culture. All these plants are propagated by seeds, which should be sown in a bed of light dry ground in autumn, and in the following spring planted at a foot from each other, in a bed of light sandy earth, where the roots will continue several years, except the eighth species, which is an annual. The theb has not yet been cultivated in Eng- land, and will probably require shelter.

 Athamanta. See Athusa. Meum.

ATHAMAS, in Entomology, the name given to a spe- cies of Papilio in Drury's Inf. that inhabits India and South America. It is Papilio *Pyrrhus* of Linnaeus and Fabricius. See Pyrrhus.
ATHANASIUS CREEED. See CREEED.

ATHANASIUS, Saint, in Biography, a celebrated Christian bishop, flourished in the fourth century, and was a native of Egypt, probably of Alexandria. Hilory has transmitted to us no records of his parentage, nor of the precise time and place of his birth. The attention of his early years seems to have been principally devoted to theology; and having engaged in the service of the church, he was ordained a deacon by Alexander, bishop of Alexandria, whom he served as secretary, and accompanied to the council of Nice, and whom he succeeded in the year 326, in consequence of his special nomination, and by the general suffrage of the people. At this time he was probably about 30 years of age, for he speaks of the perdition of Maxentius as an event which he had been informed of by his fathers, and he lived 45 years after his episcopal ordination. Having distinguished himself at the Nicene council, though then only a deacon, by a violent speech against Arius, he was no sooner advanced to the proecacy than he became a more zealous and powerful advocate in the cause of the Catholics against the Arians. Not content with reviling them and their opinions in the most opprobrious terms (see Arians), he employed his talents and influence in refuting and uprooting them. The Arians, on the other hand, were equally abusive and active in counteracting the holy efforts of the orthodox prelate, in reproaching his character, and in subverting his episcopal authority. As Athanasius could be induced, neither by the requisition of the emperor Constantine, nor by the menace of Eusebius bishop of Nicomedia, to acquiesce in the admission of Arius to the communion of the Catholic church, from which he had been excluded, the friends of the latter used all the means they could devise for disgracing and removing their adversary. Accordingly, in the year 331, they brought several accusations against him before the emperor. The prelate, after much hesitation and reluctance, was at length obliged to obey the emperor's peremptory commands, and to appear before a council of 60 bishops summoned at Tyre, in 335. Some of the charges that had been alleged against him were satisfactorily confuted; but others were confirmed. During the progress of the inquiry and trial, some members of the synod received Arius into communion at Jerusalem; and Athanasius himself seized an opportunity that occurred of failing for Constantinople, to insect an audience of the emperor. In consequence of this audience, the members of the council were summoned to appear before Constantine, that the cause might be fairly examined; but when they arrived, instead of renewing their former accusations, they produced a new charge, alleging that Athanasius had attempted to detain at Alexandria the ships which supplied Constantinople with corn, of which they were then in want. Upon this the emperor, from resentment, conviction, or policy, confined to his degradation; and the council pronounced against him a sentence of deposition and banishment. The place of his exile was Treves in Gaul; and here he remained, according to the most probable account, about 18 months. Upon the death of Constantine, Athanasius was restored by an honourable edict of Constantius to his country and to his episcopal see. This proceeding was represented by the Arians as an offence against syro-drical authority; and a council of 99 bishops was held at Antioch in 341, by whom the former deposition of Athanasius was confirmed, and Gregory of Cappadocia, one of their own party, placed in the see of Alexandria. The young emperor confirmed the nomination, and Athanasius was constrained to fly for protection and support to Julius, bishop of Rome. At the end of three years he was sent to Milan by the emperor Constan, who was disposed to favour the Catholic party. A new council was appointed to be held at Sardica in Illyricum in the year 347, to settle the subjects in dispute. The calumn and western bishops disagreed and separated; the latter, who were the partisans of Athanasius, remained at Sardica; and the former assembled at Philippopolis. One
perty regarded him as a saint; and the other represented him as a wicked disturber of the peace of the church. Constantius, however, was intent upon reforming him, and consequently demanded it of his brother Conantius; which he refused, and went to war in case of non-compliance. Conantius submitted, and solicited the return of the exiled prelate to take possession of the Alexandrian see, which was now become vacant by the death of Gregory. The bishop's zeal for the catholic doctrine of the trinity was not in the least abated by all the reverses of his condition; for in his progress through the various cities that lay in his way to Alexandria, he admonished the people to avoid the Arians, and to admit into their communion none but those who adopted their creed the word "confessional." In the year 359, he arrived at Alexandria, and was welcomed by his old friends and adherents with every exposition of joy: and from this time he enjoyed a short interval of repose. The death of the emperor Constant, and of pope Julius, to whom he was closely indebted for his restoration, threatened him with new dangers. Conantius was his determined enemy, and he summoned a general council at Arles, in the year 353; and in this council the Ariants prevailed, and all the bishops present, with one exception, signed the condemnation of Athanasius. As Libanius, the successor of pope Julius, was disaffected with the proceedings of this council, another was held at Milan in the year 355. Here the emperor exercised his utmost influence, and at length a majority of 300 bishops concurred in the condemnation of Athanasius, and those who refused were exiled by the authority of the emperor. The sentence of these councils, however, was cautiously executed by Conantius. The prelate was persuaded voluntarily to abdicate his see; but he remained inflexible, notwithstanding all the measures that were used for this purpose. During thisinterval a body of soldiers appeared in the midst of Alexandria, and at midnight they invaded the church in which the bishop and his attendants were performing their devotions preparatory for the communion. In this moment of confusion and terror, the prelate remained firm and intrepid, calmly expecting death, and animating the youth of his flock by ordering a psalm of praise to be sung. At length the congregation dispersed, and the bishop was conveyed through the tumultuous crowd to a place of safety. The see of Alexandria was bestowed by the emperor upon George of Capadocia, a zealous supporter of the Arian cause; and Athanasius was proscribed, with the promise of a large reward to any one who should produce him dead or alive. The perfected prelate disappeared, and remained for six years in imprisonable obscurity. The place of his retreat was the desert of Theba's; and among monks or hermits anxious to preserve him from the search of his enemies, he found an un molested asylum. From this retreat abode he is said to have sometimes extended his excursions in disguise to visit his confidential friends at Alexandria. Hence he also addressed his enemies with invective, and his friends with consolatory admonitions by his writings. The accession of Julian, who succeeded Conantius in 361, and the death of George, bishop of Alexandria, who was in the same year killed in a tumult, opened the way for a third return of Athanasius to the see of Alexandria. With unabated zeal for the Catholic faith, and particularly for the doctrine of the trinity, he summoned a council at Alexandria, at which it was determined that the Arian bishops, who recanted their errors, and signed the Nicene creed, might be received to the communion of the church, and restored to their fees. However, Athanasius's repose and influence were of short duration. The emperor Julian regarded him with peculiar aversion; and in order to avoid the threatened tokens of his displeasure, the prelate was obliged again to seek an asylum in the monasteries of the defect. While with this view he was removed from his see, and his enemies followed him; but as soon as the prelate was informed that they had orders to apprehend him, and knowing that he must soon be overtaken, he instructed the mariners to turn about the boat and meet his pursuers. Having no supposition that Athanasius was on board, they protected their voyage, and the prelate escaped to Alexandria, and concealed himself till the death of Julian in the year 363. Upon the accession of Jovian, Athanasius once more resumed his episcopal function, and under the patronage of the emperor, the Nicene creed became the general formula of the churches. After the short reign of Jovian, Valens succeeded to the eastern division of the empire; and as he had adopted Arian principles, he inflicted edicts for banishing the bishops who had regained their fees under Jovian; and Athanasius was again in the number of those who were protected. The efforts of his friends at Alexandria were exerted in his favour; but whilst they were preparing to defend him by force, he thought it most prudent to retire; and on this occasion, which has been denominated his fifth exile, he concealed himself for four months in the monument belonging to his family. The emperor relinquished the contest; and the venerable prelate closed his days in tranquillity in the 46th, or as some say in the 48th year of his prelacy, and in the year of Christ 373. It is not easy to form a just estimate of the talents, learning, and character of Athanasius, amidst the adulation of his friends, and the reproaches of his enemies. "The immortal name of Athanasius," says Mr. Gibbon, "will never be separated from the Catholic doctrine of the trinity, to whose defence he consecrated every moment and every faculty of his being." Amidst the fraught pernicious persecution, he was patient of labour, jealous of fame, careless of safety; and though his mind was tainted by the contagion of fanaticism, Athanasius displayed a superiority of character and abilities which would have qualified him, far better than the degenerate sons of Constantinople, for the government of a great monarchy. His learning was much less profound and extensive than that of Eusebius of Cæsarea, and his rude eloquence could not be compared with the polished oratory of Gregory or Basil; but whenever the prince of Egypt was called upon to justify his sentiments or his conduct, his unmeditated style, either of speaking or of writing, was clear, forcible, and peremptory. He has always been received in the orthodox school as one of the most accurate masters of the Christian theology; and he was supposèd topossess two profound sciences less adapted to the episcopal character, the knowledge of jurisprudence, and that of divinity. Some fortunate conjunctions of future events, which impartial reasoners might ascribe to the experience and judgement of Athanasius, were attributed by his friends to heavenly inspiration, and imputed by his enemies to infernal magic. But as Athanasius was continually engaged with the prejudices and passions of every order of men from the monk to the emperor, the knowledge of human nature was his first and most important science. Athanasius was capable of distinguishing how far he might boldly command, and where he must VOL. III. 23.
of his behaviour conciliated the affections both of the clergy and of the people. The Alexandrians were impatient to rise in arms for the defence of an eloquent and liberal pastor. In his distress he always derived support, or at least consolation, from the faithful attachment of his parochial clergy; and the hundred bishops of Egypt adhered with unshaken zeal to the cause of Athanasius. In the modest equipage which pride and policy would affect, he frequently performed the episcopal vitation of his provinces, from the mouth of the Nile to the confines of Ethiopia; familiarly conversing with the meanest of the populace, and humbly faulting the faults and hermits of the defect. Nor was it only in ecclesiastical assembles among men whose education and manners were similar to his own, that Athanasius displayed the affability of his genius; he appeared with easy and respectfull forms in the concourse of princes; and on the various turns of his prosperous and adverse fortune, he never lost the confidence of his friends, or the esteem of his enemies.

The works of Athanasius were numerous, and consisted chiefly of apologies for himself, or invectives against his enemies, or controversial treatises against Ariusism. His style is clear, easy, and not destitute of dignity and ornament. In his reasonings he is sufficiently copious; and in his attacks upon the Arians more than sufficiently acrimonious. The more valuable of his genuine writings are his first book "Against the Gentiles"; "Apologies"; "Letter to those that lead a Monastic Life"; "Letters to Serapion"; "Two books on the Incarnation"; "Conference with the Arians"; "The life of St. Antony"; and "The Abridgment of the Holy Scriptures." The latter of these pieces contains an enumeration of all the canonical books of the Old and New Testament, with a summary of their contents, and an account of their respective authors; and it treats particularly of the four gospels. This "Abridgment or Synopsis of the Holy Scriptures" has been reckoned genuine by some; but it is supposed by others to have been falsely ascribed to him, and in the Benedictine edition of his works, it is rejected. His "Feltal or Paelatical Epistle," which is generally allowed to be genuine, contains several valuable testimonies in favour of the sacred books now received as canonical. Dupin, and also Cave, have diligently enumerated both the genuine and forgerous works of Athanasius. For an account of the creed that has been called Athanasian, see Creed. The works of Athanasius were first printed only in a Latin translation, and in an imperfect state by Calvinus, at Vincenza, in 1482; and enlarged editions appeared at Paris, in 1520; at Rome, in 1523; at Cologne, in 1532; at Belf, in 1558; and at Paris, in 1608. The Greek text was first published in 2 vols. fol. by Comeldinus, at Heidelberg, in 1601; and at Paris, in 1627. The best edition was printed in 3 vols. fol. by a learned Benedictine, Bernard de Montfaucon, at Paris, in 1698. This was reprinted with improvements, and an additional volume, at Padua, in 1734. 4 vols. fol. Sozomen, E. H. Sozomen, E. H. Cave Hist. t. i. p. 138. &c. Dupin. Fahl. Bib. Græc. l. v. c. 2. Gibbon's Hist. vol. iii. p. 322—325. vol. iv. p. 131—228—267. Lardner's Works, vol. iv. p. 285. &c.

ATHANATI, an order of soldiers among the ancient Persians.

The word is Greek, and signifies immortal; being compounded of the privative a. and sou, death.

The athanati were a body of cavalry, confining of ten thousand men, always complete, because when any one of them died another was immediately put into his place.—It was for this reason that they were called "athanati" by the Greeks, by the Latins "immortales."
given by Mose to the Israelites, on account of its excellent pasturage. Numb. xxxvii. 34. — Allo, a town of Samaria, in the tribe of Ephraim, four miles north of Sebaste or the city of Samaria; called by Jerome, Atharus; and another on the frontiers of Ephraim, between Janothe and Jericho, John. xvi. 7, probably the same with Aitaroth-Addar, mentioned 15, x. xviii. 13.


ATHIOY, in Geography, a market and port-town in the county of Meath, and province of Leinster, in Ireland, which, before the union, sent two members to the Irish parliament. At its weekly market, there has been a good deal of corn sold of late years; some yarn and merchandise for the peasantry. It is situate twenty-eight Irish miles N. W. of Dublin. Thorn-

ATHEE, in Geography, a town of France in the department of the Mayenne, and chief place of a canton in the district of Cram, three miles north of Cram.

ATHIST, derived from the privative α, and ὄν, God, a person who does not believe the existence of a God, nor a Providence; and who has no religion, true or false. In general a man is said to be an atheist, who owns no being, superior to nature; that is, to men, and the other sensible beings in the world.

In this sense, Spinoza may be said to be an atheist, and it is an impropriety to rank him, as the learned commonly do, among deists; since he allows of no other God beside nature, or the universe, of which mankind makes a part; and there is no atheist but allows of the existence of the world, and of his own existence in particular. See Spi-

NOZA.

Plato distinguishes three kinds of atheists. Some, who deny, absolutely, that there are any gods; others who allow the existence of gods, but maintain that they do not concern themselves with human affairs, and so deny a Providence; and others, who believe there are gods, but think they are easily appeased, and that they may remit the greatest crimes for the smallest supplication.

The learned Cudworth (Intellectual System, b. i. c. 3, vol. i. p. 104—178.) reduces the ancient atheism of the Greek philosophers into four different forms, comprehending the two classes of hylozoics or hylopathics, and atomical or atomists, under the denominations of Anaximandrian, Democritian, Stratoniccal, and Stoical. The Anaximandrians attempted to solve the phenomena of nature by having recourse to the unmeaning language of qualities and forms. These were contained actually or potentially in that infinite chaos of matter, delitute of all understanding and life, which was the first principle or only real name of Anaximander; and by their fortuitous secretion and segregation, they produced, first, the elements of earth, water, air, and fire, and then the bodies of the sun, moon, and stars, and both the bodies and souls of men and other animals; and, lastly, immeasurable and infinite such worlds as these, as so many secondary or native gods. (Plato De Leg. l. x. p. 666. See Anaximander, and Anaximandrians.)

Some have called this scheme of atheism, which deduces all things from matter by means of qualities and forms, Peri-

patetic or Aristrocles, because Aristotle used this kind of language in his physiology. But as Aristrocles cannot be justly denominated an atheist, Cudworth distinguishes this form of atheism by the appellation of Anaximandrians. Democritus and Leucippus new-modelled atheism from the Anaximandrian and Hylopathian into the atomic form, and derived the original and production of all things from atoms, devoid of all forms and qualities, and poiffessing only, as first principles, magnitude, figure, site, and motion; and as they conceived that life and understanding, and other qualities, could be only accidental and secondary results from certain fortuitous secrations and conceptions of atoms, they excluded a deity, and every thing like counsel and design from the formation of the universe. The Epicureans borrowed many of their notions from Democritus, and framed a system very much resembling the atomical, or Democritian. See Democritus, and Epicurus. The Stratoniccal atheism was of the hylozoic kind; and was so called from Strato Lampacenus, who acknowledged no other deity than a certain rapid and pulsive life, belonging to all the parts of matter, by means of which they arranged and framed themselves, without reflection. See Strato. The Stoical, or Pseudo-Stoical, or cosmosphatical atheism, adopted by several of the Stoics, suppos'd a certain kind of pulsive and perpetual, or methodical and artificial nature, without sense of conscious understanding, to prejudice over the whole world, and to dispose and preserve all things in that regular order which they assume and maintain. Some of the Stoics conceived that this pulsive nature, or spermatic principle, was subordinate to a sentient and intel-

lectual nature, or corporeal soul and mind of the universe, that presided over it; and this seems to have been the genuine doctrine of Heraclitus and Zeno; whilst others rejected the latter principle, and maintained, that the pulsive or spermatic nature, devoid of all animality or conscious in-

telligence, was the highest principle in the universe. All the ancient atheists agreed in this, viz. that there was nothing but matter or body in the universe; whilst some thought it animate, and were called hylozoics; and others thought it inanimate, and were denominated atomici. Hobbes seems to have inclined to the opinion of the Stratonicals; for he supposes (Phys. c. 25, § 5.) that all matter, as matter, is endowed not only with figure and a capacity of motion, but also with an actual sense or perception, and wants only the organs and memory of animals to express its sensation. Sir William Temple, according to the account given of him by bishop Burnet (Hist. Time, vol. i. p. 531, 8vo.) thought that the prent system of things is necessary and eternal. The Chinese have been represented as a nation of atheists. Accordingly Burnet (ubi supra) states it as the opinion of Sir W. Temple, that Confucius and his followers are to be reckoned among those who were atheists themselves, and left religion to the people. But Couplet maintains, that Con-

fucius and the earlier teachers among the Chinese, were votaries to pure religion. Confucius, however, says little of those duties that relate immediately to God; and though he speaks of the great spirits in heaven and earth, what he says concedes merely with the notion of a pulsive power, similar to that maintained by some of the Grecian philoso-

phers.

Some distinguish speculative atheists, or those who are so from principle and theory—from practical atheists, whose wicked lives lead them to believe, or rather to wish, that there were no God.

Dr. Clarke (Demonstration of the Being of a God, p. 2. 8vo.) says, that atheism arises either fromupid ignorance, or from corruption of principles and manners, or from the reasonings of false philosophy; and he adds, that the latter, who are the only atheistical personages capable of being recog-

nized with at all, must of necessity own, that, supposing it cannot be proved to be true, yet it is a thing very desirable, and which any wise man would wish to be true, for the great benefit and happiness of man, that there was a God, an intelligent and wise, a just and good being, to govern the world. Whatever hypothesis these men can possibly frame, whatever
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whatever argument they can invent, by which they would
exclude God and Providence out of the world; that very
argument, or hypothesis, will of necessity lead them to this
conclusion. If they argue, that our notion of God arises
not from nature and reason, but from the art and contrib-
ution of politicians; that it is necessary to force them to con-
clude, that it is manifestly for the interest of human society,
that it should be believed there is a God. If they suppose
that the world was made by chance, and is every moment
subject to be destroyed by chance again; no man can be so
abird as to contend, that it is as comfortable and desirable
to live in such an uncertain state of things, and to continually
behold to ruin, without any hope of renovation; as in a world
that were under the preservation and conduct of a powerful,
wise, and good God. If they argue against the being of
God, from the faults and defects which they imagine they
can find in the frame and constitution of the visible and ma-
terial world; this supposition obliges them to acknowledge,
that it would have been better the world had been made by
an intelligent and wise Being, who might have prevented all
faults and imperfections. If they argue against Providence,
from the faultiness and inequality which they think they
discover in the management of the moral world; this is a
plain condition, that it is a thing more fit and desirable
in itself, that the world should be governed by a just and
good Being, than by mere chance or unintelligent necessity.
Lastly, if they suppose the world to be eternally and neces-
sarily self-existent, and consequently that every thing in it is
established by a blind and eternal fatality; no rational man
can at the same time deny, but that liberty and choice, or
a free power of acting, is a more eligible state, than to be
determined thus in all our actions, as a done is to be moved
downward, by an absolute and inevitable fate. In a word,
which way sooner they turn themselves, and whatever
hypothetical make, concerning the original and frame of
things, nothing is so certain and undeniable, as that man,
considered without the protection and conduct of a superior
Being, is in a far worse case; than upon supposition of the
being and government of God, and of man's being under
his peculiar conduct, protection, and favour. Nevertheless,
abridgment is as is the psalm of atheism, Diogenes
and Theodorus among the ancients, and Vonins among the
moderns, have been reckoned martyrs for it. Mr. Bayle
has pretended to prove, that it is better to be an atheist
than an idolater; or in other words, that it is less dangerous
to have no religion at all than a bad one. "I had rather,"
said he, "it should be said of me, that I had no existence,
than that I am a villain." This, as Montesquieu (Sp. of
Laws, vol. ii. p. 145.) justly observes, is only a sophism,
-founded on this, that it is of no importance to the human
race to believe that a certain man exists, whereas it is ex-
tremely useful for them to believe the existence of a God.
From the idea of his non-existence, immediately follows that
of our independence; but if we cannot conceive this idea,
that of disobedience. To say that religion is not a re-
straining motive, because it does not always restrain, is
equally absurd as to say that the civil laws are not a re-
straining motive. It is a false way of reasoning against
religion, to collect in a large work a long detail of the evils
it has produced, if we do not give at the same time an
enumeration of the advantages which have flowed from it.
Was it of no advantage for subjects to have religion, it
would still be of some if princes had it, and if they whitened
with steam the only rein which can restrain those who fear
not human laws. A prince who loves and fears religion is a
lion, who stoops to the hand that strokes, or the voice that
appeals him. He who fears and hates religion is like the
VOL. III.

fearful beast that grows and laces the chain which prevents
his flying on the passenger. He who has no religion at all
is that terrible animal, who perceives his liberty only when he
seizes in pieces, and when he devours. The question is not to
know, whether it would be better that a certain man or a cer-
tain people had no religion; to know what they have; but
to know which is the least evil, that religion he sometimes aban-
doned, or that there be no such restraint as religion on mankind.

Cicero represents it as a probable opinion, that they who
apply themselves to the study of philosophy believe there
are no gods.—This must, doubtless, be meant of the aca-
demic philosophy, to which Cicero himself was attached, and
which doubted of every thing: on the contrary, the New-
tonian philosophers are continually recurring to a Deity,
whom they always find at the end of their chain in natural
causes. Some foreigners have even charged them with
making too much use of the notion of a God in philosophy,
contrary to the rule of Horace—

"Nee Deus interit, mih dignus vint e ne res."—

Among us, the philosophers have been the principal ad-
voeates for the existence of a Deity. Witness the writ-
ing of Sir Isaac Newton, Boyle, Ray, Cheyne, Newcunty,
&c. To which may be added others, who, though
the clergy (as was also Ray), yet have distinguished
themselves by their philosophical pieces, in behalf of the
existence of a God; e.g. Derham, Bentley, Whiston,
Samuel and John Clarke, Fenelon, &c. So true is that
faying of Lord Bacon, that though a smattering of phi-
losophy may lead a man into atheism, a deep draught
will certainly bring him back again to the belief of a God
and Providence. See God, Providence, and Religion.

ATHELING, among our Saxon ancestors, was a title
of honour properly belonging to the eldest son of the
reigning prince, or the preeminent heir of the crown.
The word is formed from the Saxon atheling, of athe-
l, noble. It is sometimes also written, adeling, edeling,
etheling, and eathing.

King Edward the Confessor, being without issue, and
intending to make Edgar, to whom he was great uncle by the
mother's side, his heir, first gave him the honourable ap-
pellation of atheling.

Antiquaries observe, that it was frequent among the Sau-
xons to annex the word ling, or ing, to a Christian name,
only the fon or younger; as Edmundling, for the fon of
Edmund; Edgeling, for the fon of Edgar; and, accord-
ingly, some have thought atheling might primarily import
the fon of a nobleman, or prince: and Sir Henry Spelman
observes, that all noblemen had anciently been called Ath-
dingi: however, from a passage in the laws ascribed to Ed-
ward the Confessor, it appears, that in his times, and for at
least a century afterwards, this word was appropriated to
the royal family by the English. In reality, atheling, when
applied to the heir of the crown, leems rather to denote a
person endowed with noble qualities than the fon of a
nobleman; and corresponds to the nobilis Cesar among the
Romans.

ATHELNEY, islo of, in Geography, a spot of rising
ground, on the north side of Stanmore, in the county of
Somerset, about one mile E.N.E. of Taunton bounded
on the north-west by the river Tone; on which is a wooden
bridge, still called Athelney bridge. The name given by
the Saxons to this island was Athelinga 1275, or the isle of
noble, whence was derived, by contraction, Athelney. It
was formerly surrounded by almost impassable marshes
and morasses, and will be for ever memorable for the retreat
of king Alfred from the fury of the Danes, when they had
overrun the eastern part of his dominions. Having bravely

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encountered his enemies for nine successive years, according to the statement of the register of Atheneb, he was at length reduced to the necessity of seeking refuge from their violence in this little island. After he had left this retirement, and his enemies were totally defeated, he founded a monastery for Benedictine monks, on the spot which had given him shelter, and dedicated it to the honour of St. Saviour and St. Peter the apostle, and endowed the establishment with the whole isle of Atheneb (amounting to about two acres of firm land), exempt from taxes and all other burdens. In proofs of time other privileges and benefactions were conferred on the monks, and confirmed by different kings and nobles.

ATHELSTAN, in Biography, king of England, was of illegitimate birth, and yet, being of mature age and capacity, succeeded his father Edward the elder, in preference to his lawful children, in the year 925. Soon after his accession, he marched to Northumberland in order to quell some commotions among the Danes, and conferred the title of king on Sithric, a Danish nobleman; but, upon the death of Sithric, when his two sons Arlaf and Godfrid, or Guthfrid, assumed the regal authority without his consent, he expelled them both; one taking refuge in Ireland, and the other in Scotland. The protection afforded to the latter by Constantine, king of Scotland, brought on a war, which terminated so much to the disadvantage of Constantine, that he was obliged, for the preservation of his crown, to do homage to Athelsthan. Hobilities, however, were renewed; and a confederacy was formed by Constantine, Arlaf, and some Welsh princes, whose united forces were totally defeated by Athelstan, at Bramanburgh in Northumberland, A.D. 938. In consequence of this victory, the king of England enjoyed his crown without molestation; and having governed the kingdom with great ability, he died at Gloucester in 941, after a reign of sixteen years, and was succeeded by his brother Edmund. In this reign commerce was greatly encouraged, and a law was passed, conferring the rank of thane, on every merchant who had made three sea-voyages on his own account. Athelsthan, with a view of further facilitating and promoting commerce, established a mint, or mints, in every town in England that had any considerable foreign trade, so that the merchants might have an opportunity of converting the bullion which they brought home for their goods into current coin, without much expense or trouble. These towns were London, Canterbury, Wincheller, Rochester, Exeter, Lewes, Hasting, Chichester, Southampton, Warcham, and Shaffebury. By thefe and similar regulations the shipping and feamen of England were so much increased, that Athelstan maintained the dominion of the sea, and obliged the Danish and Norwegian princes to court his friendship. Hume’s Hist. vol. i. p. 102, &c. Henry’s Hist. vol. iii. p. 94, &c. vol. iv. p. 225, &c.

ATHEMON, in Entomology, a species of Papilio. (Pld. cur. Linn.; Hesperia Fabr.) The wings are entire and brownish.

ATHENA, in the Ancient Philos., a platter or linitment, commended against wounds of the head and nerver, of which we find descriptions given by Oribasus, Ælius, and Æginetus.

ATHENÆ, in Ancient Geography. See Athens. Athene is also a name given to various other places: as, a town of Arabia. Phyl. — Allo, a place at the easter extremity of the Euxine sea, where was a temple of Minerva. Arrian. — Allo, a town of the Peloponnesus, in Laconia. Steph. Byz. and Suidas. — Allo, a place of Alfa Minor, in Caria. Steph. Byz. — Allo, a town of Greece, in Beotia, situate on the river Triton, overwhelmed, according to Strabo, by an inundation. — Allo a town of Acarnania; another of Liguia; another of Italy; and another of Sicily. Steph. Byz.

ATHENÆA, in Antiquity, a feast of the ancients, held in honour of Minerva, who was called Athen. These were afterwards called Panathenæa.


errisia monogynia. Gen. Char. Col. perianth one-leaved, coloured, five-parted; parts oblong, acute, erect, spreading at the top. Cor. none. Stam. filaments eight, filiform, erect; of which five are of the length of the calyx, the three alternate ones a little shorter; anthers fagittate; eight plumule bristles, shorter than the filaments, growing together with the filaments to a gland surrounding the germin. Pist. germ superior, ovate, surrouned at the base by an annular gland; style falcate, longer than the stamina; stigma deprelited, five-parted. Per. capiula globosa, one-celled, three-valved; valves from what fleshly; seeds three to five, rounded, covered with a pulp-coloured membrane, affixed to the receptacle in the bottom of the capule.

Eff. Gen. Char. Col. coloured, five-parted. Cor. none; bristles eight, feathered, between the filaments; stigma five-parted; capiula globosa, one-celled, three-valved. Seeds, three to five.


This is a branching shrub with a stem four or five inches in diameter, covered with a wrinkled grey bark; leaves alternate, oval, smooth, toothed, deciduous, four inches long; petals very short, having a small sharp flapule on each side of the base; flowers in bundles, from the axis, and upon the tubercles of the stem and branches, each on a peduncle: calyx white; there is no corolla; seeds covered with a viscid membrane, of a scarlet colour; the bark, leaves, and fruit are sharply aromatic; the leaf, by the Crokes, is called Gaffe diable. A native of Cayenne, and the neighbouring continent of Guiana, growing in a sandy soil, about half a mile or more from the thore.

ATHENÆUM, in Antiquity, a public place wherein the professors of the liberal arts held their assemblies, the rhetoricians declaimed, and the poets rehearsed their verses.

The word is derived from Athens, a learned city, where many of these assemblies were held; or from the name of Minerva, the goddess of polite arts and sciences; intimating, that Athenæum was a place consecrated to Minerva, or rather set apart for the exercises over which she presided.

The Athenae were built in form of amphitheatres; and were all encompassed with seats, which Sidorius calls cumes.

The three most celebrated Athenæa were those at Athens, at Rome, and at Lyons; the second of which, according to Aurelius Victor, was built by the emperor Adrian, for the accommodation of the professors of the liberal arts, and of those who wished to read their writings before a considerable number of people. It appears from the beginning of Juvenal’s Satires, that this manner of reading in public was very common; and that Fronte lent the use of his house and gardens to the poets, who had occasion to recite their verses before a numerous audience. This was done by others; but as it belonged to the person, who wished to read his compositions, to furnish the room, and to pay the charge of the seats, it is probable, that the emperor Adrian, for the encouragement of works of taste and science, constructed the Athenæum with a view of obviating this inconvenience. Hence the name has been applied to all kinds of buildings or colleges intended for teaching the sciences and languages.

ATHENÆUS,
ATHENAEUS, born at Attalia, in Cilicia, in the 9th year of our era, as M. Goulín conjectures, was the principal of the school of pneumaticians. Galen, who gives a particular account of the doctrines of these philosophers, says, they esteemed the qualities of cold and heat, moisture and dryness, as four elements, entering into the composition of all bodies. To these a fifth, was added, called spirit, to which Atheneus attributed the motion of the pulse. Spirit was also supposed to pervade and give life and energy to body. Galen represents Atheneus as a voluminous writer: no part, however, of his works remains, except four chapters preferred by Orphius, which throw little light on the manner in which he applied his doctrine to practice. Le Clerc, Hist. de Med.

ATHENAGORAS, in Biograph, a Christian philosopher, was a native of Athens, and flourished towards the close of the 2d century. His youth was spent among the philosophers of his time; and removing from Athens to Alexandria, he became a convert to Christianity. The manner of his conversion, according to Philip Sidetes, a writer of the fifth century held in no high estimation, was as follows: Proposing to write against the Christians and defensores of rendering his work the more complete, he read the scriptures, and was thus converted. Philip adds, that he was the first president of the catechetical school of Alexandria, and master of Clement who wrote the Stromata. Little upon which we can rely is said concerning Athenagoras by the ancients, and his character and opinions are chiefly deduced from his own works. The principal of these was his "Apology for Christians," addressed to Marcus Aurelius Antoninus, and Lactus Aurelius Commodus, whose names are prefixed to it, says Fabricius, in all the manuscripts; and probably written about the year 157 or 178. In this work he repels the calumnies of the pagans against the doctrines and manners of the Christians. He also explains the notions of the Stoics and Peripatetics, concerning God and divine things, and expouses with accurate and strong reasonings their respective errors. He discovers much partiality for the system of Plato, and supports his arguments by the authority of this philosopher, and hence he has been rankled among the Platonizing fathers. In what he advances concerning God and the Logos, or divine reason, he evidently blends the doctrines of Paganism with the doctrines of Christianity. According to Athenagoras, God is undivided, indivisible, and distinct from matter; there are middle natures between God and Matter; from the beginning, God, the eternal mind, being from eternity rational, had the Logos within himself; the Son of God is the reason of the Father in idea and energy; for since the Father and Son are one, by him and through him all things are made; the Logos was produced, that the ideas of all things might subsist, and they are contained in his spirit. On the imperfect and untractable nature of matter, on angels, demons, and other natures compounded of matter and spirit, and on other philosophical topics, Athenagoras reasons with all the fulness of the Grecian schools, so that in every page he is seen to have been by profession a philosopher; and indeed he is said to have retained the name and habit of a philosopher with a view of gaining greater credit to the Christian doctrine among the unconverted heathens. In moral philosophy, he adopted the common authorities, particularly with respect to marriage. He represents celibacy as meritorious, and second marriages as legalized adultery. In Athenagoras's "Discours of the Resurrection of the Dead," probably written after the "Apology," he argues rather from reason than scripture, in order to prove the possibility and likeness of the dead.

ATHENIUS, a greek grammanian, was born at Naukratis in Egypt, and flourished in the 3d cent. Suidas has erroneously referred him to the time of Antoninus Pius; but it appears from his own work (Deipnosophist. I. viii. p. 537. ed. Cabauf), that he wrote after the death of Commodus, and after the time of Oppian the poet. (Ib. l. ii. p. 13.) He was one of the most learned men of the age in which he lived: and, for the extent of his reading, and tenaciousness of his memory, he has not been improperly called the Varro, or Pliny, of the Greeks. The only work of this author extant is a valuable compilation from various writings, to which we have now no access, entitled Deipnosophistis, or "The Table Conversation of the Sophists." In this work the author, has introduced a great number of learned persons of all professions, and represented them as conversing together on a variety of subjects at the table of Larenius, a citizen of Rome. It contains a large collection of facts and anecdotes, forming a rich treasure of antiquities, which serve more to amuse the reader than to supply correct information. The author has intermingled with his several narrations many fatirical reflections and scandalous stories, which tend to asperse and degrade the characters of the philosophers of whole names and writings he has given an account; and, therefore, the work, copious as it is in useful instruction, must be perused with caution. It consists of fifteen books: but of the two first, part of the third, and also of the last, we have merely an abridgement. Few works have suffered more from the carelessness of transcribers, and the negligence of editors. In the 14th book, curious inquirers after the music and dancing of the ancients, and after the biography of the most celebrated performers in both arts, will find more information concerning them than in any of the treatises written expressly on these subjects; for an account of which we must refer to the work itself. The first edition was published by Aldus Manutius, in Greek, at Venice, in 1514. fol.; and at Basle, in 1535, with a bad Latin translation by Natalis Comes. Dalechamp devoted his leisure hours, for thirty years, to the translation of Athenaeus, which was published with annotations, by Cabaufon, in folio, at Leyden in 1553, 1557, 1612, and 1657. This work was also translated into French by Marolles in 1680. Cabaufon mentions an abridgement of this work by an unknown author, and at a period which he could not precisely ascertain, though he supposes it to have been made before the time of Ellulthus. Prof. Cabaufon in Athen. Suidas. Gen. Dict. Fabr. Bibl. Græc. l. iv. c. 20. § 8—S. t. iii. p. 631, &c.

ATHENIUS, a popular orator and Peripatetic philosopher, was born at Seleucia in Cilicia, had a share in the government, and was for some time a demagogue in his own country. In the time of Augustus he came to Rome, and became an intimate friend of Murena. He was charged with being concerned in his conspiracy; but the emperor not finding him guilty, set him at liberty. Upon his return to Rome after his flight on this occasion, he repeated to his friends these words of Empedocles:

"Εν χθεσιν ξενοποιεμένος και μνήμην τούτος Αθηναίο,"

"From death's dread seats and gloomy gates I come:"

The manner of his death was tragic, as he was crucified by the fall of his house. Strabo. l. xiv. t. ii. p. 987.

ATHENIUS, a mathematician, flourished about 200 years before Christ; but his country is unknown. His Greek treatise "On Machines of war," dedicated to Marcellus, who took Syracuse in the 142d Olympiad, 212 B. C., is contained in the Collection of Ancient Mathematicians, published in folio at Paris, in 1693. Fabr. Bibl. Græc. l. iii. c. 24. § 1. t. i. p. 587.
of a reformation. His writings, upon the whole, manifest an happy union of Attic elegance with philosophical penetration; so that he is reckoned a polite writer, and his Greek is Attic, though his style is rendered less agreeable by frequent parentheses. The two treatises of Athenagoras have been usually printed together, in Greek and Latin. They were published in 40. at Paris, in 1521; by H. Stephens, at Paris, in 8vo. in 1557; by Rechenberg, at Leipzig, in 1682, in 2 vols. 8vo.; by Fell, bishop of Oxford, with notes, at Oxford, in 1682, 12mo.; and with various notes by Dechaire, from the same Sheldon press, in 1706, 8vo. The Romance under the name of Athenagoras, said to be a translation from a Greek MS. brought from the east, and published in 1599, and in 1612, in French by M. Tumce, titled "True and Perfect Love," written in Greek by Athenagoras as an Athenian philosopher, containing the chaste loves of Theogonus and Charicles, of Pherecles and Melanennis, is a fiction, and was probably concocted in imitation of the Theagenes and Charicles of Herodesotus, after the overthrow of Greece by Alaric, or the destruction of the Greek empire by the Turks. Cave, H. L. t. i. p. 79. Lardner's works, vol. ii. p. 182. C. &c. Fabr. Bibl. Græc. i. v. c. i. t. v. p. 57-91. Gen. Dict. Brucker's Hist. Philos. by Enfield, vol. ii. p. 215.

ATHENÁTORIUM, among Chemifs, a thick glass cover, placed upon a cucurbit, having a slender umbo or prominent part, which enters like a flippole within the neck of the cucurbit.

ATHENIANS, in Ancient Geography. See Athens, and Attica.

ATHENIENSII PORTUS, or the port of the Athenians, was a harbour of Greece, between the Port Bucephalum and the promontory of Sperchius, on the eastern side of the promontory of Samos.

ATHENION, in Biography, a Greek historical painter, who flourished in the year 300 before Christ.

ATHENIPPUM, in Ancient Physics, a collyrium, commended against divers diseases of the eyes; thus denominated from its inventor Athenippus. Its description is given by Scribonius Largus, and by Galen after him.

Galen mentions another athenippum, of a different composition, by which it appears, this was a denomination common to several collyriums.

ATHENIS, in Biography, a famous Grecian satirist, who flourished at Chio, about 538 years before Christ. See Bupale.

ATHENODORUS, a Stoic philosopher, was a native of Cana, near Tarbus, in Cilicia, and the preceptor and friend of Augustus. During his residence at Rome, he was much respected by the emperor on account of his wisdom and probity, admitted into his confidence, and allowed to give him free and faithful counsel. Augustus, being addicted to gallantry, indulged a criminal passion for the wife of a senator, who was a friend of Athenodorus, and who communicated to him his difcontents. The philosopher availed himself of this opportunity of improving upon the mind of the emperor a sense of the danger to which he exposed himself by such practices. Accordingly, he defiled himself in woman's clothes, and, providing himself with a pagemaid, put himself into the chair in which the lady was to have been conveyed. When he appeared before Augustus in this disguise, he said to him: "See, sir, to what danger you expose yourself! An enraged husband may arm himself in this manner, and revenge with your blood the injury you offer him." The admonition is said to have produced its desired effect; the emperor received it with deference; and he became more circumspect for the future. Zosimus (l. i. c. 6.) attributes the mild plan of government adopted by Augustus to the influence of the counsels of Athenodorus. Before he left the court of Augustus, he is said by Plutarch (Apostroph. Oper. t. 2. p. 207.) to have warned the emperor against excess of pleasure, and as a preservative, to have advised him to rehearse the twenty-four letters of the alphabet, before he allowed himself to say or do any thing. Upon this, Augustus took him by the hand, saying to him, "I want your assistance still longer," and kept him for another year. Such was his interest with Augustus, that he obtained for his fellow citizens, the inhabitants of Tarbus, relief from some of the taxes which oppressed them; and on this account he was honoured by them with an annual festival. At an advanced age the emperor permitted him to return to his native country; and finding it disturbed by factions, which had been excited by Boethus, when Antony had inviolate with power, he exerted himself with prudence and firmness, in order to restrain and suppress them. By recruiting the exhausted funds of Tarbus, correcting the abuses which threatened its ruin, and introducing a new code of municipal law, he contributed to the revival and permanence of its prosperity. Having served his country faithfully during a protracted life, he closed it with honour, and with the regret of his fellow-citizens, at the advanced age of eighty-two years. He was a considerable writer; and several of his works are cited by the ancients. Strabo says, (l. i. p. 6.), that he wrote concerning the ocean and its tides; and Stephanus (art. AGRIPPA) informs us, that he wrote the history of his own country; but none of his works are now extant. This Athenodorus is not the same man who is mentioned by Suetonius (in Claud. c. 4. and 5.) having been entrapped by Augustus with the charge of education of Claudius Nero, afterwards emperor. Fabricius, however, asserts that they were the same person. Gen. Dict. Strabo, l. 14. t. ii. p. 991. Brucker's Hist. Philos. by Enf. vol. ii. p. 117. Fabr. Bibl. Græc. l. iii. c. 15. t. ii. p. 591.

ATHENODORUS Cordylus, a Stoic philosopher of Tarbus, was probably a native of Perga, and lived about 60 years before Christ, and was the intimate friend and companion of Cato of Utica. He was keeper of the public library at Perga, and having refused several solicitations to leave this retreat, he was at last prevailed upon by Cato, who visited Asia for this purpose, to join him in the war which he had undertaken for the restoration of Roman liberty. Cato is said to have valued himself upon the success of his application to Athenodorus, more than if he had shared the conquests of Lucullus or Pompey. Strabo says, that he lived and died with Cato. Fabricius fuggetis, that this Athenodorus was the author of a work against the categories of Aristotle, mentioned by Porphyry, Simplicius, and Stobaeus. Plut. in Vit. Caton. Oper. t. i. p. 667. Diog. Laert. Strabo, l. xiv. t. i. p. 991. Fabr. Bibl. Græc. l. iii. c. 15. t. ii. p. 371.

ATHENODORUS, a famous ancient sculptor, who was born at Rhodes. According to Pliny, he was a scholar of Polyctetus, who flourished about the eighty-seventh Olympiad, or 432 years before Christ. He was one of the three who jointly executed the famous group of Laocoon; the other two were Agelander and Polidore.

ATHENOPOLIS, in Ancient Geography, a town of Gallia Narbonensis, on the coast of the Valunians, between port Citharita and Forum Julii, according to Pliny. Its precie is not now known.

ATHEHENRY, in Geography, a borough town of the county of Galway, in Ireland, which gives name to a barony. Within an extensive circuit of dilapidated walls, and their ruined towers, the remains of castles and abbeys, that are intermixed with the cottages of a now small village, present a monument of its former consequence. There are also many
many ruins of castles and churches in its neighbourhood. At this town was fought a battle between Pheidias O'Connor, prince of Connought, an associate of Edward Bruce, and an English army under William de Burgo and Richard de Bermingham, in which, after a desperate engagement, the Irish were defeated with the loss of their prince and eight thousand men. This event happened in the year 1316. Distance from Dublin nearly 92 miles. N. lat. 57° 54' W. long. 8° 30' 30". Beaumont. Leicand.

ATHENS, in Ancient Geography and History, a celebrated city, called by way of eminence Mmnyna, or, as the

contemplated, the site was the capital of Attica, and the seat of the Grecian empire. It was founded by Cecrops, about 1535 years before Christ, and from him called "Cecropia." It afterwards, as some fay, in the reign of Eriphantus, about 1487 years B.C., or according to others, in the reign of Erechtheus, about 1397 years B.C. afforded the name of Athens, from Minerva, denominated by the Greeks Aphiay, and considered as the protector of the city. Cecropia was seated upon a hill or rock in the midst of a spacious and fertile plain, partly with a view of securing it against piratical invaders, and partly to prevent its being overwhelmed by inundations, which were much dreaded in those ancient times. In process of time, as the number of inhabitants increased, the whole plain was covered with buildings, which were denominated from their situation, "the lower city," and Cecropiawas called "Acropolis," or "the upper city." See Acropolis. The old city, or citadel, was sixty six, or about 23 leagues in circuit; it was fenced with wooden pales, and as some fay, let about with olive-trees; and it was also fortified with a strong wall, partly built by Cimon, the son of Miltiades, out of the spoils of the Persian wars, and situate on the south side of the citadel; and partly on the north side, by Agoras and Hyperibiou, who, according to Pausanias (in Attic. l.c. c. 28. p. 75.), migrated from Sicily to Acaarnania and denominated from them, who were called Pelfagi, the Pelfagie wall. The only entrance into the citadel was by one gate on the south-west, constructed at a great expense by Pericles, and denominated Propylaeum. See Propylaeum. The inside of the citadel was adorned with innumerable edifices, statues, and monuments, all of which it would be too tedious to recount. The most remarkable are the following.—At the entrance was a temple dedicated to Victory, adorned with paintings which were principally the work of Polygnotus, and constructed of white marble. Within the citadel were an immense number of statues erected by religion or gratitude, on which the chief gods of Myron, Phidias, Alcamenes, and other artificers of renown, seem to have bestowed animation. Of these statues some were the work of famous Athenian generals, such as Pericles, Pharnaces, and Timothecus; and others, the gods. About the middle of the citadel were the magnificent temple of Minerva, denominated Heptameron, and Parthenon (see Parthenon); and the temple of Minerva Polias and Neptune Erechtheus, one part of which was consecrated to the former, and the other to the latter. On one side was exhibited the olive-tree which sprang out of the earth at the command of the gods, and which so greatly multiplied in Attica; and on the other, the well, whence they pretend that Neptune caused the water of the sea to gush out. Thus these divinities are said to have contended for the honour of conferring their names on the rising city; but the gods decided in favour of Minerva, and the Athenians for ages preferred agriculture to commerce. Here, however, they have erected one common altar, which is called the altar of oblivion. Before the statue of the goddess was suspended a golden lamp, the work of Callimas-
square or forum. In the royal portico, where the second of the archons held his tribunal, and where the aropolos sometimes assembled, were several statues, such as those of Phidias, Conon, Timotheus, and Evagoras king of Cyprus. Near the royal portico was that of Jupiter Liberato, where Enharmon the painter had represented in a series of pictures the twelve gods. Theseus, the people of Athens, and an engagement of the cavalry, in which Gryllus, the son of Xenophanes, attacked the Thebans commanded by Epaminondas. The Apollo of the adjoining temple was the work of the same master. From the royal portico two streets branch out, and terminate in the forum: that on the right was decorated by a number of Hermas, or heads of Mercury supported by peddrels, erected for recording some glorious achievements, or for inciting to some acts of wisdom. This street is terminated by two porticoes that front the forum; the one, that of the Hermes; the other, and the most handsome, is called the Porche, at the gate of which was the statue of Solon. The walls within the Porche were covered with bucklers taken from the Lacedaemonians and other nations, and enriched with the works of Polygnotus, Micon, Panoeus, and other celebrated painters. The forum, which was extremely spacious, was decorated with buildings defined to the worship of the gods, or the service of the state, or as places of asylum to the wretched; and statues of kings or individuals who had merited well of the republic. An adjoining square contained a temple in honour of the mother of the gods, with a statue of her by Phidias; and the place in which the senate assembled. In the temple of Mars, at a small distance, was a statue of that god, executed by Alcamenes, a pupil of Phidias.

In the middle of the city, between the forum and the citadel, was the temple of Theseus, built by Cimon some years after the battle of Salamis; it was smaller than that of Minerva, but built after the same model; like that, it was of the Doric order, and an elegant structure. It was enriched by the labours of skilful painters; and the remains of it are to be seen at this day. It was allowed the privilege of being a sanctuary for slaves, and for all persons of mean condition who fled from the persecution of men in power; in honour of Theseus who, whilst he lived, was the protector of the diffused. Near to the temple of Theseus, Paunianas places the temple of the Dioscuri, or of Callorand Pollux; and above this temple was the grove of Aglauros, situate under the Acropolis. Near to this grove, north of the Acropolis, was the Prytaneeum, where citizens who had rendered signal services to the state, were maintained at the public expense. See Prytaneeum. Beyond this building, on the north-east side of the citadel, was the street of the Triopods, or the street of triumphs, in which were temples and hoplites containing tripods of brads, which were dedicated by those who had been victorious in the contests that filled the past among the poets, musicians, and dancers. In one of these edifices was the famous satyr, called by the Greeks Πριξιάτης, elated by Praxiteles himself, one of the chief of his productions, and ranked by the public among the masterpieces of art. The street of the Triopods led to the theatre of Bacchus, where the people sometimes assembled to deliberate on affairs of state, or to be present at the representation of tragedies or comedies; and opposite to this theatre was the temple of Bacchus, one of the most ancient temples of Athens; it was situated in the quarter of Limne, or Mardon, and was opened only once a year. Between the street of the Triopods and the theatre of Bacchus was the Odeum, built by Ptolemy for musical competitions. (See Odeum.) In the quarter of the mearias, fourth of the citadel, was the temple of the Olympian Jupiter, begun by Pheidias, continued by several succeeding governors; and finished in the time of Adrian. The ruin of this temple consists of very large and beautiful columns of the Corinthian order, placed about six feet in diameter and sixty in height. The temple of the Pythian Apollo lay to the north-west of that of Jupiter Olympus, and nearer to the citadel; and near to the Propylaeum, at the bottom of the citadel, on the north side, is the temple of Apollo and Pan, in a grotto or cave, where Apollo is said to have delivered Creusa, daughter of king Eriechtheus. Besides these there were several other temples, such as the temple of Diana, that of the Eight Winds, and the Pantheon dedicated to all the gods. (See Pantheon.)

Without the city, between the wall and the river Ilissus, was the demos of Ilidium (see Stadium, and Cynosarges). Beyond the Ilissus, and to the north of the Stadium, was mount Hymettus, and the district called Agre, in which were the temples of Ceres, and of Diana Agroteres, or the huntress. Above this were the Gymnasia of the Lyceum (see Lyceum), and of the Cynosarges. To the north-west, in the Ceramics that lay without the city, and distant from it about six stadia, was the Academy. (See Academy.) Beyond the Academy was a hill called Colonus, on which Sophocles laid the foundation of his Ædipus Colonus. The river Cepheus enriched this district with its waters, though in summer this stream, and also the Ilissus, were occasionally dry.

The topography of ancient Athens, given by Pausanias, so far corresponds to those remains, whose names and situations have been described by modern travellers, as to afford a strong presumption of its accuracy; and it affords a kind of standard by which the correctness of other descriptions may be estimated. In order to form a just notion of his plan, it is necessary to consider the stations from which his routes commenced; and these will appear to be in a natural order, and to have embraced in the most comprehensive manner the whole of the city of Athens. His two principal stations were the Ceramicus and the Prytaneeum; and his routes from the former station noticed those parts that lay to the north-west, and those from the latter such as were situated to the north-east, and south of the Acropolis. Having arrived at Athens from the Piraeus, and passing through the outer Ceramicus and the city gate, he entered the inner Ceramicus, which was his first station. On the right hand, he says, is seen the royal porch, and he there enumerates among other objects, the temple of the mother of the gods; the temple of Ceres; and Proserpine; and another. Pausanias having detailed the first route, without describing any objects in returning, commences his second, which appears to be very short; remarking only the temples of Vulcan, and of Venus Urania, above the Ceramicus, and which may be supposed to have been northward of the gate Dipylon. He then proceeds to say, that the traveller, directing his course to the Poecile or Poikile, will observe the several objects in the following order: besides others, the Market place, the Gymnasion, the temple of Theseus, the temple of the Dioscuri, and the grove of Aglauros: the temple of Theseus still remains. According to the order of Pausanias, we must look for the Poikile, the Market place or forum, and the Gymnasion, between the gate Dipylon and the temple. According to Pausanias, the temple of the Dioscuri was near to that of Theseus; and above the temple of the Dioscuri was the grove of Aglauros; and as this grove was under the Acropolis, it must have been between that place and the temple of Theseus, or nearly between the Acropolis
Acropolis and the hill of the Areopagus. Near to the grave of Aglabitus was the Prytanæum, north of the Acropolis, and this was the second flat of Pentanias. The full route from this flat is explained as defending from the Prytanæum to the lower parts of Athens; and it includes the temple of Serapis, of the goddess Lucina, of the Olympic Jupiter, and the Delphian Apollo, the Gardens, the Lyceum, the river Euphræs, the temple of Diana le Hundrels, and the Stadium. Without describing any objects in his return from the Stadium to the Prytanæum, Paeonias commences his second route from that flat by the way called Tripodes, in which, he says, there are temples, tripods, and other works deserving notice; and, in the following order he mentions the temple of Dionysius, the temple of Bacchus, the imitation of the tent of Xerxes, the theatre of Bæclesus, the well called Southern, the tomb of Calus, the temples of Hecatæus, of Themis, of Earth, and of Virid Ceres; and then enters the Propylæa of the Acropolis. Within the Acropolis, he describes, among other objects, the Parthenon, the temples of Erechs, Polias, and Pandrosus: and his descriptions agree so exactly with the remains found there, that this part of his topography affords an evidence of his precision in other respects. He then passes from the Acropolis over the Areopagus, thence to the tombs, and to the Academy; and this route is in the order of their situation; for he had before passed under the north-call side of the Areopagus, in his route from the temple of Theseus to the Prytanæum. The tombs, which are in the neighbourhood of the Museum, according to Dr. Chandler, were evidently in the situation to which Paeonias alludes; and the academy is known to have been to the west of the walls of the city. It has been the uniform opinion of antiquaries, that the old city of Athens was built on the northern side of the Acropolis; and the intendment of Adrian’s arch is a confirmation that the addition to the city, built by that emperor, and called after him Adrianople, was on the southern side. Mr. Stewart, however, in his “Antiquities of Athens,” (vol.iii.) conjectures, that the ancient city was on the south side of the Acropolis; but it has been alleged, that there are no remains which countenance this supposition; and besides, it should be recollected, that the Pæagi, who fortified the Acropolis, were permitted to dwell beneath the walls; they were afterwards acceded by the Athenians of way-laying their daughters, as they went from the city to fetch water from the Euphræs: this could not possibly have happened, without supposing that the ancient city was on the north side of the Acropolis, and that the part inhabited by the Pæagi was on the south side: for no other part would correspond to the account of the Pæagi being in a situation between the city and the river. The Pæagi were afterwards driven out of Attica; the spot on which they dwelt was excrætred; and the Delphic oracle advised, that it should be kept rough and uncultivated. It is, however, well known, that this spot, in after-times, was inhabited; but it is somewhat singular, that, except the theatre and one or two monuments, immediately under the walls of the Acropolis, the whole of the plain between the Acropolis and the Euphræs, contains no remains of ancient works, besides one solitary column. This furnishes a strong argument against the supposition of the ancient city being erected in this situation; for undoubtedly the chief monuments of their grandeur would be contained within the city. This circumstance also accounts for Pentanias passing by, without determining anything as situated there: it was sterile in antiquities, and therefore furnished no object directing his notice. For these observations, we are indebted to an anonymous writer.

See Monthly Review enlarged, vol. xvii. p. 35. For the plans of Athens, annexed to the travels of Anacharsis, see the Maps of this work.

ATHENS, and the Athenians, History of. It has been already observed, that the city of Athens was founded by Cecrops about 1550 years B.C. This prince reigned fifty years. Under the reigns of his successors, various circumstances combined to determine the character and situation of the nation. The succession of princes appears, with few exceptions, the succession of improvement. Under the reign of Eriæthis, the colony of Cecrops ascended horses, already domesticated to the bit, to draw wheel carriages; and prohibited by the labour of beech, which useful race of indians they carefully preserved on mount Hymettus. Under Pandion, they made new progress in agriculture; but a long drought having destroyed the hopes of the husbandman, the harvests of Egypt supplied the wants of the colony, which thence contracted a taste for commerce. Eriæthis, his successor, rendered his reign illustrious by useful infusions, and the Athenians dedicated a temple to him after his death. A considerable portion of barbarism still remained; the country, very imperfectly cultivated, maintained great numbers of savage animals, and still more savage men. The Grecian woods and mountains abounded in lions, bears, and other fierce animals, that often roamed from their haunts, and spread terror and desolation among the adjoining valleys. The valles themselves teemed with men of brutal strength and courage, who availed themselves of the weakness of government, to perpetrate horrid deeds of violence and cruelty. About the year 1750 B.C. the first worthies of Greece, animated rather with the daring and useful, than with the romantic spirit of chivalry (Plutarch’s Theseus), set themselves with one accord to remedy evils which threatened the existence of society. These travelled over Greece, and freed it from the violence both of kings and individuals: they appeared to the Greeks as beings of a superior order; and that infant people, no less extravagant in their gratitude than fears, rewarded the exploit with so much glory, that the honour of protecting them became the first ambition of noble minds. Of these, one of the most eminent was Theseus, the son of Egeus king of Athens, who was ardently desirous of rivaling the exploits of Hercules. The Pellanides, a powerful family of Athens, having attempted to wrench the sceptre from the aged hands of Egeus, young Theseus, now approaching to man’s estate, overwhelmed the projects of the conspirators. (Plutarch’s Theseus.) Marathon, the second city in Attica, had its environs infested by a furious bull; the heroic prince subdued this terrible animal (Plutarch’s Theseus); and the Athenians regarded his success with astonishment and admiration. But his countrymen had soon after a call for their wonder and gratitude in a much more signal achievement, and more momentous benefit. Minos, king of Crete, accused them of having put to death his son Androgæus, and compelled them by force to deliver him, at stated intervals, a certain number of youths and maidens. These were to be chosen by lot, and their destiny was death or slavery, (Plutarch’s Theseus.) It was now the third time that the pledges of their affections were to be torn from their unhappy parents. All Athens was in tears, but Theseus revived her hopes. He undertook to free the city from this odious tribute; and, to accomplish the noble project, voluntarily enrolled himself in the number of the victims, and embarked, for Crete. The adventurism of Theseus in Crete, exhibited by the inventive and often fanciful poetry of the Greeks, contains a great portion of the marvellous, through which a skillful and delineating reader may
may discover the probable. According to the tale which
the Athenians relate, it was the cruel practice of Minos to
shut up his tributary victims, the moment he received them,
in a labyrinth, where they were soon after devoured by the
minotaur, a monster half a man and half a bull, the offspring
of the infamous amour of Pasiphae, queen of Crete; they
add, that Theseus, having slain the minotaur, brought back
the young Athenians, and was accompanied on his return
by Ariadne, daughter of Minos, who led him in escaping
from the Labyrinth, and whom he abandoned on the shores
of Naxos. The Cretans, on the contrary, allege, that
the Athenian hostages were deterred to the victims in the
celebrated games in honour of Theseus; that Theseus,
having obtained permission to enter the lists, overcame 'Tau-
rus, general of the troops of Minos; and that this prince had
the generosity to do justice to his valor, and pardon the
Athenians.

Minos had established an excellent system of government,
which equally secured the authority of the prince and the
liberty of the people, and connected religious with political
influences. (Aristotle's Politics.) The advantages of this
system Theseus discerned, and having returned and ascended
the throne of Attica, vacant by the decease of his father,
he resolved to improve the government of his country.
The twelve towns, founded by Cecropes, were become fo
many republics, each of which had its particular magistrates
and chiefs almost independent, whose interests, clashing con-
tinually, produced frequent wars; and though imminent
dangers sometimes obliged them to have recourse to the
protection of the sovereign, the succeeding calm soon awak-
ened their ancient jealousies. The royal authority, flogg-
ing between despotic and degradation, alternately
inspired terror and contempt; and the people, by the vice
of a constitution, the nature of which was not exactly un-
derstood either by prince or subjects, had no means what-
ever to defend themselves against the extremity of slavery,
or the excess of licentiousness. Theseus formed his plan;
and, superior even to minute obstacles, took upon himself
his execution in detail. He traversed the different districts
of Attica, and endeavoured everywhere to inculcate him-
self into the favor of the people, who with ardour received
a project which seemed to restore to them their primitive
liberty; but the wealthier classes, fearing to lose the authority
they had usurped, and apprehensive of feeling a kind of
equality established between all ranks of citizens, murmured
at an innovation which diminished the royal prerogative;
not daring, however, openly to oppose the will of a prince,
who was endeavouring to obtain by persuasion, what he
might exact by force, they consented, but with a secret
determination to retort against the measure when circum-
stances might be more favourable. It was now determined
that Athens should be the metropolis and centre of the state;
that the female of the cities should be abolished; that the
legislative power should reside in the general assembly of the
nation, divided into three classes, the nobles, the husband-
men, and the artisans; that the first magistrates, chosen
out of the former, should have the superintendence of the
sacred rites, and be the interpreters of the laws; that the
different orders of citizens should form a mutual balance, the
first, having in its favour the splendor of dignities; the se-
cond, the importance of services; and the third, the super-
iority of number. (Plutarch's Theseus.) It was deter-
mained in fine, that Theseus, placed at the head of the re-
public, should be the defender of the laws it might enact,
and the general of the troops defined to its defense. He
erected tribunals for the magistrates; enlarged the capital,
and embellished it as far as the imperfection of the arts
at that time would permit. Strangers, invited to become
citizens, flocked thither from all parts, and were incorpo-
rated with the ancient inhabitants. He added the territory
of Megara to the country; he placed a column on the illu-
mus of Ceres, as a boundary between Attica and Pelop-
nousus; and revised, near this pillar, the Ilithian games,
in imitation of those lately instituted by Hercules at Olym-
pia. Every thing now seemed favourable to his views: he
governed a free people, retained in obedience, by his mod-
eration and his bounties; he dictated laws of peace and hu-
manity to the neighbouring nations, and enjoyed a foretaste
of that profound generation with which succeeding ages gra-
dually honour the memory of great men. Theseus also en-
gaged in new undertakings of value, some of them very
unjustifiable (see Theseus, Hercules, and Pithophone),
and all of them prejudicial to his country, by occupying that
time which might have been employed in the further improve-
ment of the state. But with these exceptions, Theseus was
a very great and beneficial sovereign, and his reign was a very
important epoch in Athenian history. For several ages,
however, Athens was only a secondary power; in the time
of Homer, that state felt but fifty ships, whereas several
other countries sent eighty, and Mycene a hundred. The
complement of men to each, being 120, the troops amounted
to about 6000.

Full fifty more from Athens flen the main,
Led by Menelthus thru' the liquid plain;
No chief like thee, Menelthus! Greece could yield,
To martial armies in the dusty field.
The extended wings of battle to display,
Or close the embolden host in firm array.
Nellor alone, impro'd by length of days,
For martial conduct bore an equal praise.
to death; a sacrifice which so animated his troops, that they entirely defeated their enemies. Codrus was the last king of Athens, and on his death, the government became republican, by the establishment of Archons, B.C. 1570: an office which was at first hereditary, and little inferior, in point of power, to royalty itself. Melo, the son of Codrus, first held the office of Archon. His brother Niceratus and Andocides, probably dissatisfied with these transactions, determined to leave their country. This design was approved by the Achæans and Mæssian refugees, and by many Athenian citizens, who complained that Attica was too narrow and barren to maintain the increasing numbers of its inhabitants. The rebellious spirits in Phocis, Beotia, and other neighbouring provinces, eagerly joined the emigrants. They failed to Attic Minor, B.C. 1555, expelled the ancient inhabitants, a mixed race of Lydians, Carians, and Pelasgi, and feized the central and most beautiful portion of the Aetolic coast. (Herodotus, Ch. 9.) Their colonies were gradually diffused from the banks of the Hermus, to the promontory of Poseidon. They afterwards took possession of Chios and Samos: and all these countries were united by the common name of Ionia, to denote that the Ionians composed the most numerous division of the colony.

See Ionians.

The government of the Archons, after several changes, at length became annual, and their number was nine. Peloponnesus being now involved in the long and bloody wars between the Mæssians and the Spartans, the Spartans, being in great danger, applied for assistance to the Athenians, who sent them aid on one occasion, and were instrumental to the reduction of the Mæssians, and the aggrandizement of the Spartans, defined to become formidable rivals to themselves. During the first ages of Archontic government, Athens was little occupied by foreign wars, but very greatly by difficulties and seditions. They had no written laws, and were perpetually disagreeing on points of religion and government. The inhabitants of Attica were separated into three factions, each of which had at its head one of the most ancient families of Athens. Divided as they all were by interest, diversity of character, and situation, it was impossible for them to agree in the choice of a form of government. The poorest and most independent, confined to the adjacent mountains, favoured a democracy; the wealthiest, diffused over the plain, wished for an oligarchy; while the inhabitants of the coasts, engaged in maritime and commercial affairs, were for a mixed government, which might secure their possessions, without proving injurious to public liberty. To this source of divisions, each party united the inexact hatred of the poor against the rich. Obfure citizens, overwhelmed with debts, had no resource but that of selling their liberty, or that of their children, to mercenary creditors; and the greatest part of them had determined to abandon a country which held out only ineffectual labour to fome of them; and eternal slavery, and the facrifice of every sentiment of nature, to the remainder. From the growth of knowledge, new sources of industry, new necessities and vices, were diffused through society. Licentiousness was either passed over with impunity, or reprehended by arbitrary punishments. The life and fortune of individuals were left at the discretion of magnates, who, subjected to no certain limitations, were but too much disposed to listen to their prepossessions or their interests. In this confusion, which menaced the state with immediate destruction, Draco was chosen, B.C. 624, with full powers to exercise the whole of legislation, in its most extensive or circumstantial views. The particulars of his private life are little known to us, but he has left the reputation of a man of worth, polished of real knowledge, and fiercely attached to his country. Other strokes of character might perhaps establish his reputation, but are not necessary to his memory. Like all persons sagacious and sagacious, he formed a code of laws and morals; he took the citizens at the moment of his birth, prescribed the manner of his marriage, education, and death, regulated the conduct of life, and, correcting these partial views with the main objects, flattered himself he should be able to form free men, and virtuous citizens; but he only produced malcontents, and his regulations excited so many murmurs, that he was compelled to take refuge in the island Ægina, where he soon after died.

His laws were strongly impressed with the peculiarities of his character; they were as severe as his manners had ever been rigid. Death was the embellishment he inflicted on infidels, and the only punishment he decreed for the slightest offences, as well as for the most atrocious crimes; he was accustomed to say, that he knew of none milder for the former, and could devise no other for the latter. It seems as if his powerful mind, virtuous even to excess, was incapable of any indulgence for crimes at which it revolted, or for those weaknesses over which it triumphed without an effort. As he had not attempted any change in the form of government, the interline divisions augmented from day to day. One of the principal citizens, named Cylon, formed the project of fixing on the sovereign authority; he was besieged in the citadel, where he had long defended himself, and at length, wanting provisions, and defeated by the hope of famine, eluded, by flight, the punishment due to his crime. His followers took refuge in the temple of Minerva; from which asylum they were ejected by the promise of life, and instantly massacred. Some of the unfortunate men were murdered even on the altars of the awful Eumenides. The indignation excited by this action was universal; the people at once executed the perjury, and flattered at the impiety of the victors; and the whole city expected that some dreadful calamity would be immediately inflicted by celestial vengeance. Amidst this general confirmation, news was brought that the city of Nisa and the isle of Samos had fallen by the arms of the Megarensians. To this melancholy intelligence succeeded, soon after, an epidemic distemper. The public imagination, already agitated, was suddenly fired with panic terrors, and haunted by a thousand terrifyingchimeras. The augurs and oracles being consulted, declared that the city, polluted by the profanation of the holy places, must be purified by the ceremonies of expiation. The Athenians, therefore, sent to Crete for Epimenides. B.C. 612, considered as a man who had an intercourse with the gods (Pausanias, H. I.), and who saw into futurity. He really appears to have been a reformer endowed with talents and knowledge to engage confidence in his opinions, and authority of manners to command respect. The first years of his youth he passed in solitary places, and formed wholly absorbed in the study of nature, forming his imagination to enthusiasm, by fasting, silence, and meditation, without any other ambition than by making himself acquainted with the will of the gods, to secure his dominion over the minds of men. His successes surpassed his hopes, and he acquired such a reputation for wisdom and facility, that in times of public calamity, nations interested in him the favour of purifying them by rites, which, as they allowed, he could render more acceptable to the divinity. Athens received him with transports of hope and fear. He directed that new temples and new altars should be built to immolate the victims he had chosen, and that these facilities
ATHENS.

should be accompanied by certain hymns. As while speak-
ing he seemed agitated with a divine inspiration, his impe-
tuous eloquence was irresistible. He availed himself of the
ascendency he had acquired, to eff.ct several changes in the
religious ceremonies, and in the manners of the people; and
by various useful regulations, he endeavoured to bring the
Athenians to the two principles of social union and justice.
But the reform of Ephimenides, though beneficial as far as it
extended, was very inadequate to the evil. The people
were still suffering under combined anarchy and oppression;
the magistrates plundered the treasury and the temples; and
often betrayed for bribes the interests of their country;
the rich tyrannized over the poor, the poor continually
alarmed the safety of the rich; the incapacity of creditors
knew no bounds; they compelled the insolvent debtors to
cultivate their lands like cattle, to perform the service of beasts
of burden (Gillies, v. ii. 107.), and to transfer, to them
their sons and daughters, whom they exported as slaves
to foreign countries. In such a disturbed situation, there
arose for their relief the illustrious Solon, B.C. 594. This
celebrated sage first distinguished himself by military policy
and warlike efforts. The Athenians had been long engaged
in a war against the Megarensians, concerning the island
of Salamis; fatigued and broken by terrors and arduous bata-
lilies, they abandoned the enterprise in despair, and even
made a law enacting the punishment of death against any
one who should propose the capture of that island. Solon,
aware of the importance of a posture that commanded the
coasts of Attica, and depriving the national independence
in glorious as well as impolitic, ardently desired torouse his
countrymen to more vigorous counsels; but the new penal
law restrained his efforts. At length he devised an expedi-
tent for patriotically transgressing the pufillaunimous law,
and avoiding the punishment. He accordingly counterfeited
infancy, and caused his family to report that he was
actually mad (Plutarch's Solon); the rumour being spread
and generally believed, he composed a poem, describing the
advantages of Salamis, and inciting the Athenians to renew
the war. His verses, strong and impressive, produced the
defired effect. The people were roused, an expedition was
undertaken, and Solon is, by Plutarch, said to have devised
the following stratagem for cutting off the Megarensians,
who then occupied Salamis. With his friend Philocrates he
failed at the head of an armament to Ceros; there finding a
number of women sacrificing to Ceres, he sent a confidential
perfon to Salamis, instructed to profess himself a defeter,
and to tell the Megarensians, that if they did not desire to
have the chief Athenian women, to make all fail to Ceros. The Mega-
reensians, taking the foary for truth, presently manned a ship;
and Solon deferving this ship just as it put off from the
isle, commanded the women to be gone, and ordered
some bezeeclis youths, dreen in these woman's clothes, their
shoes and mitres, and privately armed with daggers, to dance
and wander near the shore, till the enemies had landed, and
the ship was in their power. Things being thus ordered,
the Megarensians were allured with the appearance and
coming near the shore, fwo who should leap out first, bit
were only to ferve the women; but were to warmly received,
that not one of them escaped. The Athenians failed for
the isle, thus deprived of its defenders, and annexed
Salamis to the territories of Athens. The fame which
Solon thus acquired, he soon increased by his prudence and
conduct with regard to another subject of foreign policy.
The Criffians were a flourishing state, not far from Del-
phi, and, commanding the approaches to that rendezvous
of Grecian superflition, derived considerable encomium
from the expences of the devotees. But with the advan-
tages they were not satisfied; they began to exact vexations;
and exorbitant duties from the merchants who came to ex-
pose their wares in the sacred city; which, on account of the
great concourse of prodigal pilgrims from every quarter,
foon became the seat, not of devotion only, but of dilipa-
tion, vanity, and licentious pleasure. It was in vain for the
merchants to complain against these unexampled impositions;
the taxes were continually increased; the evil admitted not
the expectation of either remedy or relief; and the ftrangers,
accustomed to it by custom, began to submit without mur-
rur; and perhaps endured the hardship with greater pa-
tience, when they perceived that they drew back the tax in
the increased price of their commodities. Encouraged by
this acquiescence in their tyranny, the Criffians levied a
severe impost on the pilgrims, whether Criffes or Barbarians,
whom it visited the temple of Apollo; a measure directly incon-
sistent with the degree of the Amphictyons, which declared
that all men should have free access to the oracle, as well as
extremely hurtful to the interest of the Delphians, who soon
felt a gradual diminution of their profits from the holy
shrine. The Criffians, totally regardless of the sentiments of
religion, plundered the temple of Delphi, with many cir-
cumstances of aggravating atrocity. Solon roused his coun-
trymen to avenge the sacrilege; and to his ingenuity and skill
it was chiefly owing that the Criffians were vanquished (Gill-
ies, vols. i. 221.); but Solon was defcribed to render himself,
by legislation, most beneficial to his country. The general
opinion of his genius and virtues, joined to the experience
of his military talents, success in wars, and political address,
had procured him distinguished influence over the people.
His experienced ability, and above all, his approved wisdom
and equity, pointed him out for the noblest and most sublime
employment of humanity, that of regulatiing the laws and
government of a free people. Such, at least, the Athenians
may be concluded, when their unanimous suffrage rendered
Solon the absolute umpire of their whole constitution and
policy. When he undertook the reform of the state,
tyranny and disorder prevailed; the wretched populace,
deriving courage from despair, had determined no longer
to submit to such multiplied rigours; and, before the wild-
ness of the lawgiver interposed, they had taken the revolu-
tion to elect and follow forms of like leading, to attack and butcher
their oppressors, establish an equal partition of lands, and
institute a new form of government. But the numerous cli-
ents and retainers, who, in a country little acquainted with arts
and manufactures, depended on the wealthy proprietors
of the lands and mines of Attica, rendered this undertaking
allike dangerous to both parties; so that both became willing
rather to submit their differences to law, than to decide
them by the sword. The impartiality of Solon merited
the unlimited confidence of his country. He maintained
the ancient division of property, but abolished debts: he es-
tablished the rate of interest at 12 per cent, at which it after-
wards remained; but forbade that the insolvent debtor should
become the slave of his creditor, or be compelled to sell his
children into servitude. After these preliminary regulations,
which seemed immediately necessary to the public peace,
Solon proceeded, with an impartial and steady hand, to new
model the government; on this generous but equitable prin-
ciple, that a few ought not, as hitherto, command, and the
many obey; but that the collective body of the people,
legally convened into a national assembly, were entitled to
decide, by a plurality of voices, the alternatives of peace and
war; contract or dissolve alliances with foreign states; enjoy
all the branches of legislative or sovereign power; and elect,
approve, and judge the magistrates or ministers entrusted
for a limited time, with the executive authority. Strangers,
and
and all those who could not ascertain their Athenian descent, both in the male and female line, were totally excluded from the assembly and courts of justice. The regulations of Solon provided that the race of pure Athenians should be preserved, and that his blood should be kept pure from admixture and corruption; nor could any foreigner, whatever merit he might claim with the public, be admitted to the rank of a citizen, unless he abandoned for ever his native country, professed the knowledge of some highly useful or ingenious art, and, in both cases, had been chosen by ballot, in a full assembly of six thousand Athenians. The numbers of this convention, and still more their impetuosity and ignorance, must have proved inconsistent with good government; if Solon had not feared the violent passions of the republic from the waves of popular frenzy, by the two firm anchors of the senate and the areopagus; tribunals originally of great dignity, and of very extensive power, into which men of a certain description only could be received as members. Solon divided the Athenians into four classes, according to the produce of their estates. The first consisted of those whose lands annually yielded five hundred measures of liquid, as well as dry commodities, and the minimum of whose yearly income may be calculated at sixty pounds sterling, which is equivalent, if we elimate the relative value of money by the price of labour, and of the things most necessary to life, to about six hundred pounds sterling in the present age. The second class consisted of those whose estates produced three hundred; the third two hundred; the fourth, and by far the most numerous class of Athenians, either possessed no landed property, or at least enjoyed not a revenue in land equal to twenty-four pounds sterling, or, agreeably to the above proportion, two hundred and forty pounds of our present currency. All ranks of citizens were alike admitted to vote in the public assembly, and to judge in the courts of justice, whether civil or criminal, which were properly so many committees of the assembly. But the three first classes were exclusively entitled to fit in the senate, to decide in the areopagus, or to hold any office of magistracy. To these dignities they were elected by the free suffrages of the people, to whom they were accountable for their administration, and by whom they might be punished for malversation or negligence, although they derived no emolument from the diligent discharge of their duty. The senate of four hundred, which, eighty-six years after its institution, was augmented to five hundred by Chisthenes, enjoyed the important prerogatives of convoking the popular assembly; previously examining all matters before they came to be decided by the people, which gave them a negative before debate in all public resolutions; and of making laws, which had force during a year, without requiring the consent of the populace. Besides this general imponderance of authority, the senate was exclusively invested with many particular branches of the executive power. The president of that council had the custody of the public archives and treasury; the senate alone built ships, equipped fleets and armies, feized and confined state criminals, examined and punished several offences, which were not expressively forbidden by any positive law. The weight of such a council, which assembled every day, except festivals, in a large mixture of antiquity into the Athenian constitution; this, as we shall immediately explain, was still further increased by the authority of the Areeopagus.

The principal magistrates in Athens were the nine archons. (See Archon.) These nine archons, or presidents of the tribe, almost of the juries, like all other Athenian magistrates, were, at the expiration of their canonic office, accountable to the people; and when their conduct, after a severe scrutiny, appeared to merit public approbation and gratitude, they were received, and remained for life, members of the areopagus, a senate invested with a general inspection over the laws and religion, as well as over the lives and manners of the citizens, and which, in dangerous emergencies, was even entitled to affirm the sedition and revolt of any of its members. See Lytias, Hecataeus, Anaxarchus, vol. i., and Gillies's Greece, vol. ii. Thus did the senate of the areopagus, and that of the four hundred, become two counterpoises sufficiently powerful to secure the republic against the storms from which all states are incessantly in danger (See Plutarch, in Solon); the former, by repelling the enterprizes of the rich by its general censure; and the latter, by restraining by its decrees and its presence the excesses of the multitude. New laws were enacted in support of these regulations. The constitution might be attacked either by the general factions which had so long agitated the different orders of the state, or by the ambition and intrigues of certain individuals. To guard against these dangers, Solon denounced punishments against those citizens who, in time of public commotion, refused openly to declare for one of the parties. (Plutarch, in Solon.) His view, in this admirable institution, was to rope men of merit and integrity from a state of fatal inactivity, to oppose them to the factions, and save the republic by the courage and ascendency of virtue. By a second law, every citizen convicted of having attempted to make himself master of the sovereign authority, was condemned to death. Lajily, in the case of an attempt to erect another government on the ruins of the popular form, this wise legislator could imagine but one method to reanimate the nation; and that was by obliging the magistrates to resign their employments; and hence this firm and menacing decree:—it shall be lawful for every citizen, not only to put to death a tyrant and his accomplices, but any magistrate who shall continue to exercise his functions after the destruction of the democracy. Such is the great outline of the constitution established by Solon, according to which every Athenian citizen enjoyed the inviolable privilege of being judged by his peers, and tried by laws to which he himself had assented. Although the legislative and judicial powers were thus lodged with the people, men of property and ability were alone entrusted with the administration of government; and as power in some measure followed property, the same expedient which served to maintain a due distinction of ranks in society, tended also to promote the industry and frugality of the multitude, that they might thereby become entitled to share those honours and offices to which persons of a certain estate only could aspire. (See Gillies, vol. ii. p. 114.) Conformable to this constitution was the code of laws which was framed by this illustrious legislator. As a system of jurisprudence, the institutions of Solon pollute extraordinary excellence. They have the merit of culy condescending with great variety and diffusiveness in the political fields, and are indeed well adapted to any limited government. Transplanted into the Roman law, they have, in the forcible and eloquent language of Dr. Gillies, grown after an interval of above sixteen hundred years, to abolish the barbarous practices of the Gothic nations, and to introduce justice, security, and refinement among the modern inhabitants of Europe. The laws of Solon consider the citizen in the various relations of domestic, civil, and political society. They accurately mark the duties belonging to these relations, and prescribe the rules for directing and enforcing the performance of them, and for preventing their violation. To form the citizen early to the highest and most beneficial to the community, the laws of Solon describe the plan of his education. They recommend the exercises corporal, intellectual, and moral, which tend
most powerfully to invigorate the bodily constitution; to enlarge, refine, and direct the understanding; to form, strengthen, and liberalize the heart. They strongly reprobate idleness, and recommend industry, pointing out the objects, private and national, for which it would be most usefully and honourably exerted. They forcibly inculcate temperance, and censure the contrary as a principal source of vice and misconduct. Although the Athenian law was transplanted into the Roman on many subjects; in several there is a very considerable difference. In Athens, the institutions regarding women, and the relations in which they are concerned, were much more liberal than those of Rome, although they still greatly short of those in modern times, when men respect the natural equality of the sexes. Solon considers marriage as an engagement of mutual love and affection, the ends of which are to give happiness to the family, and useful citizens to the state. He does not consider the wife, as the Romans afterwards did, as only part of the family property, which the husband, the proprietor, was to use as he pleased. He regarded her as the domestic companion of her husband, nearly equal to him in the care of the children: he rigorously punishes those who violate the obligations of the married state: he permits divorce, not according to the caprice of the husband, but after a diffusion before a magistrate: he permits women to separate from their husbands on the same ground as men from their wives. His law for the protection of unmarried women was highly equitable. Whoever seduced a woman of before unimpeached conduct, was, if unmarried, obliged to atone to her by marriage for the injury. On this law hinge the plots of most of Terence's plays. The married destroyer of virgin innocence was punished with a salutary rigour. The reciprocal duties of parent and child Solon did not leave to the mere operation of natural affection, but added positive laws. These enjoined parents to bestow such pains on the education of their children as might enable them to perform their various duties as men and citizens. They oblige children to maintain their parents in declining years, two cafes excepted; e.g. if the children had been born of a courtier, or had been educated to no profession. In the first case, they supposed that children owe nothing to parents who had begotten them to disgrace; in the second, who defined them to usefulness and dependence. Domestic tribunals were not permitted by Solon's laws. A citizen could only be judged by his peers, and by them only deprived of property, liberty, or life. The magistrates, civil, military, and ecclesiastical, were by Solon's laws entitled to respect and obedience, whilst they acted agreeably to the end of their office. (See Anacharsis, Gillies, and Aristotle's Politics.) These are a few of the outlines of the provision made by Solon's laws for maintaining what judge Blackstone styles the rights of persons. The laws of Solon respecting property were founded on principles of pure ethics, and regarded moral conduct as well as the preservation of property and political expediency. They considered private virtue as well as private right and public tranquillity; they not only provided that one man should not injure another, but endeavored to prevent such motives from exiling as tend to produce injury. Thus by the Athenian law, the next heir is incapable of being guardian to a minor, because it might be apprehended that such a guardian might be more disinclined to appropriating the inheritance than of promoting the good of the ward. That regulation therefore considers moral motives, and withholds temptations. All the institutions of Solon respecting successions and entailments united the two considerations of regard to property and to moral principle. Solon allowed the citizen to dispose of his property at pleasure; at the same time by his regulations he guards against the arts of legacy hunters; and thus, while he respects property, withholds motives to injustice. In that part of his code which treats of what the civilians termed aliis, and judge Blackstone private wrongs, Solon's description of injuries, and measures of redress, are nearly the same as in the Roman and English law. They all proceed upon a plain and obvious principle in ethics, that every injury done must be redressed. The injuries which may be done to an individual, affect either his liberty, property, character, or person, and are in general nearly the same in all countries. On this principle (says Gibbon, speaking of that branch of law), the civilians of every country have erected a similar jurisprudence, the fair conclusion of universal reason and justice. In that part which the civilians style penal law, and Blackstone public wrongs, Solon differs very considerably from the Roman law, and agrees with the English. This difference is partly in the description of crimes, and partly in the mode of cognizance. Public wrongs are either such actions or omissions as tend to affect the tranquillity and happiness of the state. The false actions therefore must be wrong in very different degrees in different states and circumstances. The perfection of a penal code depends on the connection in the description of laws, between crimes and public injuries in the first place; and in the second, between crimes and punishment. If every action which generally hurts the public, is by the laws a crime, and if the punishment be exactly in proportion to the crime, and be not inflicted without certain proof of the commission, that must be a good penal code. A wise lawgiver apportions punishment to crime, but does not consider punishment only; he also takes preventive into his consideration. One of the many great excellencies of our English law is, that it has adopted efficacious means for preventing crimes. To this branch of legislation Solon also had paid considerable attention. The prevention of crimes depends chiefly on two things; first, vigilance in observing the conduct of those who, either from their general character, or from particular circumstances, may be supposed most likely to commit them; secondly, on the previous care bestowed on the morals of the people. This last is undoubtedly the furest way of preventing crimes from being general. As a punishment, under the fames of contradiption, is Solon enacted a law which obliged every citizen to exercise some trade or profession. "None," says the learned and ingenious Drummond, "among the various institutions of Solon has been more deservedly celebrated than that which obliged every citizen to exercise some trade or profession. In countries where the climate naturally disposes men to sloth and inactivity, every law which incites the mind to exertion, or which rouhs the latent energy of its faculties, must necessarily be attended with the most salutary effects." This law had a tendency not only to prevent the negative evil of sloth, but the positive evil of active criminality. By the institutions of Solon, extravagance, intemperance, and debauchery underwent a severe animadversion. Magistrates were empowered to watch the buildings of notorious practices which might, if not checked, ripen into crimes. Solon's description of the various lands and meanders of crimes is very accurate, and the annexed punishment is generally proportionate. No action of pernicious tendency is by the Athenian laws exempted from penal animadversion. By the Roman law, suicide (according to the just and striking description of Blackstone, "the pretended heroism, but real cowardice of the Stoic philosophers, who destroyed themselves to avoid those ills which they had not the fortitude to endure") was not only not punished, but
was encouraged. The Solon's laws, the self-murderer was branded with public infamy, and exposed to what, according to the religious notions of his countrymen, constituted public punishment. Solon describes the various species of fraud, theft, robbery, and homicide with the greatest accuracy. Of the last in particular, the different shades from what our laws call chance medley, to premeditated, are delineated with a most discriminating precision. It is not only the description of crime, and the annexation of punishment, that is of importance in penal codes, but also the tribunal which is to take cognizance of the case. By Solon's laws, every Athenian citizen had a right to be tried by his peers; the Athenian law was in this superior to the Roman, which, in many cases, admitted domicilic tribunals. The father took cognizance of the crimes of his own family. Thus at Rome, the accused frequently was not tried by a tribunal of his peers, bound to act according to a fixed law, but by an arbitrary judge, whose will was his only rule. Solon, like every wise lawgiver, endeavored to extend the influence of religion over the minds of his countrymen. He enjoined a profound veneration for deities, and described actions as pleasing or displeasing to them, according to the intention of the agent combined with the known tendency of the act. He taught the Athenians that the internal foundations of religion are strengthened and confirmed by external rites. He strictly enjoined the regular performance of rites and ceremonies.

Such was the code of Solon, such the civil and political institutions which contributed so powerfully to render this small territory so very great a state. The laws of Solon were to continue in force only for a century. Conceiving that conduct depends chiefly upon habits, he thought that the practice of a hundred years would confirm the Athenians in the habitual observance of such beneficial rules. But the restrictions being contrary to the licence of strong passions, appeared to many encroachments upon natural liberty; and they wished for modifications which might admit fuller scope to their desires. When the first novelty was worn off, Solon was surrounded by a crowd of importunate citizens, who overpowered him with petitions, advice, communications, or approaches. Some prefaced him for an explanation of particular laws, capable, according to them, of different interpretations; others proposed a variety of things to be added, modified, or suppressed.

Solon having exhausted his patience, and tried every conciliatory method in vain, was sensible that time alone could perfect and give through to his work; he therefore departed, after requesting permission to absent himself for ten years (see Plutarch, in Solon), and binding the Athenians by a solemn oath, not to make any alteration in his laws during his absence. (See Herodotus, Cho.) The adventures of Solon during his peregrination, belonging to himself individually, and not to the Athenians, will be seen under the articles Solon, Crotus, &c. The objects of his travels being, as Herodotus informs us, to view mankind; after having, like Ulysses, traversed many countries, and seen many men, he returned to his native country to behold the operation and effects of his institutions. He found that much time is required before men, who had been either the slaves of despots or the sharers in licentiousness, can be reconciled to just and equitable laws. The Athenians were ready again to sink into anarchy. (See Plutarch's Life of Solon.) The three parties, which had for long rent the public, seemed to have suspended their hatred during the legislation, only to vent it with more violence in his absence; in one point alone were they united, in deferring a change in the constitution, without any other motive than a secret selfishness, or any object but vague hopes. Solon, received with the most distinguished honours, wished to avail himself of these favourable dispositions to calm dissensions too frequently revising. At first he thought himself powerfully incited by Philistatus, who was at the head of the popular faction; and who, apparently eager to maintain equality among the citizens, declared himself an irreconcilable enemy to every innovation which might tend to its destruction; but he soon discovered that this profound politician concealed the most insidious ambition under the mask of an affected moderation.

Never did a man unite more qualities to captivate the minds of the people: he was of an illustrious birth, and possessed of great wealth, acknowledged wealth (see Ithomotus, in Terpophilus, his 5th book); a commanding figure, a persuasive eloquence, to which the musical tone of his voice lent new charms, and a mind enriched with the ideas bestowed by nature, and the information procured by study. No man was a greater master of his passions, or knew better how to turn to advantage those virtues he really possessed, and those of which he had only the appearance. His talents has proved, that in projects of bold execution, nothing can hallow a more decided superiority than self-control and flexibility of character. With such eminent advantages, Philistatus, insensible to the blows of the citizens, divided on them those confusions and frouzes, in which he had so often, or palliated the bitterness of suffering. Solon, attentive to his proceedings, penetrated his intentions; but whilst he was employed in devising means to guard against their consequences, Philistatus appeared in the forum covered with wounds he had artfully procured, imploring protection of the people whom he had so frequently protected. (See Herodotus, Cho.) The assembly being immediately convoked, he accused the senate and the chiefs of the other factions of attempting his life; and displaying his still bleeding wounds: "Behold!" he exclaimed, "the reward of my love for the democracy, and of the zeal with which I have defended your rights." At these words only menacing exclamations were heard on all sides; the principal citizens kept silence in astonishment, or took to flight. Solon, filled with indignation at their cowardice and the insurrection of the people, in vain attempted to reanimate the courage of the former, and to dispel the frenzy of the latter; his voice, enfeebled by years, was easily overpowered by the clamours excited by pity, rage, and apprehension. The assembly concluded by voting Philistatus a strong guard for the defence of his person (B.C. 560). From this moment all his projects were accomplished; he presently employed his force to take possession of the citadel, and after disarming the multitude, seized without opposition on the supreme authority. But though Philistatus by this usurpation destroyed for a time the political liberty of Athens, his power eventually gave liability to the laws which Solon had introduced. That extraordinary tyrant, for so the Greeks styled him, was not more distinguished by the loftiness of his genius, than the humanity of his disposition; and had not the violence of contending factions, and the fury of his enemies, inflamed his natural love of power, the name of Philistatus would stand the foremost in the list of Greek patriotic heroes. His valour and conduct were signalized in the conquest of Naxos, Salamis, Naxos, Delos, and Sigeum; and if he displayed boldness and address in acquiring sovereignty, he displayed still more moderation and virtue in administering it. He assumed, indeed, the royal dignities of priest and general, and took care that the chief offices of magistracy should be filled by his partisans; but he maintained the regular course of law and justice, not only by his authority, but by his example; having appeared in per-
A TH E N S.

ion to answer an accusation in the areopagus. He not only
enforced the laws of Solon against idlers, but endeavoured
to give them more efficacy, by introducing new arts and
manufactories into Attica. He was the first who brought
into that country the complete collection of Homer's poems,
which he commanded to be sung at the Panathenian festi-
vals: nor can we suppose that he would have been willing
to diffuse the liberal and manly sentiments of that divine
poet, if his government had not reimbursed the moderation
and equity of the heroic ages, rather than the deposition
of tyrants. (See Gillies's Greece, vol. ii. 117.) His son Hip-
parchus initated and surpased the mild virtues of his father;
and amidst the turbulence of the latter democracy, it was
acknowledged with a sigh by the Athenians, that their an-
ccestors were indeed happy under Solon and Pisistratus, but
that the reign of the tyrant Hipparchus brought back on
earth the golden days of Saturn. The father had required
a tenth part of the produce of Attica, to support his
guards, and the other appendages of royalty: his more
generous son remitted one half of this impostion. While he
alleviated the burdens, yet encouraged the industry of
his subjects, by building the temple of Olympian Jupiter,
he was solicitous to dispel their ignorance and barbarity, by
erecting pillars in every part of the city, engraved with el-
geic verses, containing lesson of wisdom, and precepts of
morality. He collected the first library in Athens; and his
liberal rewards, and still more his agreeable manners and
willing affability, attracted to that city the most distin-
guished poets of the age. The murder of Hipparchus ex-
aperrated the temper of his brother and vacefolor Hippias;
but, notwithstanding the calamities which the latter inflicted
and suffered, it must be allowed that the government of Pi-
sistratus and his family, which, with various interruptions,
lasted sixty-eight years, increased the strength and promoted
the reformation of Athens. (See Gillies's Greece, vol. ii.
118.)

Hipparchus, in particular, was fond of letters. Ana-
creon and Simonides, invited to his court, met with a most
flattering reception: the first being loaded with honours,
and the second with presents. He desirous also to partici-
pate with his father in the glory of extending the fame of
Homer. He may be reproached, as well as his brother,
with too freely abandoning himself to pleasures, and with
inspiring the Athenians with a taste for luxury. Fortunate,
nevertheless, if in the midst of these excesses he had not com-
nitted an act of injustice, of which he was the first victim!
Two young Athenians, Harmodius and Aristogiton, united
in bonds of the tenderer friendship, having received from this
prince an affront it was impossible to forget, confired his de-
struction, and that of his brother. Some of their friends en-
tered into this conspiracy, and its execution was fixed for the
solemnity of the panathenaen: they hoped that the crowd of
Athenians, who, during the ceremonies of this festival, were
permitted to bear arms, would second their efforts, or at
least protect them against the fury of the guards who at-
tended on the sons of Pisistratus. With this view, after
covering their poignards with branches of myrtle, they re-
paired to the place where the princes were arranging a pro-
cession, which they were to precede to the temple of Minerva.
When they arrived, they saw one of the conspirators in familiar
conversation with Hippias, and concluded themselves
betrayed: but resolvent dearly to fell their lives, retired for
a moment, and finding Hipparchus plunged a dagger in his
heart. Harmodius instantly fell beneath the redoubled
blows of the prince's guards. Aristogiton, seized almost
at the same instant, was put to the torture; but far from
name his accomplices, he acceded the most faithful parti-
fans of Hippias, who ordered them to be dragged to instant
punishment. "Halt thou still other wrote to discover,"
exclaimed the tyrant, transported with fury. "There are
none left but thee," replies the Athenian; "I die, and
enjoy in death the satisfaction of having deprived thee of thy
beloved friends." From that moment Hippias abandoned him-
self to the perpetration of every kind of injustice (Thucyd-
des b. 6. c. 59.); but the yoke he laid dearon the Athenians
was broken three years after. (B. C. 512.) Chaldæns,
chief of the Alesamones, a powerful house of Athens, at
all times inimical to the family of Pisistratus, collected all
the maleccon tents about his person; and having obtained
the affiance of the Lacedæmonians, by means of the Pythia
of Delphi, whom he had gained over to his interest, marched
against Hippias, and forced him to abdicate the tyranny.
No sooner had the Athenians recovered their liberty, than
they rendered the highest honours to the memory of Har-
modius and Aristogiton. Statues were erected to them
in the forum; it was enacted that their names should be for
ever celebrated at the festival of the panathenaeon, and that,
on no pretext whatever, be given to slaves. The poets
eternized their glory by poems and songs, and very extensive
privileges were granted in perpetuity to their descendants.
Chaldæns, who had so greatly contributed to the expulsion
of the Pisistratide, had still to struggle for many years
against a powerful faction; but at length obtaining in the
vote the authority to which he was entitled by his great
talents, he confirmed the constitution established by Solon,
which the Pisistratide had never attempted entirely to sub-
vert. (Anacreon's Travels, vol. i. p. 174.) The power of
Athens was great in ancient times; but it became incompar-
able greater after the re-establishment of freedom. So
advantageous to the powers of the human mind is the enjoy-
ment of liberty, even in its least perfect form, that in a few
years after the expulsion of Hippias, the Athenians acquired
an ascendant in Greece, which was fatal to their enemies,
profitable to their rivals, and even dangerous to themselves.
They chastified the insolence of the illans of Eubea and
Ægina, who contended with them in naval power; and
humbled the pride of Thebes, which rivalled them in mili-
tary glory. Favoured, as they fromely believed, by the
protection of their tutelary Minerva; and animated, as they
strongly felt, by the possession of an equal freedom; they
adorned their capital with the richest spoils of their van-
quished enemies. Their influence soon extended over the
northern parts of Greece; and the fame of their power,
still greater than their power itef, alarmed the fears and
jealousy of the Peloponnesians. The Spartans, in par-
cular, who had allied them in restoring the democracy,
now perceived the error of which they had been guilty, in
promoting the greatness of an ambitious rival. In order to
prevent the dangerous consequences of their folly, they
summoned to a congress all their allies in Peloponnesus, that
their united wisdom might concert proper measures for re-
filing; ere it was too late, the encroachments of the Athe-
nians, which threatened the liberties of all Greece. Their
allies readily obeyed the welcome summons, and the deputies
of the several states, having assemhed in the Spartan forum,
eagerly listened to the speakers appointed to explain the in-
tentions of that republic. The Lacedæmonian orators ac-
knowledged the mildness of their policy, in expelling
from Athens the family of Pisistratus, and delivering the
government of that city into the hands of an unacquainted
people, who had once treated them with much indulgence.
But why (they proceed,) should we relate private injures?
Have they not inflicted all their neighbours? Does not their
pride daily increase with their power? And is there not
reason
reason to dread, that their growing ambition may endanger,
and at length destroy, the public safety? In order to prevent
this evil, we have recalled Himippos from banishment. And
let us, therefore, by our united efforts, reinstate the son of
Pisistratus in that power and authority of which we most
injustically deprived him. The speech of the Lacedemoni-
ans produced not the intended effect. The Peloponnesians,
however jealous of the Athenian greatness, were still more
jealous of the power of tyrants; and many of them, who
had experienced the hardships of Sparta, were not disas-
tisfied with beholding a rival to that republic in the northern
division of Greece. The other deputies expressed their
difficult by silent disapprobation; but Sosicles, the Corinthian,
declared his sentiments at great length, in a speech which
alike marks the manly character of the age, and the youth-
ful vigour of Grecian eloquence. "Then, surely, Laceda-
emonians, will the heavens fink below the earth, and the
earth rise sublime in the air; men will inhabit the depths of
the sea, and fishes will take possession of the land; when
you, formerly the bulwarks of liberty, shall demolish the
popular governments of Greece, and establish tyrannies in
their room, than which nothing can be more unjust or more
pernicious." After this pompous exordium, the Corinthian
proceeded to describe and exaggerate the calamities which
his own countrymen had suffered from the usurpation of
Cyphes, and his son Periander. Having related, at great
length, the proud, cruel, and detestable actions of those
princes; "Such," added he, "are the genuine fruits of
absolute power; but I adjure you, by the Grecian gods!
attempt not to re-establish it in Athens. The Corinthians
were feized with amazement when they heard that you had
sent for Himippos; I myself was amazed at beholding
him in this assembly; yet we never suspected that you pro-
posed to restore him, in triumph, to his much injured city.
If you still persist in this fatal resolution, know that the
Corinthians disavow all part in a design equally unjust and
impious." The other deputies listened with pleasure to the
boldness of Sosicles, who expressed the sentiments which
they themselves felt, but which their respect for the Laceda-
emonians obliged them to conceal. Himippos alone opposed
the general voice of the assembly, attacking the fame gods
which his opponent had invoked, and prophesying, that at
some future time the Corinthians would repent of their present
conduct, and regret their cruel injustice to the son of
Pisistratus, when their own citizens, as well as the rest of Greece,
should mutually experience the dangerous ambition of Athens.
This remonstrance, which was so fully justified in the
sequel, produced no immediate effect in the assembly; the
Lacedemonians finally yielded to the general requisition of
their confederates, and abjured from their intended innova-
tion in the government of a Grecian city.

The deposed prince, finding his cause abandoned by the
Greeks, sought the protection of Artaphernes, the Per-

(See Herodotus, book vi.) Precisely at this juncture (B.C. 591.) Artilagoras arrived at Athens, explained the revolt of the Asiatic Greeks from the government of Artaphernes, and solicited the assistance of the Athenians, in defending
their own colonies against the oppressive violence of the
common foe. Many arguments were not necessary to make
the people of Athens adopt a measure which gratified their
own passions. The eloquent Miltiades, however, described
the wealth and extent of Persia, the grandeur and popu-
lness of its cities, and above all, the fleuthful effeminacy
and polished manners of their inhabitants, who, unable
to support the ponderous shield, or to poise the manly
spear, invited as an easy prey, the victorious arms of a
more warlike invader. The speech of Artilagoras was well
fitted to excite the ambition and avarice of Athens. The
assembly immediately decreed that assistance should be sent
to Ionia. Twenty ships were fitted out with all convenient
speed, which reinforced by five more belonging to Eretria,
a town of Euboea, rendezvoused in the harbour of Miletus.
Artilagoras spent not long time in his embassy to the other
states of Greece, and soon met the Athenian allies at the
place appointed. It was here determined, that while the
commander in chief regulated the civil affairs of the Ionians,
his brother Charopinus should conduct a military expedition
against the wealthy capital of Lydia. The Athenians,
delirous of testifying their resentment against the common
enemy, and still more delirious of plunder, eagerly engaged
in this undertaking. The united fleets left the harbour
of Miletus, and failed to Ephesus, where the troops were
disembarked; and, in three days, accomplishing a journey
of seventy miles, appeared before the walls of Sardis. The
Perian governor little expected such a visit; his soldiery
were not prepared to take the field; and the extensive
walls of the city could not be defended on all sides against
the besiegers; and the Greeks, without opposition, entered
Sardis, in order to plunder the accumulated wealth of that
ancient capital. But an accident prevented them from reap-
ing the fruits of their successe. The reinforcement of a
pauper, disappointed of his prey, set fire to the house
of a Lydian, situate on the skirts of the town which con-
stituted for the most part of very combustible materials,
the houses being all roofed, and many of them walled with
cane; a mode of building doubly dangerous in that humid
climate. The flames readily communicated from one house
to another; and, in a short time, the whole circumference
of the place was surrounded with a wall of fire. Sardis
was built in the Grecian, not in the Eastern fashion, having
on the banks of the Pactolus, which intersected the town,
a spacious quay, which commonly served for the market-
place. Thither the Persians, driven from their extremities,
betook themselves to refuge against the fury of the flames.

Darius was extremely enraged against the Greeks, and
especially the Athenians, for having abetted revolt among
his subjects. The proud monarch of the East, when in-
formed that the citizens of Athens had co-operated with the
Ionians, in the taking and burning of Sardis, discovered
evident marks of the most furious resentment; shooting an
arrow into the air, he prayed that heaven might afflict him
in punishing the audacious infortune of that republic; and
every time he sat down to table, an attendant reminded him
of the Athenians, left the delight of Eastern luxury should
mislead him from his real purpose of revenge. The execution
of his design was entrusted to Mardonius, a Perian noble-
man of the first rank, whose personal as well as hereditary
advantages had entitled him to the marriage of Artazostra,
dughter of Darius; and whose youth and inexperience were
compensated in the opinion of his master, by his
superior
A TH E N S.

superior genius for war, and innate love of glory. In the
second spring after the cruel punishment of the Ionians, Mardonius approached the European coast with an armament sufficient to inspire terror into Greece. The rich island of Thasos, whose golden mines yielded a revenue of near three hundred talents, submitted to his fleet; while his land forces added the barbarous province of Macedon to the Persian empire. But having fleetly forti with Thasos, the whole armament was overtaken and almost destroyed by a violent storm, while endeavouring to double the promontory of Mount Aetna, which is connected with the Macedonian shores by a narrow neck of land, but forms a long and lofty ridge in the sea. Three hundred vessels were dashed against the rocks; twenty thousand men perished in the waves. This disaster totally defeated the design of the expedition, and Mardonius having recovered the scattered remains of his fleet and army, returned to the court of Persepolis by flatterling the pride, he avowed the submission of Darius; while he represented, that the Persian forces, invincible by the power of man, had yielded to the fury of the element. The address of Mardonius induced him from punishment; but his misfortunes removed him from the command of Lower Asia. Two generals were appointed in his room, of whom Datis, a Mede, was the more distinguished by his age and experience, while Artaphernes, a Persian, was the more conspicuous for his rank and nobility, being descended of the royal blood. That is lieutenant might appear with a degree of splendor suitable to the majesty of Persepolis, Datis assembled an army of 120,000 men, composed of the flower of the provincial troops of his empire. The preparation of an adequate number of transport vessels and ships of war occasioned but a short delay. The maritime provinces of the empire, Egypt, Phœnicia, and the coasts of the Euxine and Ægean seas, were commanded to fit out, with all possible expedition, their whole naval strength; the old vessels were repaired, many new ones were built; and in the course of the same year in which the preparations commenced, a fleet of six hundred sail was ready to put to sea. This immense armament the Persian generals were ordered to employ in extending their conquests on the side of Europe, in invading the republics of Greece, and more particularly in chastising the insolence of the Athenians and the Aetians, the only nation in which he had confided with the revolt of the Ionians, and affrighted that rebellious people in the destruction of Sardis. With respect to the other nations which revolted, reduced by his arms, the orders of Darius were general, and the particular treatment of the vanquished was left to the discretion of his lieutenants; but concerning the Athenians and Etruscans, he gave the most positive commands that their territories should be laid waste, their housetops burnt and demolished, and their persons carried in captivity to the extreme extremities of his empire. Secure of effecting this purpose, his generals were furnished with a great number of chains for confining the Grecian prisoners; a haughty preemption (to use the language of antiquity), in the superiority of man over the power of fortune, which on this, as on other occasions, was punished by the just vengeance of heaven. (B.C. 490.) The Persian fleet entered a prosperous voyage to the isle of Samos, from whence they were ready to proceed to the Athenian coast. The late disaster which befell the armament commanded by Mardonius, deterred them from pursuing a direct course along the shores of Thrace and Macedonia; they determined to fly in a direct line through the Cyclades, a cluster of seventeen small islands lying opposite to the territories of Argos and Attica. The approach of such an immensurable host, whose transports darkened the broad surface of the Ægean, struck terror into the unwary inhabitants of those delightful islands. The Naxians took refuge in their inaccessible mountains. The natives of Delos, the favourite residence of Latona and her divine children, abandoned the lawful majesty of their temple, which was overshadowed by the rough and lofty mount Cythnus, Paros, famous for its marble; Andros, celebrated for its vines; Cos, the birth-place of the plaintive Simonides; Syros, the native country of the ingenious and philosophic Thersycles; Ios, the tomb of Homer; the indolent Amorgos; as well as all the other islands which surrounded the once sacred shores of Delos, either spontaneously offered the usual acknowledgment of earth and water as a token many of their friendship, or submitted, after a feeble resistance, to the Persian arms. The invaders next proceeded westward to the island of Eubœa, where, after a more confined engagement of six days, their strength and numbers, checked by the perfidy of two traitors, finally prevailed over the valour and obstinacy of the Eubœans. Hitherto every thing was prosperous; but a more difficult task remained, in the execution of which the Persians (happily for Europe) experienced a fatal reverse of fortune. After the reduction of Eubœa, the Athenian confederates, separated from that island only by the narrow strait of Euripus, seem ed to invite the generals of Darius to an easy conquest. They readily accepted the invitation, as the punishment of Athens was the main object which their master had in view when he fitted out his seemingly invincible armies. The menaces which they adopted for accomplishing this design appear abundantly judicious; the greater part of the army was left to guard the islands which they had subdued; the useless multitude of attendants were transported to the coast of Asia; with a hundred thousand chosen infantry, and a due proportion of horse, the Persian generals set sail from Eubœa, and safely arrived on the Marathonian shores, a district of Attica, about thirty miles from the capital, confining chiefly of level ground, and therefore admitting the operations of cavalry, which formed the main strength of the barbarian army, and with which the Greeks were very poorly provided. Here the Persians pitched their camp, by the advice of Hippias to the humiliation of Athens, whose posterity knew, that when he fitted out his seemingly invincible armies. 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No sooner were the troops assembled, than they marched out of the city into the plain of Marathon, where the inhabitants of Plataea sent them a reinforcement of a thousand infantry. Scarcely were the two armies in sight of each other, before Miltiades proposed to attack the enemy; Aristides, and several of the commanders, warmly supported this measure; but the rest, terrified at the excessive disproportion of the armies, were dreading for success from Lacedaemonia. Opinion being divided, they had recourse to that of the hoplarch, or chief of the militia, who was consulted on such occasions to put an end to the equality of suffrages. Miltiades addressed himself to him with the ardour of a man deeply impressed with the importance of present circumstances; "Athenians (said he) is on the point of experiencing the grandeur of victorious, or the theatre of the tyranny and fury of Hippias: from you, alone, Callimachus, the now awaits her deliver. If we suffer the armies of the Persians to cool, they will shamefully bow beneath the Persian yoke; but if we lead them on to battle, the gods and victory will favour us. A word from your mouth might now precipitate your country into slavery, or preserve her liberty." (See Herodotus, i. vi. c. 109.) Callimachus gave his suffrage, and the battle was resolved. To ensure success, Aristides and the other generals after his example, yielded to Miltiades the honour of the command which belonged to them in rotation; but, to secure them from every hazard, he preferred waiting for the day which of right placed him at the head of the army. When that day arrived, Miltiades drew up his troops at the foot of a mountain, on a spot of ground scattered over with trees, to impede the Persian cavalry. The Plataeans were placed on the left wing; Callimachus commanded the right; Aristides and Themistocles were in the centre of the battle, and Miltiades everywhere. (See Herodotus, i. vi.) At the first signal, the Greeks advanced over this space running. The Persians astonished at a mode of attack so new to both nations, for a moment remained motionless; but, to the impetuous fury of the enemy, they soon opposed a more sedate and not less formidable fury. After an obstinate conflict of some hours, victory began to declare herself in the two wings of the Greek army. The right dispersed the enemy in the plain, while the left drove them back on a morass that had the appearance of a meadow, in which they stuck tall and were lost. But the bodies of troops now met on the front of our forces, and the forces of Aristides and Themistocles, ready to give way for the flower of the Persian troops, placed by Datæ in the centre of his battle. From this moment the rout became general. The Persians, repulsed on all sides, found their only asylum in the fleet, which had approached the shore. The conquerors pursued them with fire and sword, and took, burnt, or sunk, the greater part of their vessels; the rest escaped by dint of rowing. The blood-stained tyrant of Athens fell that day in the engagement; two Athenian generals, and about two hundred citizens, were found among the slain: the Persians left six thousand of their boats troops in the scene of action. The joy excited among the Athenians by a victory, which not only delivered them from the dread of their enemies, but raised them to distinguished pre-eminence among their rivals and allies, is evident from a remarkable incident which happened immediately after the battle. As soon as fortune had visibly declared in their favour, a offer was dispatched from the army to convey the welcome news to the capital. He ran with incredible velocity, and appeared, covered with dust and blood, in the presence of the senators: exulting in fatigue conjoined with the transports of enthusiasm to exult the vigour of his frame; he had only time to exclaim in two words, "Rejoice with the victors!" and immediately expired. The Athenians neglected nothing to exalt those who fell in the battle. Honorable funerals were performed on them; their names were engraved on half columns erected on the plain of Marathon. In the intervals between them were erected trophies bearing the arms of the Persians. An artist of eminence painted all the circumstances of the battle in one of the most frequented portions of the city: Miltiades was there represented at the head of the generals, and in the act of exhorting the troops to fight for their country. The highest plumes were bestowed upon Miltiades, and he was appointed commander of an expedition against the Persian garrisons. The first operations of the Athenian armament were crowned with success. Several islands were subdued, and considerable sums of money collected. But the fleet arriving before Paros, every thing proved adverse to the Athenians. The Persians made a very vigorous defence; their strength, however, began to decline, and they must have been overpowered, but for a fortunate accident. An extensive grove, happening to be set on fire in a neighbouring island, was believed by the beholders to indicate the approach of a Persian fleet. The same opinion gained ground among the Persians, who, determined by their utmost efforts to preserve the place until they should be relieved by the assistance of their protectors. Miltiades had received a dangerous wound during the siege; and the weakness of his body impairing the faculties of his mind, he gave orders to draw off his victorious troops, and returned with the whole fleet to Athens. The Athenian citizens, and particularly the more eminent and illustrious, had universally rivals and enemies. The competitions for civil offices, or military command, occasioned eternal animosities among those jealous republicans. Xanthippus, a person of great dilution, and father of the celebrated Pericles, who, in the succeeding age, obtained the first rank in the Athenian government, eagerly seized an opportunity of depriving the character of a man which had so long surpasse of every competitor. He was accused of suffring himself to be corrupted by Persian money, and notwithstanding the solicitations of the most virtuous citizens, was condemned to be thrown into the dungeon in which malefactors are left to perish. The magistracy opposing the execution of this infamous decree, his punishment was commuted into a fine of fifty talents; and as he was unable to pay this sum, Athens saw the vanquisher of Darius expire in chains of the wounds he had received in the service of the state. But the glory of Miltiades survived him; and the Athenians, however unjust to his person, were not unmindful of his fame. At the distance of half a century, when the battle of Marathon was painted by order of the state, they directed the figure of Miltiades to be placed in the fore ground, animating the troops to victory; a reward which, Dr. Gillies observes, "during the virtuous simplicity of the ancient commonwealth, conferred more real honour than all that magnificent profusion of crowns and statues, which, in the later times of the republic, were rather exorted by general fear, than bestowed by public admiration." "The jealousies continue the same author, retaliations, dangers, and calamities, which often attend power and pre-eminence, have never yet proved sufficient to deter an ambitious mind from the pursuit of great objects." The rivals of Miltiades were animated by the glory of his elevation, but depreted by the example of his fall. His accuser, Xanthippus, though he had acted the principal part in removing this favourite of the people, was not deemed worthy to succeed to his power.
Two candidates appeared for the public confidence and esteem, who stridently outstripped each other in the race of ambition, and whose characters deserve attention even in Athenian history, as they had a powerful influence on the fortune of Athens. (See Dr. Gillies's History of Greece, vol. i. p. 407.) The character of Aristeides has been already seen in biographical detail (see article Aristeides); here it is to be viewed merely in its combination with events and with characters which affected the history of Athens.

The character of Themistocles was of a more noble kind. The trophy, which Miltiades had raised at Marathon, disturbed his rest; he was inflamed with a desire to emulate the glory of this exploit; and while he enabled Athens to maintain a superiority in Greece, he was ambitious to acquire for himself a supremacy in Athens. His talents were well adapted to accomplish both these purposes; eloquent, active, enterprising, he had throughout his natural endowments by all the force of education and habit. Laws, government, revenue, and arms, every branch of political and military knowledge, were the great objects of his study. In the courts of justice he successfully displayed his abilities in defence of his private friends, or in accusing the enemies of the state. He was forward to give his opinion upon every matter of public deliberation; and his advice, founded in wisdom, and supported by eloquence, commonly prevailed in the assembly. Yet with all these great qualities, his mind was left unshaken with the native charms of virtue, than captivated with her splendid ornaments. Glory was the idol which he adored; he could injure, without remorse, the general cause of the confidence, in order to promote the grandeur of Athens; and history still leaves it as doubtful, as did his own conduct, whether, had an opportunity offered, he would not have sacrificed the happiness of his country to his private interest and ambition. The分娩ment of Aristeides perceived the danger of allowing a man of such equivocal merit to be entrusted with the sole government of the republic; and on this account, rather than from any motives of personal animosity, he opposed every measure that might contribute to his elevation. In this patriotic view, he frequently solicited the fame honours which were ambitiously courted by Themistocles, especially when no other candidate appeared capable of balancing the credit of the latter. A rivalry thus began, and long continued between them; and the whole people of Athens could only decide the much coveted pre-eminence, by the choice of Themsitocles. He far prevailed over the authority of his opponent, that he procured his own nomination to the command of the fleet; with which he effected the conquest of the small islands in the Aegean, and thus completed the design of Miltiades. While he acquired fame and fortune abroad, Aristeides increased his popularity at home. The opposition to his power, arising from the splendid eloquence and popular manners of his rival, was now fortunately removed, and he became the chief leader of the people. His opinion gave law to the courts of justice; or rather such was the effect of his equity and discernment, he alone became sovereign umpire in Athens. In all important decisions he was chosen arbitrator, and the ordinary judges were deprived of the dignity and advantages formerly resulting from their office. This consequence of his authority, offending the pride of the Athenian magistrates, was sufficient to excite their resentment; which, of itself, might have effected the ruin of any individual. But their views on this occasion were powerfully promoted by the triumphant return of Themistocles from his naval expedition. The admiral had acquired considerable riches; but wealth he despised, except as an instrument of ambition. The spoils of the conquered islands were profusely lavished in shows, festivals, dances, and theatrical entertainments, exhibited for the public amusement. His generous manners and flowing affability were contrasted with the stern dignity of his rival; and the result of the comparison added great force to his inscription, that since his own necessary absence in the service of the republic, Aristeides had acquired a degree of influence inconsistent with the constitution; and, by arrogating to himself an universal and unexampled jurisdiction in the state, had established a silent tyranny, without pomp or guards, over the minds of his fellow-citizens. Aristeides, trouncing to the innocence and integrity of his own heart, disdained to employ any unworthy means, either for gaining the favour, or for averting the resentment, of the multitude. The contest, therefore, ended in his banishment for ten years, by a law intitled the Ostracism (from the same of the materials on which votes were marked), by which the majority of the Athenian assembly might expel any citizen, however injurious or meritorious had been his past conduct, who, by his present power and greatness, seemed capable of disturbing the equality of republican government. This singular institution, which had been established soon after the Athenians had delivered themselves from the tyranny of Hippias, the son of Pisistratus, was evidently intended to prevent any person in future from attaining the fame unlawful authority. At Athens, even virtue was proscribed, when it seemed to endanger the public freedom; and only four years after the battle of Marathon, in which he had displayed equal valor and wisdom, Aristeides, the just and most respectable of the Greeks, became the victim of popular jealousy; an example of cruel rigour, which will for ever brand the spirit of democratical policy. The banishment of Aristeides exposed the Athenians still more than formerly to the danger which they hoped to avoid by this severe measure. The removal of such a formidable opponent enabled Themistocles to govern without control; army, navy, and revenue, all were submitted to his inspection. It happened, indeed, most fortunately for the fame of this great man, as well as for the liberty of Athens, that his active ambition was called to the glorious talk of subduing the enemies of his country. The smaller islands in the Aegean were already reduced to obedience; but the possession of them was uncertain while the fleet of Aegina covered the sea, and bad defiance to the Athenians. This small island, or rather this rock, inhabited by mere fishermen, the best situation in the Saronic gulph, which divides the territories from the northern shores of Peloponnesus, was a formidable enemy to the republic; the jealousy of commerce and naval power embittered their mutual rivalry; and as the inhabitants of Aegina, who were governed by a few leading men, had entered into an alliance with the Persians, there was every circumstance united which could provoke to the utmost the hatred and resentment of the Athenians. A motive less powerful than the excesses of republican antipathy could not probably have prevailed on them to embrace the measure which they now adopted by the advice of Themistocles. There was a considerable revenue arising from the silver mines of mount Laurium, which had been hitherto employed in relieving the private wants of the citizens, or dissipated in their public amusements. This annual income Themistocles persuaded them to define to the useful purpose of building ships of war, by which they might seize or destroy the fleet of Aegina. The proposal was approved, an hundred galleys were equipped, the naval strength of Aegina was broken, and success animated the Athenians to aspire at obtaining the unrivalled empire of the sea. Corcyra formed the only remaining obstacle to their ambition. This island, which,
which, under the name of Phœcia, is celebrated by Homer for its amazing riches and fertility, had been full further improved by a colony of Corinthians. It extends an hundred miles along the western shores of Epirus, and the natural abundance of its productions, the convenience of its harbours, and the adventurous spirit of its new inhabitants, gave them an undisputed advantage over their neighbours in navigation and commerce. They became successively the rivals, the enemies, and the superiors of Corinth, their mother country; and their successful cruises infected the coasts and disturbed the communication of the islands and continent of Greece. It belonged to Athens, who had for the time been perished, the pernicious of Zegina, to chastise the infirmity of the Corecyans. The naval depredations of these islanders made them be regarded as common enemies; and Themistocles, when, by seizing part of their fleet, he broke the fines of their power, not only gratified the ambition of his republic, but performed asignal service to the whole of the Grecian confederacy. Victorious by sea and land, against Greeks and Barbarians, Athens might now seem entitled to enjoy the fruits of a glorious security. It was generally believed in Greece, that the late disfaster of the Persians would deter them from invading a second time the coasts of Europe. But Themistocles, who, in the words of Thucydides (lib. i.), was no less fagacious in facing the future, than in managing the present, regarded the battle of Marathon not as the end of the war, but as the prelude to new and more glorious combats. He continually exhorted his fellow-citizens to keep themselves in readiness for action; above all, to increase, with unremitting affability, the strength of their fleet; and, in consequence of this judicious advice, the Athenians were enabled to oppose the immense armaments of Xerxes (of which the most formidable tidings soon arrived from every quarter), with two hundred galleys of a superior size and construction to any hitherto known in Greece. (See Gillies's Greece, vol. 1. p. 414.) Meanwhile the reduction of revolted provinces had given employment and luftre to the Persian army. Nine years after the battle of Marathon, and in the fourth year of his reign (B.C. 481.), Xerxes found himself uncontrolled master of the East, and in possession of such a fleet and army as flattered him with the hopes of universal empire. The three last years of Darius were spent in preparing for the Grecian expedition. Xerxes, who needed to his fleet and to his revenue, dedicated four years more to the same hostile purpose. Amidst his various wars and pleasures, he took care that the artifices of Egypt and Phœnia, as well as all the maritime provinces of Lower Aia, should labour with unremitting diligence, in fitting out an armament adequate to the extent of his ambition. Twelve hundred ships of war, and three thousand ships of burthen, were at length ready to receive his commands. The former were of a larger size and firmer construction than any hitherto seen in the ancient world: they carried on board, at a medium, 200 seamen and thirty Persians who served as marines. The ships of burthen contained, in general, eighty men, fewer being found incapable of rowing them. The whole amounted to 42,000 ships and about 500,000 men, who were ordered to rendezvous in the most secure roads and harbours of Ionia. We are not exactly informed of the number of the land forces, which were assembled at Sûfa. It is certain however, that they were extremely numerous, and it is probable that they would continually increase on the march from Sûfa to Sardis, by the confluence of many tributary nations, to the Imperial standard of Xerxes. The Persian army consisted of 1,700,000 infantry, and 58,000 cavalry, besides 20,000 Arabian, riders of camels, and Libyan charioteers: when to there were added sailors and marines, the number amounted to 2,317,610: this was the number of fighting men whom Xerxes brought from Asia, exclusively of attendants and slaves. Besides, there were immense numbers of women and cannibals, who, according to eastern luxury and debauchery, followed the camp, in all the ostentatious pageantry and fabulous magnificence of despotick pomp: so that to use the words of the animated Bartholdi, 5,000,000 had been torn from their native homes, and were preparing to destroy whole nations, to gratify the ambition of an individual named Mardonius. In Europe he was joined by 500,000 of Thraceans, Macedonians, and northern Greeks, who meanly deserted their brave countrymen of Sparta and Athens; so that the whole exceeded 2,800,000 men. (This account is translated from Herodotus, i. vi.) The number of this army, as recorded by the soft Greek historian, has never been equalled by any of ancient or modern times, from Herodotus to his literary descendant Gilles. But little availed the bodies of Asian slaves, against the souls of European freemen. Having wintered at Sardis, he sent ambassadors to demand the tenth water, as a mark of submission, from all the Grecian states except Athens and Sparta, whom he presumptuously referred for the severest punishment. (B. C. 480.) The slow march of his immense army, and, full more, its tedious transportation across the seas which separate Europe from Asia, ill suited the rapid violence of his revenge. Xerxes therefore ordered a bridge of boats to be raised on the Hellefont, which, in the northern part, is only seven miles, or seven eighths of a mile in breadth. Here the bridge was formed with great labour; but whether owing to the awkwardness of its construction, or to the violence of a succeeding tempest, it was no sooner built than destroyed. The great king ordered the directors of the work to be beheaded; and, proud of his tyrannical power over feeble men, displayed an impotent rage against the elements. In all the madness of despotism, he commanded the Hellefont to be punisht with 500 horses, and a pair of setters to be dropped into the sea; adding these frantic and ridiculous expressions:—"It is thus, thou falt and bitter water, that thy murderer punishes thy unprovoked injury; and he is determined to pull thy treacherous streams, notwithstanding all the influence of thy malice." After this abortive ceremony, a new bridge was made of a double range of vessels, fixed by strong anchors on both sides, and joined together by cables of hemp and reed, fastened to immense beams driven into the opposite shores. The decks of the vessels, which exceeded 600 in number, were strewed with trunks of trees and earth, and their surface was still farther smoothed, by a covering of planks. The sides were then raised with wicker work, to prevent the fear and impatience of the horses; and upon this singular edifice the main strength of the army passed in seven days and nights, from the Asiatic city of Abydos, to that of Selctes in Europe. The army began its march divided into three bodies, one of which followed the sea shore, and the two others proceeded at Baxed distances, through the interior part of the country. (See Herodotus, i. vii.) The measures that had been adopted, procured them certain means of subsistence. Three thousand vessels laden with provisions kept along the coast, regulating their motions by thofe of the army. The Egyptians and Phœnicians had previously flourished many of the maritime towns of Thrace and Macedonja, and the Persians at every station were fed and provided with every thing by the inhabitants of the adjacent countries, who, long apprised of their arrival, were prepared for their reception. But before this general transporta- tion, a considerable part of the forces had been already sent to
the coast of Macedonia, in order to dig across the Ilissus which joins to that coast the high promontory of Athos. The difficulties which beset the fleet commanded by Mardonius, in doubling the cape of this celebrated peninsula, was full

pretext to the mind of Xerxes. The neck of land, only a mile and a half in breadth, was adorned by the Grecian city of Samos; and the promontory being rich and fertile, was

well inhabited both by Greeks and Barbarians. The cutting of this narrow Ilissus, by a canal of sufficient width to allow two galleys to sail abreast, was a matter not beyond the power of a potentate who commanded the labour of so many myrmidons; but it is observed by Herodotus, to have been not more laborious than utility, as the vehemences, according to the custom of the age, might have been conveyed over land with greater expedition, and with less trouble and expense. The Persians forces were now

safely conducted into Europe; and the chief obstacle to the easy navigation of their fleet along the coasts of Thrace, Macedonia, and Thessaly, to the centre of the Grecian states, was removed by the dividing of mount Athos. Through the fertile plains of Lepper Asia, the whole army had kept in a body; but the difficulty of supplying obliged them to separate into three divisions in their march through the six

cultivated countries of Europe. Before this separation took place, the whole Persian army were encamped by Xerxes, near Doricus, a city of Thrace, at the mouth of the river Habros. This celebrated muster we shall narrate in the words of Dr. Gillies. "Such an immense collection of men assembled in arms, and attended with every circumstance of martial magnificence, gave an opportunity for seeing, or at least for supposing, many interesting scenes. The ambition of the great king had torn him from his palace of Susa, but it could not tear him from the objects of his affection, and the minions of his pleasure. He was followed by his women, and by his flatterers, and all the effeminate pride of a court was blended with the pomp of war. While the great body of the army lay every night in the open air, Xerxes and his attendants were provided with magnificent tents. The splendor of his chariots, the splendor of his horses, which far excelled the swiftest racers of Thessaly, the unexampled number of his troops, and above all, the bravery of the immortal band (a body of 10,000 Persian cavalry, so named because their number was constantly maintained from the flower of the whole army), seemed sufficient, to the admiring crowd, to raise the glory of their sovereign above the condition of humanity; especially since, among so many thousands of men as passed in review, none could be compared to Xerxes in strength, in beauty, or in stature. But amid his splendor of external greatness, Xerxes felt himself unhappy. Having attended an audience to view his camp and fleet, his pride was humbled with the reflection, that no one of all the innumerable host could survive, an hundred years. The haughty monarch of Asia was melted into tears. The conversion of his kindred and counsellor, Artabanus, was ill calculated to console his melancholy. That respectable old man, whose wisdom had often moderated the youthful ardor of Xerxes, and who had been as affidant to prevent, as Mardonius had been to promote, the Grecian war, took notice that the misery of human life was an object far more lamentable than its shortness. In the narrow space allotted, has not every one of these in our presence, and indeed the whole human race, often wished rather to die than to live? The tumult of passions disturb the heel of our days; diseases and weakness accompany old age; and death, so vainly dreaded, is the sure and hopeless refuge of wrretched mortals." (See Gil-

lies, vol. i. p. 424.) Xerxes often conversed with Dema-

ratus, an exiled king of Sparta, who had taken refuge with the Persians, and their dialogue, detailed by Herodotus, admirably illustrate the opposite circumstances and charac-

ter of the Persians and Greeks. The following is the

substance. "Do you imagine," said the despot, "that the Greeks will submit to my forces?" Dema-
ratus, having obtained permission to speak the truth, replied, "The Greeks are to be feared, because they are poor and virtuous. Without possessing the sublimity of fortune, I shall only speak to you of the Laconians; They will scorn the idea of slavery. Should all Greece submit to your arms, they will be but the more inplicit in defiance of their liberty. I perceive not the number of their troops; were they but a single thousand, you, were they but a thousand, they would perform themselves to the combat." The Persian king, at hearing this, laughed aloud; and after comparing his forces with those of the Laconians: "Do you not see," said he, "that the greatest part of my soldiers would take to flight, they not being received by messengers and blows? As for his dead cannot operate on those Spartans, who are represented to you as free and independent, it is evident that they will never unnecessarily brave certain death; and that what is the ruin of the Persians, will be the salvation of the Greeks. "The law," replied Demaratus, "that law which has more power over them, than you have over your subjects; that law which faith to them, h. hold your enemies; and which is not to number them; you must conquer or die." Xerxes was rather amused than instructed by this discourse. His hopes of success seemed built on too solid principles to be shaken by the opinion of a prejudiced Greek. Every day messengers arrived with the submission of new nations. He proceeded on his march, till he arrived at the pas of Thermopylae. This is a defile situated at the foot of mount Octa, between Thessaly and Phocias; a pass no more than ninety feet broad, and the only one by which the host of Xerxes could penetrate into Achaia. Thither the Grecian army, not exceeding 11,000, directed its course; of these 4,000 only were more immediately defined to defend the pass. But finding himself isolated, and being informed by Demaratus, that a handful of men might at this place stop for a considerable time all his forces, he endeavoured to corrupt Leonidas by magnificent presents, and the most tempting promises, even that of making him supreme lord of Greece. But Leonidas having rejected all his temptations with disdain, Xerxes then ordered him by a messenger to send him his arm. "Let your king come and take them," answered Leonidas. Then the Medes advanced against the Greeks; but being unable to sustain their attack, were obliged to retreat. The troop of Persians, distinguished by the name of immortal, next charged the Greeks, and fought with great valor, so that the palls was soaked up with dead. While the bulk of troops of Xerxes were thus sacrificed to the Spartan valor, an inhabitant of the country having discovered to the Persians a secret path conducting to an eminence that commanded the palls, a large detachment was immediately sent to take possession of it. Leonidas receiving intelligence that the tops of the rocks forming the palls were occupied by 20,000 Persian troops, whose darts must soon overwhelm him and his small party, intimated the greater part of his men to retire, and reserve themselves for a more advantageous opportunity of serving their country; while he himself with about 300 Spartans and a few Thespian would maintain the palls till the last. The rest having accordingly departed, "Come my friends," said Leonidas, "let us die cheerfully, in the hope of supplanting together in the other world." His brave companions, encouraged by the example of their chief, thought
thought of nothing now but to fell their lives as dearly as possible; believing it incumbent on them, as the leading people of Greece, to devote themselves to certain death, thereby to convince the Barbarians how much it must cost them to reduce a free people to slavery. In the dead of night, the heroic troop advancing directly forwards to the tent of the king, penetrated to the middle of the Persian camp, cut off all that came in their way, and spread the most dreadful confusion among the enemy. But daylight hailed their distress to the Persians, they were immediately surrounded, and being rather overhelm'd than conquer'd, locasted their last above hundreds of slaughtered enemies; leaving to after age an example of intrepidity before unknown, and hardly to be paralleled in history.

The Persians are said to have lost upwards of 20,000 men in this engagement, and, among the rest, the two brothers of Xerxes. To the memory of these brave defenders of Greece, a superb monument was afterwards erected, bearing two inscriptions: the one in honour of all those who had served on that occasion; importing, that an army of four thousand Peloponnesian Greeks had there flopped the progress of the whole Persian force; the other in honour of Leonidas and his 300 Spartans, expressed, in a few simple words, to this effect: "Go, passenger, tell at Sparta, that we died here in obedience to her laws." This famous action at Thermopylae, in the opinion of Diodorus Siculus, contributed very highly to the subsequent advantages obtained by the Greeks for the Persians, in striking the instance of desperate valor, thence concluded, that it was hardly possible: to subdue a nation of such undaunted resolution; and the Greeks likewise perceived, from the same example, that valor and discipline are capable of vanquishing the greatest multitude; and that therefore it was possible to overcome the Persians.

But the principal defence of Greece rested with the Athenians. The very day that Leonidas fell at Thermopylae, the Athenian fleet, commanded by Themistocles, having discovered, while cruising off Artemisia, a promontory of Euboea, a detachment of the enemy's fleet amounting to two hundred vessels, attacked them in the night, and sunk more than thirty of them, and the rest were that same night wrecked on the coast of Euboea by a storm that followed the engagement. The Athenians receiving next day a reinforcement of sixty-three ships more, attacked those of the Cilicians, and sunk many of them. A general engagement ensued the same day, in which both parties fought with great bravery; and though neither could boast of the victory, yet the loss was most considerable on the side of the Persians.

From the events of these several actions, the Athenians learned, that victory is not always determined by the greater number of ships. Victory, in the mean time, of what had passed at Thermopylae, the Greeks thought it advisable to retire nearer home, and therefore set sail for Salamis, a small island not far from Attica. Xerxes having now advanced into Phocis, after marking his march all along his land, and reducing to his command, the Peloponnesians resolved to fortify themselves within the island. The Athenians, therefore, seeing themselves on the eve of being crushed under the whole weight of the Persian power, felt in this extremity, to consult the oracle; who told them, "that the only means of preserving their city were wooden walls." These wooden walls, pointed out by the oracle, were interpreted by Themistocles to be their ships; and he told his countrymen, that the sole means of preservation left was, to abandon the city, and to betake themselves to their fleet. This advice was not at all relished by the people; but, thundered at the thoughts of deserting their gods, and the tombs of their ancestors. Themistocles, however, succeeded at last in persuading them, that the existence of Athens depended neither on its houses nor its temples, but on the lives of its citizens; and that the gods themselves had, by the mouth of the oracle, plainly declared it to be their pleasure, that the Athenians ought to leave their city for a while. The people at last, convinced by his eloquence, consented to go on board of their ships. It is difficult to say, whether we are more affected on this occasion by the melancholy situation of the Athenians, thus compelled by a barbarous and unprovoked attack on their native country, or by the heroic resolution of these Athenians, to go in this manner into a fort of involuntary submission, rather than submit to their oppressors. The Athenians conveyed their women, children, and the greater part of their old men, to Trasene, a small town on the sea coast of Peloponnesus, where they were received with all the marks of humanity which their situation required. But many of their oldest men were left in the citadel, being unable, by reason of their great age and infirmities, to undergo the fatigue of transportation. Xerxes in the mean time approaching towards Athens, sent a detachment of his army to plunder the temple of Delphi, which contained immense riches. But Herodotus and Diodorus Siculus tell us, that most of the soldiers sent to execute this order perished in an accidental tempest. The Persian army arriving at Athens, found nothing but silence and solitude within the walls. They attacked the citadel, which, after a brave resistance by its feeble garrison, was taken by storm, and all within it were put to the sword; Xerxes ordered the red of the city to be set on fire. In the mean time the differences were likely to arise in the Greek fleet commanded by Eurybates; one half of them being of opinion that they ought to advance towards the island of Corinth, to be at hand to support their army; and the other, that they ought by no means to quit the advantageous post at Salamis. The latter opinion was supported by Themistocles, who, on this occasion, gave another proof of his extraordinary moderation and coolness of temper. For while he was maintaining his opinion with some warmth against Eurybates, who was a man of choleric disposition, the latter flew to a passion, and lifted up his cane to strike him; Themistocles called out to him, "strike, but hear me." His eloquence and firmness at last prevailed, and the Greeks saw that, being extremely inferior to the enemy in the number as well as in the size of their ships, it was of the highest importance to avail themselves of their present situation, and to give battle in such a narrow strait as that of Salamis, where the enemy could not bring all their fleet into action. They resolved, therefore, to prepare to fight the Persians in this strait. The Persians determined to give battle, contrary to the opinion of queen Artemisia, who represented to them, that the loss of a sea fight must inevitably be attended with the destruction of their army in land. But her advice, though the most prudent, was rejected, Xerxes having himself declared his sentiments for their coming to action. Themistocles, in the mean time, to put it entirely out of the power of his countrymen to retire from Salamis, contrived to have false intelligence conveyed to Xerxes of their intending to decline the engagement, and to make their escape, and therefore advising him to order his fleet instantly to advance and block them up. This stratagem he communicated to Aristas, who undertook to exhort the rest of the commanding officers with whom he was in great credit, not to be dismayed at seeing themselves hemmed in, but to behave with their usual intrepidity. The stratagem had the desired effect; and
A T H E N S.

and the Greeks seeing no other possibility of escaping, except by fighting their way through the midst of the enemy, prepared for the engagement. Xerxes, who was on shore, being deacons of seeing the battle, ordered a superb throne to be erected for him on an eminence. The fleet of the Greeks confided of three hundred and eighty sail. Themistocles, who that day commanded it, waited for the rising of a wind, which regularly began to blow at a certain hour, in a direction exactly in the face of the enemy. The Persians began the attack with great bravery; but the small fleet of the Greeks, acting by the skill of its commanders under every advantage, soon threw the enemy’s first line into confusion, and sunk the Persian admiral. Those that followed him, intimidated by his fate, partly betook themselves to flight, and partly were sunk. On the wings, however, the action continued very warm and obstinate; but the wind being against the Persians, the unwieldy size of their ships rendered them very difficult to be managed, and their great number rather embarrasing than availing them in such a narrow strait, they could not long sustain the impetuosity of the Athenians, but fell into a general disorder. The Ionians, mindful of their Grecian extraction, were the first that fled; and they were quickly followed by the rest of the Persian fleet, which soon appeared scattered up and down in flight and confusion. Queen Artemisia signified herself by a courage far above her sex. In the height of the battle, perceiving herself to be on the point of falling into the hands of the Greeks, she immediately hung out Grecian colours, and attacking one of the Persian galleys, sunk it. The Greek that pursued her, deceived by this stratagem, believed her to be one of his own party, and emptied the punt. The victory cost the Greeks forty ships; but of the Persians two hundred were either taken or sunk. This engagement, one of the most memorable recorded in ancient history, established immortality on the Grecian Wisdom and courage. The renowned Cimon, though yet but a young man, distinguished himself highly on that occasion, and gave evident marks of his future greatness. But as the principal glory belonged to Themistocles, the eyes of all the Greeks were fixed on him, and the highest honours were conferred on the deliverer of Greece. At this time every sentiment of jealousy was overlooked, and none exceeded the Lacedaemonians in their eumonisms on Themistocles, whom they crowned with laurel, the reward of wisdom and valour. When he appeared at the Olympic games, the whole assembly rose up to give him place; every eye was fixed on him alone; and that day was the most glorious of his life.

The Persians and Greeks were in expectation of a new battle; but Mardonius was by no means satisfied with the orders given by Xerxes; he read in the soul of that prince nothing but the meanest sentiments combined with projects of revenge, to which he possibly might fall a victim. “My lord,” said he, approaching him, “desire to recall your courage; your expectations were not founded on your fleet, but on that formidable army with which you have entrusted me. The Greeks are no more able to resist you than heretofore; nothing can shelter them from the punishment due to their ancient offences, and the fruits of advantage they have lately gained. If we determine on a retreat, we shall for ever be the objects of their devotion; and the opprobrium that has fallen on the Thracians, the Egyptians, and other nations who fought on board your vessels, will recoil on your faithful Persians. Suffer me to propose another method to save their glory and your own; I would advise you to lead back the greater part of your troops to Persia, and leave me three hundred thousand men, with whom I shall be able to reduce all Greece.” (See Herodotus, i. viii.) Xerxes, who in his own mind was rejoiced at the proposal, assembled his council, admitted it to Artemisia, and required her opinion on the project of Mardonius. The queen discovering the real sentiments of Xerxes, gave an advice which he knew would be pleasing. “I assure you,” said she, “to Mardonius, the care of completing your work. If he succeeds, yours will be all the glory; if he perishes, or is defeated, your empire will not, on that account, be shaken, nor Persia confide the loss of a battle as any great misfortune, when you have secured your person.” When the Greeks had leisure to examine the extent and completeness of their successes, they determined, in the first emotions of triumph and repentance, to pursue the shattered remains of the enemy. That no Barbarian might escape, they proposed immediately to sail westward, to destroy the Persian bridge over the Hellepolis, and thus to intercept their return. This design was recommended, and chiefly supported by the Athenians, who, having experienced the greatest share of the danger, felt most sensibly the joys of deliverance. But upon more mature deliberation, it occurred that the Persians were full sufficiently numerous to afford just grounds of terror. To their cowardice and inexperience, not to their want of strength, the Greeks owed all their advantages over them; but should the impossibility of retreat be added to their other calamities, they might derive courage from despair, and, by efforts hitherto unexerted, repair the consequences of their past errors and misfortunes. These considerations, first suggested, it is said, by Euribides the Spartan, were adopted by Themistocles, who, convinced his countrymen that the jealousy of the Grecian gods, unwilling that one man should be lord of Europe and Asia, rather than their own provinces, had given them the victory over Xerxes; a prince of such folly and madness, that he had treated with equal irreverence things human and divine, destroyed the sacred temples, overturned the venerable altars and images, and impiously insulted the gods of the Hellepolis with stripes and fetters. That it was the duty of the Athenians, after having gloriously repelled the common enemy, to provide for the subsistence of their wives and families, to few their lands, rebuild their houses, and thus to repair, by the most industrious activity, the dreadful ravages committed on their territories. (See Gillies, vol. i. p. 482.) Themistocles had no sooner persuaded the Athenians to embrace his opinion, than he secretly dispatched his confidant Sicyon to acquaint the great king with the danger which he had so nearly escaped, and to advise him to pursue his journey with all possible expedition. Xerxes readily believed a piece of information, which agreed with the suggestions of his own timidity. The rapidity of his march, confounded with other circumstances above mentioned, in proving fatal to the lives of his followers and the crafty Athenian, who knowing the inflamed affections of the multitude, wished to defer the gratitude of a king, gained the double advantage of dispelling sooner than could otherwise have happened, that destructive cloud of barbarians which hovered over his country, and of convincing their leader that he was in part indebted for his safety to that very man whose counsels, rather than the arms of Greece, had occasioned his affliction and disgrace.

Mardonius (B.C. 479), after wintering in Thebais, took the field, and began his operations by making very advantageous offers to the Athenians, to detach them from their confederacy with the other states; promising not only to rebuild their city, and to give them a vast sum of money, but to set them at the head of all Greece. Aristides, then
archon, answered the messengers of Mardonius, that all the gold in the world was insufficient to corrupt the Athenians, or to induce them to desert the defence of the common liberty of their country; that while the sun continued to light the world, the Athenians would remain the mortal enemies of the Persians, and would revenge, to the utmost of their power, the mischief they had brought upon their country, and the burning of their houses and temples. As soon as Mardonius received the answer of the Athenians, and thence knew that no motive could induce them to break their engagements, he ordered his army to march towards Attica. The Athenians, on the approach of the Persian army, left their city a second time, and retired to Salamis. Mardonius therupon sent new deputies to them, with terms still more advantageous than the former: but the Athenians were so far from accepting them, that they flomed to death one Lycidas, only for saying that they ought to give an audience to the deputies. The Perians, general, provoked at the contempt with which the Athenians treated all his proposals, entered Athens, and burnt everything that had formerly escaped the fury of Xerxes. In this situation, the Athenians complained to the Lacedaemonians of their not having sent them the flippated succours: the latter were then fully intent on maintaining their ground within the Peloponnesus, and defending the entry of the invaders; but in compliance with the requisition of the Athenians, who made a great outcry against the flowers of their proceedings, they sent to their assistance five thousand Spartans, each of whom was attended by seven helots. These forces, joined with those of the Athenians and Peloponnesians, formed altogether an army of about 70,000 men; which, after assembling at Eleusis, followed Mardonius into Boeotia, and encamped at the foot of Mount Citheron. Paufanias, son of Cleonbratous, and vicar of Sparta, commanded the Lacedaemonian troops, and Aristides, a chief of the Athenians; the Persian army then amounted to 400,000 men. Paufanias, in the mean time, advanced towards Plataea, with his forces drawn up in battle array; the Athenians being on the right wing, and opposed to the Persian troops, and the Lacedaemonians on the left, opposed to the Greek troops in the service of the Persians. The Megarans, who were encamped on the plain, having been attacked by the Persian cavalry, were, after a very brave and long resistance, on the point of giving way, when three hundred Athenians ran to their relief. The battle then became more obdurate than before; but Magistus, who commanded the Persian cavalry, being slain, his men took themselves to flight. The death of this officer, who was reckoned the ablest in the Persian army, spread universal confusion through all their troops. Ten days intervened between this action and the general engagement. Artabanus was of opinion, that the Persians ought to avoid a general battle; but Mardonius, a man of a violent fiery disposition, thought otherwise. Paufanias and Aristides, informed of the design of the Persians to attack them, drew up their army in order of battle near to the city of Plataea, which Mardonius perceiving, changed the intended order of his attack. But the Greeks, finding themselves threatened for water in their present situation, resolved to decamp. Mardonius believing this movement to be a flight, immediately advanced with his men, uttering loud shouts, and charged the rear of the Greek army, composed of the Lacedaemonians, who, forming themselves into a column, opposed the enemy with their usual valour, and falling on the Persians with the greatest fury, made a dreadful slaughter. Mardonius fell in the beginning of the action. The main body of the Greek army advancing in the mean time to the charge, in separate detachments, completed the overthrow of the Persians. In another quarter of the field, the 40,000 Greeks in the Persian service, who were engaged with the troops commanded by Aristides, hearing of the flight of the Barbarians, followed their example, and retreated likewise, but rallied in their camp, and there entrenched themselves. The Lacedaemonians, however, supported by the Athenians, attacked and forced their retreatments; after which, nothing was to be seen but a general massacre, for the Persians being too numerous to be made prisoners, received no quarter, and were all put to the sword. Artabanus, after distinguishing himself both as a skilful and as a brave leader, collected the scattered remnants of the Persian army, amounting now to no more than 44,000 men, and returned with all possible expedition towards Persia. The loss of the Greeks in this engagement was about 10,000 men. The Greeks, as a monument of this memorable victory, erected a statue to Jupiter in the temple of Olympia, inscribed with the names of all the states of Greece who had fought at Plataea. It came next under consideration, whether the prize of valour ought to be adjudged to the Athenians or to the Lacedaemonians. But to avoid all controversy on this head, whereby the general joy arising from the victory might be disturbed, the question was, by the influence of Aristides, referred to the determination of the other Greeks, who, to prevent any jealousy between those rival states, adjudged it to belong to the Plataeans. Then, after sending a tripod of solid gold to the temple at Delphos, and letting apart a tenth of the spoil, as an offering to the gods, to be applied to religious purposes, they divided with great justice the rest of the spoil, which was so immense, that Julian is of opinion it was the first great cause of the corruption of the Greek manners. By the persuasion of Aristides, the Greeks passed a solemn decree, obliging all the states to send deputies to Plataea, to offer sacrifice to Jupiter the deliverer, instituting public games at that place every fifth year; and ordering a fleet of a hundred ships, and an army of 10,000 foot, and as many horse, to be kept always on foot, for making continual war on the Barbarians. The Plataeans were appointed to celebrate the anniversary of all those who had fallen in this battle, which they regularly performed with much pomp and ceremony. The Persian fleet, having, in the mean time, failed towards Samos, that of the Greeks, under the command of Leotychides the Lacedaemonian, and Xantippus the Athenian, advanced as far as Delos, upon the earnest intreaty of the inhabitants of Chios, who begged to be delivered from their subjection to the Barbarians; and likewise in consequnce of secret intelligence received by them of the intention of the Ionians to revolt. The Persians, hearing of the approach of the Greeks, retired to Mycale in Asia Minor, where they drew their vessels on shore, and surrounded them with a deep ditch. The Greeks, however, purged them thither, and with the affilience of the Ionians, attacked them. The battle was at first bravely fought on both sides; but the Milesians and Samians, followed by the rest of the Asiatic Greeks, having deserted from the Persians, the latter were vanquished, and 40,000 of them cut in pieces. The Athenians took possession of the enemy's camp, burnt the Persian fleet, and returned to Samos with a vast deal of plunder. This engagement happened on the same day with that of Plataea. Thus did that memorable day for ever free the Greeks from any future Persian invasions, and deliver them from those innumerable armies of Barbarians, which like clouds of locusts had confounded their country for two whole years. These grievous defeats were never forgotten by the Persian monarchs; and
they entirely erred Xerxes of all desire of undertaking any other enterprises of the same kind. He thought no more of executing vengeance on the Greeks; and to efface all remembrance of his past disasters, he gave himself wholly up to every sort of voluptuary and debauchery. His court became one general scene of the most flamboyant excellence, murder and incest succeeding each other in a perpetual round. This week heathenism, the next to death by his own furies. The severe effects of tyranny, formerly experienced by the Athenians, had excited in them such a strong desire of liberty, that to preserve it, they boldly hazarded the greatest dangers. Their bravery, however, was admirably supported and conducted by the wisdom and skill of their generals, who were particularly attentive to choose such a situation for giving battle, that the enemy could not much avail themselves of their vast superiority in point of number.

Thus by their vigorous efforts, and the wisdom of their leaders, delivered from the Persian invasion, the Athenians brought back their wives and children to Athens, of which they rebuilt the walls, and considerably increased the extent. The Lacedaemonians taking Nabirage at their own expense, from an apparatus which Athens should have been too powerful, rededicated to the Athenians, that it was the general interest of Greece to have no fortified place without the Peloponnesus, because in case of a fresh invasion, it might serve for a retreat and warlike magazine to the enemy. Themistocles having procured himself to be named ambassador to Lacedaemon, there to justify the conduct of his countrymen, maintained in open senate that it was as much for the common advantage of the allies, as for that of the Athenians, that the latter had fortified their city with good walls; that besides, it was but equitable that they, as well as the rest, should take proper measures for their own safety; and in fine, that they were able to defend themselves either against foreign or domestic enemies. In the next place, Themistocles, solely intent on increasing the power of the republic, fortified Piraeus (B.C. 477) the famous harbour of Athens, in the same manner as he had done the city, and persuaded the Athenians to augment their fleet yearly with twenty ships. The object of this skilful politician was to deprive the Lacedaemonians of the superiority hitherto possessed by them over the other states of Greece. But it must be confessed that he was not very ferupulous with regard to the means employed by him for that purpose. An instance of this was his project of burning the Grecian fleet in the harbour of Sigeum; whether it had retired to winter after the defeat of Mardonius; or, according to some authors, that part of it only which belonged to the Lacedaemonians. But not daring openly to propound this scheme, he was defined by the people to communicate the matter privately to Aristides, who having been accordingly informed of it, declared to the people, that though the project of Themistocles was indeed highly useful, yet at the same time, it was most unjust! Themistocles was therefore prohibited from putting it in execution.—How becoming thus to fec a whole state prefer what was just to what was useful! and what a high idea of the justice of Aristides must we not conceive, when we see him chosen singly by a whole people, to determine whether a project of the utmost general importance was just or unjust! At the same time, the allies prepared to relieve to their freedom the Grecian cities in which the Persians had left garrisons. A numerous fleet, under the command of Panathenae and Aristides, obliged the enemy to abandon the ist of Cyprus; and the city Byzantium, situated on the Hellespont. The conduct of Panathenae on this expedition was so infolent, as to disturb the allies, who refused any longer to obey the Spartans, and henceforward to fight under the orders of the Athenians. (B.C. 476.) The farther proceedings of the Lacedaemonian general, and his fate, will be found under the article PAUSANIAS, and SPARTA. The Spartans, with a praiseworthy moderation, yielded to the Athenians the command of the sea. About this time, Themistocles exalted the victor of thermometer, and the posture of popular favour. The civil administration of this illustrious Athenian was no less eminent and successful than his political and military efforts. By yielding more protection to strangers than they enjoyed in neighbouring cities, he augmented not only the population, but the wealth of Athens, as that description of men paid an annual contribution in return for their security. This, together with other branches of the revenue, he employed in building annually about sixty galleys, the addition of which to the Athenian navy abundantly compensated such losses as were sustained by the accidents of the sea in foreign parts. Notwithstanding the envy and malevolence of worthless demagogues, who.infuriated the Athenian assembly and courts of justice, Themistocles was full as free from the stain of the same authority at home which Aristides enjoyed abroad, when complaints arrived from Sparta, that he had conspired with Panathenae to betray the public liberty. The known resentment of the Spartans against this extraordinary man sufficiently explains the reason why they, who were so dilator, in their proceedings against Panathenae himself, should be so eager to bring to punishment his supposes accomplice. But it is not easy to conceive how the Athenians could admit such an accusation against a citizen, whose singular valor and conduct had gained the decisive victory at Salamis; whose counsels and addresses had fortified their city with impregnable strength; whose foresight and activity had procured them a fleet which no nation in the world could rival; and whose abilities and patriotism had not only saved his country from the most formidable invasion recorded in history, and which was principally directed against Athens, but amidst the terrors of this invasion, the treachery of false friends, and the violence of open enemies, had so eminently contributed to raise his republic to the full rank in the Grecian confederacy. Yet such, on the one hand, was the effect of that envy which in republics always accompanies excellence; and, on the other, the influence of Spartan hospitality and intrigues, that Themistocles was banished by the oracles, a punishment inflicted on men whose aspiring ambition seemed dangerous to freedom, which required not the proof of any particular delinquency, and which had effect only during a term of years. Gillies, vol. ii. p. 65. This ill-fated man retired into Persia, where his treatment and death will be seen under the article THEMISTOCLES. Aristides also died about the same time, B.C. 467 or 471, and the conduct of the Persian war was devolved on his colleague Cimon, who united the integrity of that great man to the valour of Miltiades his father, and the decisive boldness of Themistocles. But as he felt an ambition for eminence which disdains bare imitation, he not only reflected the most distinguished excellencies of his predecessors, but improved and adorned them by an elegant liberality of manners, an indulgent humanity, and candid condescension; virtues which so enrolled him the affections of his fellow citizens; while his military talents and authority, always directed by moderation and justice, maintained an absolute sway over the allies of the republic. His first operations were employed against the coast of Thrace, which the taking of Byzantium seemed to render an easy conquest. The only places in that country fitted to make an obstinate resistance, were
the towns of Eion and Amphipolis; both states on the river
Streama; the former near its junction with the Strymonic
gulf, the latter more remote from the shore, but entirely
furnished by the river which formed the principal
branch of that copious stream. Amphipolis, however, was
then inhabited by a numerous colony of Athenians.
But Eion still opposed a vigorous resistance; Bogyes, the
Perian governor, having determined rather to perish than
surrender. After long ballying the efforts of the besiegers,
by such perfervent courage and activity as none of his
countrymen had displayed in the course of the war, this
fierce barbarian was at length not tamed but exasperated
by hunger. His companions and attendants, equally degenerate
with their master, followed his example, and manufac-
turing the ramparts with one accord, threw into the middle
stream of the Strymon their gold, silver, and other precious
effects. After thus attesting their implacable hatred to the
afflicted, they calmly descended, lit a funeral pile,
butchered their wives and children, and again mounting the
walls, precipitated themselves with fury into the thickets
of the flames. After this, Cimon subdued the other cities
in that country, drove from Syros the pirates that infested
the Aegean sea, established an Athenian colony in their
place, and made himself master of Naxos. Crossing along
the coast of Asia, he reduced all the marine cities of
Caria and Lycia, and left not the Persians in possession of
a single inch of ground between Ionia and Pamphylia.
Hearing that the Persian fleet lay at anchor at the mouth of
the Eurymedon, waiting for a reinforcement of Phoenician
ships, that they might attack him with their united forces;
he immediately sailed against the former to prevent their
juncture; charged them with such vigour, that they were
obliged, in spite of their great superiority, to run their
ships aground; and took more than a hundred of them.
Without giving his men time to breathe after their victory,
he instantly landed them, and attacked the army of the
enemy, which was drawn up on the banks of the Euryme-
don. The Persians sustained the first charge of the Greeks
with great firmness. But the troops of Cimon, animated
by their late successes, broke them at last, put them fairly
to flight, made a great number of them prisoners, and got a
captive booty. Cimon crowned his victories with the capture
of the Eurymedon, which was the chief advantage
of the Persians, and by that means gave a fatal blow to
the Persian naval power. The rich spoil of the Barbarian camp
rewarded the enterprise and celerity of the Greeks, who,
loaded with wealth and glory, returned home during winter,
and piously dedicated to Apollo a tenth of the plunder
acquired by these ever memorable achievements. A con-
 siderable portion of the remainder was employed in
 strengthens the fortifications of Athens. Agreeably
to the Grecian custom, the general was entitled to a
valuable share. Cimon received it as a testimony of the
public esteem, and expended it for the public use, embellish-
ing his beloved native city with shady walks, gardens, porti-
ces, schools of exercise, and other works of general plea-
sure and utility. (See Gilles, vol. ii. p. 74.)

While Cimon was attending the power, glory, and influence
of the Athenians abroad, many of his quick talents acquired
the direction of affairs at home. This was Pericles, one of the
most extraordinary men that ever Athens herself produced.
His mind, naturally of the first capacity and vigour, was
enriched by extensive and useful knowledge, adorned by
elegant literature, and fortified by the profoundest
philosophy. Diarmed, proficiently a teacher of rhetoric, but really master
of history, politics, and all the learning of the times, was his
regular teacher. Aeschylus instructed him in philosophy. That
wife man had made it his chief study to confirm the most
important and pleasing doctrine, that being of supreme
intelligence and benevolence governs the world;eward the
victorious, and punishes the vicious. "From him (says Dr. Gil-
lices) Pericles early learned to control the temper of youth-
ful passions, which so often blash the promising hopes of
youthful manhood; to preserve an unshaken constancy in all
the vicissitudes of fortune, since all are the varied dispensa-
tions of the same wise Providence." Pericles: in means for
the attainment of his objects; skilful in the varied applica-
tion of them, according to the variation of circumstances;
having the ready and compleat command of his own great
intellect and extensive information, both in forming and
executing plans; courageous, temperate, veracious, yet heed-
dful, decisive, yet cautious; bold, yet prudent; enterprising, yet
circuitous; he excelled in politics, in war, and in every
pursuit which required combined genius and conduct. His
eloquence united plentitude of information, force of genius,
and nervousness of style; it was either convincing or per-
suasive, according to the objects he had in view; at one
time, its majesty commanded the hearers; at another, its
sustains and delicacy infused itself into their hearts.
The superior talents of this celebrated statesman greatly
increased the prosperity of the country, and his policy was
peculiarly beneficial in improving the advantages that had been
acquired in war by his predecessors, or his contemporaries
Cimon. He promoted agriculture and manufactures,
and greatly extended the commerce and maritime power of
his country. Richest flowed from all quarters to Athens,
and were in a considerable degree employed in strengthening
and adorning the city. He encouraged the fine arts, litera-
ture, and philosophy. Under him flourished Polygnatus,
Phidias, and Phidias, the ingenious artists, who happily
made painting, sculpture, and literature, the vehicles of sen-
timent and character, as well as of external feature and
figure. Respected by him, lived Anaxagoras, the father of
moral philosophy; and Euripides, who, in the garb of
fiction, exhibits the just and elevated reasoning, the pious
and virtuous sentiments of both. Taste, genius, and phil-
osophy were never more prevalent than at Athens in the
age of Pericles. But with the many advantages which
were conferred upon the Athenians by Pericles, there were
also many disadvantages, but rather in ultimate effect
than in immediate appearance. There were two parts of
Athens, the aristocratical and democratical. Cimon
by blood and affinity was connected with the former, and by
his dispositions and character was fitter for gaining an ascen-
dancy over the chief people in the state, than for courting
the multitude. With all the powers and accomplishments
which could form a patriotic and beneficial statesman and
federal, he wanted the dexterous versatility which conciliates
the favour of the multitude. Pericles, with genius and
strength of mind that must have rendered him a leader in any
class of men, in any age or country, chose popularity as the
road to the gratification of ambition, and indulged the in-
clination of the populace, as well as perfused the interest of
the state. With this view he promoted luxury, licentious-
ness, and profusion. The firm and rigid virtue of Cimon
was adverse to such a pernicious waste of the treasures
which his exertions had acquired. Between two such great
men, embracing opposite principles and parties, rivalry
naturally arose. Foreign politics, as well as domestic, clained their
differences. Cimon, aristocratical in his own principles,
was attached to the Spartans, and wished anarchy to subsist
between Sparta and Athens. The Athenian multitude,
clated with their signal successes, and wishing to dominate
over all Greece, was hostile to Sparta, which would be the
molt
most powerful obstacle to the accomplishment of their designs. The Spartans, on the other hand, were extremely jealous of the progress of the Athenians, and of the formidable power they had acquired. Cimon endeavoured to appease Pericles' promotion, this hostile spirit between the two chief nations of Greece; and his schemes appeared to be the more successful. But their animosity, before it broke out into action, was diverted by a calamity equally sudden and unforeseen. In the year four hundred and sixty-nine before Christ, Sparta was overwhelmed by an earthquake. The Greeks and the neighbouring mountains were shaken to the foundation, and twenty thousand Lacedaemonian citizens or subjects perished in this dreadful disaster. Amidst the ruins of Sparta, one description of men beheld the public misfortunes not only without horror, but with a forced satisfaction. The approved Spartan slaves, known by the appellations of Helots and Melephans, assembled in crowds from the village in which they were cantoned, and took measures for delivering themselves, during the cruelty of the elements, from the not less inexcusable cruelty of their ruling tyrants. The prudent arrangements of king Archidamus, who, foreseeing the revolt, had summoned the citizens to arms, prevented them from getting immediate possession of the capital; but they rendered themselves masters of the ancient and strong fortresses of Ithome, from which they continued many years to infest the Lacedaemonian territorics. Cimon earnestly seconded the application of the Spartans, and the Athenians were prevailed on to lend them the required assistance, and the combined forces proceeded to the siege of the fortresses. The besiegers, however, met with solitary successes, that the Spartans dismisified their Athenian auxiliaries, on pretence indeed that their help was no longer necessary, but in reality, from a suspicion that they favoured the interest of the rebels. The Athenians were greatly offended by this caprice, and Pericles instructed his partisan Ephialtes to remind the people that Cimon was the chief promoter of rendering assistance to the Spartans. The ill-fated captain was assassinated, and a farther charge laid against him that by pretexts from the Macedonians he was prevailed upon to let slip a manifest opportunity of enlarging his conquests, after taking from the Persians the gold mines of Thrace. To this accusation Cimon replied, that to the utmost of his power he had protracted the war against the Thracians, and other enemies of the state of Athens; but that it was true he had not made any inroads in Macedonia, because he did not imagine that he was to act as a public enemy to mankind, and because he was struck with respect for a nation modelled in their carriage, just in their dealings, and strictly honourable in their behaviour towards him and the Athenians; that if his countrymen looked upon this as a crime, he must abide their judgment; but, for his part, he could never be brought to think such conduct amiss. His defence however was unavailing, and he was banished for ten years. (B.C. 460.)

Pericles, thus free from the control of Cimon, confirmed his own credit with the people, and made innovations on the established form of government. He deprived the Areopagus of the power of judging in the most important questions that had formerly belonged to their jurisdiction; he rendered the other courts of justice subservient to his pleasure; and he became so absolute in Athens, that under this republican government he possessed a power almost despotic. To secure the permanency of his power, while he promoted industry and beneficial action, he gratified their love of pleasure. The city now to use the language of Dr. Gillesp] afforded a perpetual scene of triumph and festivity. Dramatic entertainments, to which they were passionately ad-
the course of the river, rendered the ground round the ships dry, took every one of them, and put the greatest part of their crew to the sword. The army being thus disabled from opposing the enemy any longer, partly perished and partly dispersed. During these circumstances the Athenians became sensible of the injustice of their treatment of Cimon, and recalled him after five years banishment. Soon after his return, that great man succeeded in bringing about a peace between his countrymen and the Lacedaemonians (B.C. 455); and with a view of diverting the Athenians, grown prepossessing by their late good fortune, from making war on their neighbours, he resolved to find occupation for their arms abroad. Departing, therefore, for Cyprus with a fleet of a hundred and forty vessels under his command, and being there joined by sixty more from Egypt, he attacked Artabazus, the admiral of Artaxerxes, and took a hundred of his ships: he next made a descent upon Cilicia, and totally defeated Megabazus, another officer of that price; he then returned to Cyprus to form the siege of Citium. In the course of the siege, Cimon fell sick: perceiving his end approaching, he beseeched his men to keep his death a secret. They followed his advice, and, proceeding with their operations, obtained a signal victory, in which they took a hundred of the enemy's ships, and then sailed back in triumph to Attica. Artaxerxes, finding his inability to contend with the Athenians, sent deputies to Athens to solicit peace. His ambassadors were favourably heard in the Athenian assembly by those who were more solicitous about confirming their usurpations over their allies and colonies, than ambitious of extending their Asiatic conquests. Cimon, who invariably maintained the contrary opinion, was now no more. A peace, therefore, was concluded on the following conditions: that all the Greek colonies in Lower Asia should be declared independent of the Persian empire; that the armies of the great king should not approach within three days journey of the western coast; and that no Persian vessel should appear between the Cyanean rocks and the Chelidonian isles; that is, in the wide extent of the Aegean and Mediterranean seas, between the northern extremity of the Thracian Bosphorus and the southern promontory of Lybia. On such terms the Athenians and their allies stipulated to withdraw their armament from Cyprus, and to obtain therefromforward from molesting the territories of the king of Persia. Such was the conclusion of this memorable war, which, since the burning of Sardis, the last decisive act of hostility, had been carried on with little interruption during fifty-one years. The fame magnanimous republic which first ventured to oppose the pretensions of Persia, dictated to that haughty empire the most humiliating conditions of peace; an important and illustrious era in Greek history, which was often celebrated with pompous panegyric during the declining ages of Athenian glory.

Having terminated the war against the Asiatic foe with such honour and advantage, the Athenians directed more confiant and undivided efforts to render themselves paramount in Greece; and, during twenty years, various contents arose between the Athenians and neighbouring states. Without pursuing the detail of these contentions, and the various truces by which they received a temporary suspension, we shall merely mention the result, which was extremely favourable to Athens, so that the republic rose to unprecedented power. With her prosperity the pride of Athens rose in proportion, until her neighbours, both apprehensive and envious of her power, and further inflamed to resentment by her insolence, formed for her humiliation a confederacy which brought on the Peloponnesian war.
in an application so very agreeable to the dispositions of those whose co-operation they desired, and a general confederacy was formed, confining of the seven republics of the Peloponnesus (B. C. 431), except Argos and Achæa; the first of which from ambition, and the second perhaps from moderation, preferred, in the beginning of the war, a suspicious neutrality. Of the nine northern republics, Acræania alone declined joining the allies, its coast being particularly exposed to the ravages of the Corcyrian fleets. The cities of Naupactus and Platea, for reasons that will soon appear, were totally devoted to their Athenian protectors; whose cause was likewise embraced by several petty princes of Thessaly. But all the other states beyond the Íthmus longed to follow the standard of Sparta, and to humble the aspiring ambition of their too powerful neighbour. While they were preparing for this concert, the Peloponnesians sent hostile embassies and manifestations to the Athenians, requiring them to grant independence to the colonies, and announcing the force by which the requisition would be supported. Abjured by this menacing combination, the Athenian populace were filled with rage against Pericles, whom they accused of having cauèed this confederacy by his general conduct, and especially by a decree which he procured against the inhabitants of Megara, which had revolted from the authority of Athens, and imputed his enmity to that city to the private pique of his favourite mistress Alcæa; and with the petty fulmination of a vulgar mob, conceived him to have appropriated to his own life great portions of the national treasure. Though the transcendent virtues of Pericles were not unvalued, yet his were not the vices of common minds; avarice made no part of his composition: he proved that his private expenses were justly proportioned to the measure of his patrimony; many instances were brought of his generous contempt of wealth in the service of his country; and it appeared, after the strictest examination, that his fortune had not increased since he was entrustèd with the exchequer. He contended that the situation of the republic did not justify defen- dence or submission to the dictates of an impious rival. Their financial resources, military and political strength, and above all the spirit of the people, enabled them to resist with effect the efforts of their banded enemies, and by a de- tail of the components of the Athenian strength cons- trasted with those of their rivals, illustrated his proposition. He therefore proposed that the answer to their demands should disclaim their right to interfere, disfavor every inten- tion of commencing hostilities, but declare the readiness and ability of the Athenian republic to repel force by force. Such an answer, in the relative disposition of the parties, was deemed tantamount to a declaration of war. The war which now ensued, is celebrated in Grecian his- tory by the name of the Peloponnesian war. It lasted for twenty-seven years; twenty-one of which are the subject of the history of Thucydides; but death having prevented that illustrious author from purifying it to its termination, its continuation and conclusion was reserved for Xenophon. Hostilities were begun by the Thæans, who attacked Platea, a city of Bœotia, in alliance, as we have just mentioned, with Athens. All Grecia was immediately in motion. The Lacedæmonians march toward the Íthmus of Corinth, a narrow neck of land about six miles broad, which joins the Peloponnesus to the country pro- perly called Grecia. Archidamus, one of the Spartan kings, before advancing farther, dispatches an ambassador to the Athenians, to require of them to relinquish their pretensions. But the Athenians command the messenger to retire, without deigning even to give him an audience. The Lacedæmonians thereupon advanced with an army of 60,000 men, while that of the Athenians amounted to no more than 18,000; but, to make up the odds, the latter had a fleet of 300 galleys. On the approach of the Lacedæmonian army, the inhabitants of the country abandoned their habitations, and carrying away every thing they could, took refuge in Athens. The plan of operations pursued by the Athenians, on the suggestion of Pericles, was to wear out the enemy by protracting the war. The Lacedæmonians entering Attica, had liege to Enoe, but being obliged, after a few fruitless assaults, to relinquish that at- tempt, they advanced still nearer to Athens, and encamped within half a league of the city. Unwilling, while so few in point of numbers, to hazard the fate of the public in a general battle, Pericles found it difficult to pre- vent the Athenians, exasperated at the sight of the ravages committed on their country, from falling forth upon the enemy. But by means of his admirable art in managing the multitude, he kept both the senate and the people from assembling to deliberate, though at the expense of number's insulfs from his enemies; in spite of which he perished in his plan, unmoved either by threats or entreaties. In the mean time he dispatched a fleet of one hundred ships to ravage the coasts of the Peloponnesus; which being joined by that of the allies, made a descent upon Laconia, and laid waste the territories of Sparta. The Lacedæmonians find- ing all their endeavours to draw the Athenians out of their city ineffectual, and receiving intelligence of the ravages committed in Laconia by the Athenian fleet, found them- selves under the necessity of withdrawing from Attica. On the setting out of the expedition against the coast of Laconia, an extraordinary eclipse of the sun happened just as Pericles was going on board of his galley. Pericles perceiving the Athenians to be terrified at this phenomenon, which they considered as an unlucky presage, threw his cloak over the face of the pilot, and asked him if he saw the pilot having answered in the negative, Pericles explained to the by-standers, that the body of the moon, being in like manner interposed at that instant between their flight and the sun, prevented them from seeing his light. When the Lacedæmonians retired out of Attica, the Athenians appropriated a hundred talents of money, and a hundred of their finest ships, for the more immediate recovery of their city, in case of a fresh invasion, prohibiting any perforn, under pain of death, from proposing a different application of those resources. They then expelled from the island of Egina its present inhabitants, whom they regarded as the principal cause of the war; and they divided that island by lot among the citizens of Athens. They made an alliance with the kings of Macedon and Thrace; subdued the island of Cephalonia; laid waste the territory of Megara; and took the harbour of Nisus; this concluded the first campaign. The Athenians next celebrated funeral rites to the memory of those who had fallen since the beginning of the war. For this purpose, a large tent was constructed, wherein they exposed the bones of the slain, which were covered with flowers and perfumes. Then the bones were carried with much pomp and solemnity to a suburb of the city called Ceramics, where they were de- poited in a monument designed to be the tomb of those who fell in war, and half, one of the citizens pronounced a funeral oration in their praise; a charge which on this occasion was undertaken by Pericles himself. Though always superlatively eloquent, he at this time seemed to out- do himself; and in pronouncing the eulogium on those who were no more, he omitted no argument that might inflame the courage of the survivors. Thucydides has preferred this
this famous oration, of which the beautiful expressions and lofty sentiments are equally admired. The army of the Laconian confederates and their allies returned into Attica, and laid every thing waste with fire and sword. But the plague, which then raged among the Athenians, was full more pernicious to them, depriving them of their best citizens and bravest valiant; and Athens exhibited nothing but a melancholy scene of sickness and death. Of this dreadful scourge, an awfully striking account is exhibited in the energetic description of Thucydides. Without dwelling on the corruped symptoms which the historian presents in his affecting narrative of this scourge, we shall merely give the fulness of its moral effects. At the beginning of this dreadful calamity, fable examples of filial piety and generous friendship were displayed; but as the consequences were almost always fatal to the children and friends, they were but rarely repeated afterwards. Then the most respectable ties were broken; the eyes about to close for ever, beheld on all sides only the most profound solitude, and death no longer produced a tear. This callous insensibility gave birth to an unbridled licentiousness. The death of so many worthy men, mingled without distinction in the common tombs with villains; the destruction of such fortunes, became suddenly the inheritance or prey of the lowest citizens, made a lively impression on those who have no other principle but fear. Perfuncted that the god: no longer protected or regarded virtue, and that the vengeance of the laws would not be so prompt as the death impending over them, they imagined that the inability of human philosophers pointed out the use that they should make of them, and that having but a few moments to live, they were justified at least in praising them in the midst of pleasures.

Notwithstanding the difficulties in which Athens was involved, the elevated soul of Pericles, with unbroken fortitude, planned the extinction of his country, as far as it was practicable by human means. A numerous family fell susceptible to the ravenous pestilence. Though a tenderly affectionate father, he bore the disasters with magnanimity. At the funeral of the last of his sons, he dropped, naked, a few reluctant tears of paternal tenderness; but ashamed of this momentous weakness, he bent his invincible mind to the defence of the republic. Having collected an hundred Athenian, together with fifty Chian and Lesbian vessels, he sailed through the Saronic gulf, and ravaged the unprotected coasts of Ely, Argos, and Laconia. The plague breaking out in the fleet, defeated the success of the expedition, and reviving Athens with redoubled fury, almost defoliated the city. Maddened by their accumulated sufferings, the Athenians imputed their miserable situation to Pericles: they deprived him of his authority, and condemned him to a fine; but they soon acknowledged their folly and injustice. He was again prevailed on to resume the reins of administration, and his laudable efforts were employed to stimulate his country to that vigour of counsels and of conduct which only could preserve her power, honour, and independence: temporary disasters might afford, but in the nature of things its duration could not be long; Athens would ultimately triumph, if she was true to herself. "Of the two elements," he said, "detained for the use of men, the sea and the land, we absolutely command the one, nor is there any kingdom, or republic, or confederacy, that pretends to dispute our dominion. Let this consideration elevate our hopes, and personal affiliations will disappear at the view of public prosperity. Let us bear, with resignation, the strokes of Providence, and we shall repel with vigour the assaults of our enemies. It is the hereditary and glorious distinction of our republic, never to yield to adversity. We have defied danger, expanded treasure and blood, and amidst obdurate and formidable wars, augmented the power, and extended the fame of a city, unrivalled in wealth, population, and splendor, and governed by laws and institutions worthy of its magnificence and renown. If Athens must perish, (as what human greatness is not subject to decay?) let her never fall at least through our folly and iniquity; a fall that would cancel the merit of our former virtues, and destroy at once that edifice of glory which has been the work of ages to rear. When our walls and harbours are no more, when the terror of our may shall have ceased, and our external magnificence shall have fallen to decay, the glory of Athens shall remain. This is the prize I have hitherto exalted, and still exhort you to defend, regardless of the clamours of death, the inscriptions of cowardice, or the perdition of envy." These were the last efforts of this illustrious man; he was soon after seized with the plague, which proved fatal. On his deathbed, retaining his understanding, his chief comfort was, not the splendor of his genius and achievements, but the recollection of his well-spent life. When he was about to yield his last breath, the beloved mother of Athens attended round his bed, and soothing their affliction by recounting his victories and the number of his trophies. "These actions," said he to them, raising himself up with difficulty, "are the works of fortune, and common to myself with other generals; the only eulogium I merit is, that I have never been the cause that any citizen should wear mourning." (Gilles.)

After the death of Pericles, two persons contended for the direction of affairs: Cleon, a turbulent and impudent demagogue, devoid of talents, or of any moral qualities which entitled him to pre-eminence, but a great favourite with the lower populace; and Nicias, a man of solid ability, prudence, and integrity; and for several years the war was successful or unfruitful according as the one or the other predominated. About this time the Peloponnnesians invested Plataea, a city in alliance with Athens. This siege is not only remarkable for the obdurate resistance of the besieged, but for being the first recorded in history which was conducted with any sort of regularity. Both parties here made use of mounds of earth, the one to attack, the other to defend. The Peloponnnesians burnt a part of the town by means of bundles of flax, to which they set fire. On the other hand, the besieged neglected no expedition to frustrate the various attempts of the enemy. But the most surprising circumstance of all is, that so small a place as Plataea, which contained no more than four hundred inhabitants, and eighty Athenians, was capable of making so vigorous a resistance against a powerful army. The enemy at last changed the siege into a blockade, and surrounded the town with two ditches. The Barotics were left to guard these intrenchments, and the bulk of the army marched away. The besieged having left all hope of release, resolved to attempt to make their escape out of the town; which about one half of them effected by a very daring stratagem, suggested and executed by defpair. The remaining half, dismayed at the dangers attending the attempt, continued in the town. But finding themselves unable to defend it any longer, they were obliged to surrender at discretion; eight Spartans went to decide their fate; the miserable Plataeans plumed in vain that they had been forced, through necessity, to side with the Athenians, in order to obtain their protection against the Thebans, by whom they were grievously oppressed. They were all murdered in cold blood; their wives were carried into slavery; and their town was razed to the ground. Such was the melancholy fate of the Pla-
ATHENS.

1253. who, during the Persian war, had rendered the most
signal services to Greece.

(B.C. 428.) In the fourth year of the war, the Pelo-
poneans, agreeably to their general plan, invaded Attica
by land, whilst the Athenians as before sent a naval force
to desolate the coasts of their enemies. Between two
parties, of which the one was evidently superior by land,
and the other by sea, if both skillfully employed their
resources, there must be an alternation of victory and de-
feat, which by reciprocal diminution of resources through
the evils of war, demonstrated peace to be mutually ben-
eficial. This year, however, threatened a blow to the naval
power of Athens that might materially affect the equi-
ponderancy. The maritime strength of Athens depended
in a considerable degree upon her foreign establishments
and dominions. As her treatment of these was frequently
imperious, and even oppressive, her dependencies did not bear
her supremacy without repining. Availing themselves
of the present difficulties, all the inhabitants of Lesbos, except
those of Methymne, resolved to separate from Athens. The
Athenians, feebly how great a loss the defection of this
island must be, sent out a fleet of forty galleys to attack
that of the Methymnians, who, finding themselves re-
pulsed, proposed terms of accommodation; which were
accepted by the Athenians. A suspension of hostilities
being agreed on, the Methymnians dispatched ambassadors
both to Athens and to Lacedæmon at the same time. The
ambassadors were told by the Lacedæmonians, they
should be fully heard at the approaching Olympic games,
where the other allies would have an opportunity of ad-
judging the conference. Then cylikes has transmitted to us
the import of what was urged by those ambassadors; from
which we see, that they admitted the treaty ancienly
concluded between the Lesbians and Athenians, and allign-
ed the ambition of the latter, not their present misfortunes,
as the reason that induced them now to relinquish that
treaty. The allies were satisfied with their reasons, and
admitted them into their confederacy. Informed of these
preparations, the Athenians fitted out a fleet of a hun-
dred sail, appeared unexpectedly off the promontory of
the island of Corcyra, and made a descent upon the Pe-
lonceans, while another fleet protected the coasts of At-
tica. Never had they raised a force composed of so many
different nations and independent cities; and never had
they overawed the Lacedæmonians, that they hurried back to
the defence of their own country. The
Athenians, in the mean time, pursued on the siege of Mity-
lea, whether they sent a detachment of a thousand sol-
diers, and the town was blockaded up both by sea and land.
The inhabitants receiving no assistance from the Lacedæ-
monians, and being refused by痕迹, were obliged to surrender
at discretion. The authors of the revolt, to the number
of more than a thousand, were conveyed to Athens, and then
put to death. Orders were at the same time issued to muf-
safe the rest of the inhabitants, by way of example. But
the people, shocked at such horrid cruelty, caused the de-
eree to be revoked, and dispatched counter orders; which
happily arrived at the帐篷 they were proceeding to put
the revolt in execution. (Thucydides.) Then the town was
defended, and the whole territory of the island, except
Methymne alone, was divided by lot among the inhabitants
of Athens. The fifth (B.C. 427) year of the war was
principally distinguished by the sedition of Corecyra. In
the course of hostilities, the Corinthians had captured a con-
siderable number of those islanders, and willyily treated
them with a gentleness and kindness which gained their affections.
Having brought them to this disposition, they earnestly
persuaded them, when they should return to their country,
to employ their efforts for reconciling the children with the
parent country, and detaching their fellow-citizens from
Athens, the tyrant over her allies. The Corecyrians were
dismissed, and arriving at home, endeavoured to reconcile
their countrymen to the Peloponnesians. The antratocratical
party very readily agreed, and formed a conspiracy for
maffacing the leaders of the democratic party. The com-
mons applied to the Athenians, who sent a fleet to affright
their patriots. The Peloponnesians also sent a squadron
to support the nobles; but the Athenians preferring their
maritime superiority, their enemies retired, and the demo-

crats were paramount. Their cruelty was too signal, as from
that time to give the name of Corecyra to every faction
of uncommon atrocity. The following account, in the ele-
phantine language of Dr. Gillies, contains an awful monument
of the dreadful effects of intestine diffusion.

"The unhappy prisoners were first confined in a dungeon.
Dragged face downward from thence, in parties of twenty at
a time, they were compelled to pass in pairs, their hands tied
behind their backs, between two ranks of their enemies,
armed with whips, prongs, and every instrument of heinous
and disgraceful torture. The writhing body in prison was
long ignorant of the ignominiosus cruelty inflicted on their
companions: but, as soon as they learned the abominable
terrors threatened, they refused to quit their confinement,
guarded the entrance, and invited, with one consent, the
Athenians to murder them. But the Athenians hesitated
not to commit this kind cruelty. The Corecyrian populace ventured not to force a pallage
from d. pair. They mounted the prison walls, uncovered
the roof, and overwhelmed those below with stones, darts,
and arrows. These weapons were destructive to many, and
furnished others with the means of destroying themselves,
or other each. They laid down their heads, opened their
breasts, exposed their necks, mutually soliciting, in plaitive
or frantic accents, the fatal stroke. The whole night (for
night intervened) was spent in this horrid scene, and the
morning presented a spectacle too shocking for description.
The obdurate hearts of the Corecyrians were incapable of
pity or remorse; but their relenting eyes could not bear the
light; and they commanded the bodies of their fellow-
citizens, now breathless or expiring, to be thrown on the
ends. Thus ended the sedition of Corecyra; but its consequences were not soon to end,
The contagion of that unhappy island, engendered a politi-
cal malady, which spread its baneful influence over Greece.
The antratocratical, and Hill more, the popular governments
of that country, had ever been liable to faction, which occa-

cionally blazed into sedition. But this morbid tendency,
congenial to the constitution of republics, thenceforth shewed
a more dangerous appearance, and betrayed more alarming
symptoms. In every republic, and almost in every city,
the intriguing and ambitious found the ready protection of
Athens, or of Sparta, according as their selfish and guilty
designs were screened under the pretence of maintaining
the prerogatives of the nobles, or affecting the privileges
and conveniences of the people. A virtuous and moderate an-
archy, an equal impartial freedom, are the conclusions which
we are to derive from this sedition. Sheltered by the
fierceness of their arms, the prodigious affluence delivered himself from the imprudence of his
creditor. The father, with unnatural cruelty, punished the licentious extravagance of his son; the son avenged, by parricide, the
fear severity of his father. The debates of the public
assembly were decided by the sword. Not satisfied with
victory, men thirsted for blood. This general disorder
overwhelmed laws human and divine. The ordinary courte
A Th e n s.

Of events was revealed: sentiments left their natural force, and words their usual meaning. Dullness and stupidity triumphed over abilities and invention; for while the crafty and ingenious were hiring fire-proof foars for enemies, men of bluster and might had immediate recourse to the two former principles. Hitherto the war had been carried on without any material advantage to either party. The following year (B.C. 427), more critical events took place: Demosthenes, a general of merit and enterprise, commanded the Athenian forces at Amphissa, which had been besetted on the western side of Thrace, by a whole garrison, together with that of the Athenian allies in Macedonia. Demosthenes undertook to relieve Acrocorinthus. The Athenians being continually harassed by the Boeotians, persuaded Demosthenes that it would be easier to overturn their country, before the inhabitants, who lived in scattered villages, widely separated from each other, could collect their forces, or attempt resistance. In pursuance of this advice, Demosthenes entered Acrocorinthus, took and plundered the town, and drove the inhabitants before him. During several days he marched unrestrained; but, having proceeded to Amphissa, the principal, or rather only city in the province, he found that his designs had by no means escaped the notice of the enemy. Living in a country abounding in defiles, and involved in woods, the Boeotians, though irreligious and debased in manner of warfare, yet employing a species of irrefistible fighting not unlike to that which, two and twenty centuries afterwards, has been used by the American Indians, defeated the regularly disciplined heroes of Athens, and Demosthenes was obliged to take refuge in Naupactus. The Athenian general, however, soon found means to irritate those barbarians to venture a contest in the plain, and, with great safe, obtained a signal victory. Elevated with this success, Demosthenes undertook an expedition to the western shore of Peloponnesus, and seized Pylos. The Spartans, eager to recover this important post, attempted to dislodge the enemy, but were defeated, and obliged to take refuge in Sparta, a small island upon the coast; and the Athenians, being masters of the sea, surrounded their retreat, and cut off all supplies of provisions. Anxious to save those troops, the Spartans sent ambassadors to Athens with proposals of peace. The ambassador, however, complained the extreme necessity that had obliged the Lacedaemonians to submit to this humiliation. The Athenians, in mind of the uncertain fate of arms, and exulted to embrace this opportunity of restoring tranquillity to Greece. But the Athenians, grown presumptuous by their good fortune, as well as by the flattering promise of their favourite demagogue Cleon, required, as a preliminary condition, that the troops confined in the island should lay down their arms, and be conducted to Athens, upon the promise of the Athenians to let them liberty as soon as the Lacedaemonians had delivered up the places conquered by them, from the Athenians. The Lacedaemonians refused to comply with this condition, and both parties prepared themselves for war. The Athenians, in the mean time, were very vigilant to prevent any provisions from passing into the island of Sparta. The Lacedaemonians, on the other hand, engaged the whole country round to contribute their utmost efforts to relieve the besieged troops, and promised to set free all the slaves who should succeed in carrying them provisions; which many did, at the extreme hazard of their lives. In the mean time, the Athenians in Pylos began, on their part, to be favoured for provisions. Cleon latter frequented the people, that the flow of the siege was owing to the inactivity of their commanders: and maintained, that a little vigour must very soon reduce the island, which he offered to accomplish himself. Having been accordingly sent thither, and having joined Demosthenes, they landed together in Sparta, and beat the enemy to the extremity of the island. The Lacedaemonians, however, took possession of a fortified town and defended, with the last desperate courage, the only post by which they could be attacked. But the general of the Athenians, having discovered a difficult pass that led to the fortification, marched that way, and appearing unexpectedly on the rear of the Lacedaemonians, called them to lay down their arms. The Lacedaemonians, exhausted with heat and fatigue, obeyed the summons, by laying their shields on the ground; and, after a short conference, they surrendered at different points. The Athenians, after erecting a trophy, remarked on board of their fleet. This siege continued from two days. Cleon is said to have en- ked 128 of those unhappy Spartans to be murdered. The reft were conveyed to Athens, and thrown into prison, till peace should take place; the Athenians threatening, at the same time, to put them all to death. The Lacedaemonians made many more incursions into their country. Soon after happened the edition of Megara. The inhabitants of that town, after expelling their magistrates, quarrelled among themselves, one party being for resuming their magistrates, the other, for delivering their towns into the hands of the Athenians. Brasidas, in the mean time, the chief officer of the Lacedaemonians, had, having come before Megara, its gates are immediately thrown open to him. The exiled magistrates returning soon after, and re- suming their authority, condemned to death one hundred inhabitants of the opposite faction. Brasidas advances into Thrace, subdues several cities, and lays siege to Amphipolis, a place of much importance to the Athenians, who then got the greatest part of their food. They therefore distrusted Timotheus, the famous historian, to its relief; but the place was taken before his arrival. His countrymen, however, imputed to him the loss of the place, and banished him at the instigation of Cleon. The Athenians, having about the same time advanced into Beotia, under the command of Demosthenes and Hippocrates, were defeated near Delium by the Thebans, who, after their victory, besieged and took that town. No decisive advantage had been hitherto obtained by either party. The Athenians and Lacedaemonians therefore agreed on a truce for a year, which Brasidas, who had been successful in all his enterprises, bore with great patience. Cleon, on the other hand, who had acquired much authority in Athens by means of his bold and vehement eloquence, incited his countrymen to renew the war. Being more presumptuous than skilful in military operations, he resolved to attempt the re-taking of Amphipolis, hoping to be assisted by a body of troops from Perdiccas king of Macedon. But Brasidas got the start of him, and threw himself into the town. To increase the presumption of Cleon, the Spartan general, who was well acquainted with his character, affected to be afraid of an encounter; but after making the proper dispositions, Brasidas rallied forth unexpectedly, and attacked the left wing of the Athenians, which, being the flower of their army, made a vigorous resistance. Brasidas, however, at last broke them, and killed six hundred, with very little loss on his own side. This attack disconcerted and terrified Cleon, who was killed by a Spartan soldier as he was flying from the battle. Brasidas was of the number of the Lacedaemonians perished this day, were brave and prudent, and deserves to be ranked among the Lacedaemonian heroes. It was the mother of this general, who, on hearing the exploits of her son com-
ATHENS.

mended, answered, "It is true, my son was a brave man; but I doubt not that Sparta has many citizens as brave as he."

The battle of Amphipolis removed the principal obstructions to peace. There was not any Spartan general qualified to accomplish the designs of Brasidas; and the Athenians, defeated by defeat, and humbled by disgrace, wanted the bold impudence of Clean to disguise their weakness, and varnish their misfortunes. (Ghilt.) With the disheartened remains of an enfeebled armament, they dispaired of recovering their Macedonian jurisdictions; and the greater part returned home well disposed for an accommodation with the enemy. These dispositions were contrived by the patriotic temper of Nicias, who had succeeded to the influence of Clean, and who fortunately discovered in the moderation of Pleidias, king of Sparta, a coadjutor extremely solicitous to promote his views. During winter, several friendly conferences were held between the commissioners of the two republics; and towards the commencement of the ensuing spring, a treaty of peace, and soon afterwards a defensive alliance, for fifty years, was ratified by the kings and elders of Sparta on the one side, and by the archons and generals of Athens on the other. In consequence of this agreement, which was intended to comprehend the respective alliances of the contending powers, all places and persons were exempt from the charge of the war, were to be held inviolably by the parties; the revolting cities in Macedon were specified by name; but it was regulated that the Athenians should not require from them any higher revenue than that supplied by the justice of Ar Pistides. (See Thucydiv.)

While the Athenians were thus engaged in wars, and often employed in injustice, their city produced a peripatetic who taught his countrymen and mankind the purest ethics that ever flowed from a human source. Socrates was now in the full vigour of his genius, which he employed in simplifying practical philosophy to the comprehension of common minds, and to facilitate the necessary connection between piety and virtue and happiness. (See Xenophon's Memorabilia.) From the perfections of the supreme intelligence he deduced his final government of the universe, which implied the immortality of the human soul. But the great object of his research was to discover the general laws by which, even in this life, the superintending providence had variously dispensed to men good and evil, happiness and misery. These laws he regarded as the promulgated will of the gods, with which, when clearly ascertained, it became our duty invariably to comply; since nothing but the most short-sighted folly could risk incurring the divine displeasure, in order to avoid pain or poverty, sickness or death, far less to enjoy pernicious gratifications, which leave a sting behind them. Reasoning on such principles, and taking experience only for his guide, he deduced with admirable perCPPicity the interests and duties of actions and individuals in all the complicated relations of society. The actions of men furnished the materials, their instruction formed the object, their happiness was the end of his discourse. Wherever his lessons might be most generally useful, there he was always to be found, frequenting at an early hour the Academy, Lycam, and other public gymnasias; punctually attending the forum at mid-day, the hour of full assembly; and in the evening, joining, without the affectation of austerity, in the convivial entertainments of his friends, or accompanying them in the delightful walks which adored the banks of the Ilissus. As a husband, a father, a citizen, and a soldier, the steady practice of his duty continually illustrated his doctrine. The conversation
Nicias, the Spartans withdraw their troops from Amphipolis: but they would restore neither that city nor the neighbouring places in Macedon, to the dominion of Athens. The Athenians, agreeably to the treaty, allowed the captives taken in Sphacteria to meet the longing embraces of their kin and friends: but the good policy forbade their surrendering Pylos, until the enemy had performed some of the conditions stipulated in return. Mutual unwillingness or inability to comply with the articles of peace, froze the feuds of animosity, which found a favourable soil in both republics. The authority of those representatives who supported the pacific measures of Nicias and Philibunax had expired. The Spartan youth wished, by new hostilities, to cancel the memory of a war, which had been carried on without profit, and terminated with dishonour; but the wiser part perceived that better success could not be expected while the Athenians possessed Pylos. In their eagerness to recover that fortress, they renewed their alliance with the Thebans, from whom they received Pharnabazus, which they hoped to exchange for Pylos; forgetting in this transaction an important clause in their treaty with Athens, "that neither of the contracting powers should, without mutual communication and concert, conclude any new alliance." The Thebans rejoiced in the prospect of embroiling the affairs of Athens and Sparta; and the Corinthians, guided by the same hostile views, readily concurred with the Thebans, and openly re-entered into the Lacedaemonian conspiracy. The Peloponnesian war was renewed with various success. The address of Alcibiades prevailed on the Argives to join the Athenians; and though the Spartans gained a considerable victory at Mantinea, the Athenians were on the whole pre-eminent. Elated with success, the Athenians undertook the conquest of the island of Melos, a state that never had been dependent on Athens, nor ever interfered in the Peloponnesian war. The Athenians sent Ambassadors to require the islanders to surrender. The conference between their deputies and the Melian statesmen is detailed by Thucydides, and is one of the most curious and interesting pieces recorded in ancient political history. It may indeed well be styled the moral creed of conquering adventurers, more openly promulgated than in modern manifestoes, but containing the same sentiments which dictated in our own times the partitioning scheme for the subdivision of Poland, with this difference, that modern subtleties are on a grand scale, but by some splendid plea of right, do homage to the justice which they transgress; whereas the Athenian debat did not shew common sense by such an unfounded pretext. He stated the real title to the feiture of other people's property, superior power; that the strong may use what freedom they please with the weak. There is not a single word said tending to prove either just right in the Athenians, or aggression in the Melians. The Athenian states the power of his country, and the miseries the Melians would suffer if they attempted resistance. The peroration to this celebrated discussion fully illustrates the principles on which the Athenians proceeded, and sums up the diplomatic reasoning: "You are determined," said the Athenian ambassador, "it seems, to learn by fatal experience, that fear never compelled the Athenians to desist from their designs, especially never to raise the siege of any place which they had once invested. For during the whole of this long commence-ment, you have not mentioned a single particular capable of affording any just ground of confidence. Deceived by the splendor of words, you talk of honour and independance, rejecting the offers of a powerful state, whose arms you are unable to resist, and whose protection you might obtain at the expense of a moderate tribute. Left shame should have any share in this dangerous behavior, we shall leave you to consult privately, only reminding you once more, that your present deliberations involve the face of your country." The Athenian ambassadors retired, and shortly afterwards the Melians recalled them, and declared their unanimous resolution not to intrust in one unlucky hour the liberty which they had maintained for five hundred years; depending on the vigorous assistance of their Lacedaemonian kinmen, and trusting especially in that divine providence which had hitherto preferred them amid the general revolutions of Greece. But they entreated the Athenians to accept their offers of neutrality, and to abstain from unprovoked violence. The ambassadors prepared for returning to the camp, leaving the commissioners with a farcical threat, "that all of men, in such a delicate situation, the Melians alone thought the future more certain than the past, and would grievously suffer for their folly, in preferring to the projects of certain and immediate safety, the deceitful present of hope, the instability of fortune, and the vain prospect of Lacedaemonian aid." The Athenians, irritated by opposition, invaded without delay the capital of Melos, which was blocked up for several months by sea and land. The besieged, after suffering cruelly by famine, made several desperate sallies, seized the Athenian magazines, and destroyed part of their works. But towards the end of winter, their resistance was defeated by the vigorous efforts of the enemy, combined with domestic treachery. The males above the age of fourteen were put to the sword; the women and children were subjected to perpetual servitude; and five hundred new inhabitants, drawn from the neighbouring colonies of Athens, were sent to occupy the vacant lands which had been cultivated and adored for seven centuries by the labour of the exterminated Melians.

Successful injustice encouraged the Athenians to more arduous schemes of aggression and conquest, and they hoped to subjugate the whole course of the Mediterranean. Under these visionary fancies, they projected an expedition to Sicily, which proved so fatal to Athenian greatness. With the usual policy of conquerors, they maintained a close intercourse with the weaker states of a country which they projected to subdue. Since the death of Pericles, they had concluded a treaty with the Leontines, who, being band prefied by the Syracusans, applied for assistance to their new conquerors; for this purpose they sent an embasssy to Athens, at the head of which was the wealthy Gorgias, who pleaded the cause of the Leontines in an oration so elegant and pathetic, that the request of the ambassa-dors was granted; and the Athenians sent a fleet to Rhegium to subdue the Leontines. Next year (B.C. 415), they sent thither a more numerous fleet still, under pretence of afflicting the town oppressed by the Syracusans, but in fact to open to themselves a way to the conquest of Sicily. Alcibiades, by his harangues, inflamed the Athenians still more and more to this undertaking, and talked of nothing less than extending the conquests of Athens over Africa and Italy. While the minds of the Athenians were full of these mighty projects, ambassadors arrived from the Egyptians, to implore their assistance against the Selinuntines, who were supported by the Syracusans; offering at the same time to pay the troops that should be sent to their assistance. The Athenians, tempted by these promises, named Alcibiades, Nicias, and Lamarchus, to command a fleet destined to succour the Egyptians. Nicias renounced against this expedition in the strongest terms, and painted out in the most lively colours what ruinous consequences might thence result to the republic. He represented to the Athenians, that they had but too many enemies on their hands already, with-
pouring out their most earnest vows for the success of their fellow-citizens. The fleet directed its course towards Rhegium, whether they dispatched some ships before the rest, to see that the money promised by the Egyptians was ready; of which, however, they found no more than thirty talents provided. Nicias availed himself of this circumstance to enforce the reasons he had insisted on against the expedition, and advised to terminate the dispute between the Egyptians and Sicilians in an amicable manner; to oblige the former to fulfill their engagements; and then to return to Athens. Alcibiades, on the contrary, said it would be difcerned to return without performing some signal exploit with so powerful an armament; that they ought to endeavor to detach the Greeks in Sicily from their connection with Syracuse, to bring them over to their own party, and after obtaining from them refreshments both of troops and provisions, to attack Syracuse. Lamachus advised to march immediately against Syracuse; but the opinion of Alcibiades prevailed. They therefore continued their course for Sicily, where Alcibiades reduced Catana. At Athens the enemies of Alcibiades, intent alone on gratifying their resentment, without regarding the public interest, took advantage of his absence to renew against him an accusation of having in a debauch profaned the mysteries of Proserpine and Ceres; and they prosecuted the accusation with the most invertebrate malice and animosity. Many persons were accused, and thrown into prison, without being even permitted to be heard; and a velix was dispatched to bring Alcibiades to land trial before the people. To this he apparently condescended, and went on board of the galley; but on arriving at Thurium, he disappeared. Not having therefore obeyed the summons within the limited time, he was condemned to death for contempt, and his effects were confiscated. (Thucydides, i. vi.) The departure of Alcibiades spread apprehension through the army. Nicias, now chief commander, by his irreproachable conduct, restored the ardour of the Athenians to cool, and he spent the greatest part of the sumner inactive at Catana. The Athenian soldiers, impatient of such dilatory proceedings, reproached their general, who, to please the army, resolved to besiege Syracuse. Though slow in counsel, yet vigorous in conduct, he conducted his attacks with so much ability, that the inhabitants were inclined to surrender. Already several states of Sicily and Italy had declared in his favor, when a Lacladianon general named Gyllipus entered the besieged city, with a few troops which he had brought from Peloponnesus, or collected in Sicily. Nicias might have prevented him from landing in the island, but left the opportunity; an irreparable fault, which proved the source of all his misfortunes. Gyllipus revived the courage of the Syracuseans, defeated the Athenians, and held them blocked up in their intrenchments. Athens sent to Sicily another fleet consisting of about seventy-three galleys, under the command of Demothers and Eurymedon, and a second army of five thousand men heavily armed, and some light troops. Demothers having left two thousand men at the attack of an important post, and considering that the sea would soon be no longer navigable, and that the troops were waiting away by divers, proposed to abandon the enterprise, or transport the army to some healthier situation. When they were on the point of setting sail, Nicias, terrified at an eclipse of the moon, which spread confusion through the camp, concluded the augurs, who directed him to wait twenty-seven days longer. Before the expiration of his time, the Athenians, vanquished by sea and land, no longer able to remain under the walls of Syracuse for want of provisions, nor to escape out of the harbour, the mouth
mouth of which was shut up by the Syracusans, took the
resolution to abandon their camp, their sick, and their ships,
and retire by land into some town of Sicily. They began
their march to the number of forty thousand men, includ-
ing not only the troops furnished them by the states of
Italy and Sicily, but the crews of the galleys, the work-
men, and slaves. The Syracusans, by feizing the docks,
and breaking down bridges, and other obstructions, im-
peded the retreat of the Athenians, while at every step they
harried their track and rear. The retiring forces for eight
whole days had to struggle against new obstacles continually
increasing. But Demosthenes, who commanded the rear-
guard, composed of six thousand men, losing way in his
march, was pushed into a confined place, and, after prodigies
of valour, obliged to surrender on condition that his soldiers
should have their lives granted them, and be spared the hor-
rors of a dangerous siege. Nicias, having failed in a negotiation he
had entered into, conducted the remainder of the army as
far as the river Alinurus. On his arrival there, the greater
part of the soldiers, terrified by a burning thirst, rushed
in confusion into the river, while others were driven into it
by the enemy. Such as attempted to save themselves by
swimming found on the opposite shore steep banks lined
with dartmen, who made a terrible slaughter of them.
Eight thousand men perished in the attack; till at length
Nicias thus addressed Gylippus: "Diope of me as you
shall think proper; but shew mercy at least to these unhappy
soldiers." Gylippus immediately put an end to the carn-
age. The Syracusans returned to their city, bringing
back with them even thousand prisoners, who were thrown
into the quarries, where for many months they experienced
terrifying miseries. Numbers of them perished there, and
others were sold as slaves. Nicias and Demosthenes
were among the sufferers. A few escaped both death and
bondage through the charms of dramatic poetry, by recit-
ing passages from the beautiful and pathetic tragedies of
Lunipides.

The disgraceful expedition of the Sicilians filled Athens
with consternation and difmAY, and she had reason to dread
still greater calamities. Her allies were ready to shirk off
the yoke; the other states of Greece were conspiring her
ruin; the Peloponnesians already thought themselves justi-
fied by her example in breaking the truce. Already she
had discovered in their operations, more skilfully planned
and conducted, the spirit of vengeance, and the superior genius
by which they were directed. Alcibiades enjoyed at Laced-
emon that respect and influence he everywhere obtained.
It was by his advice that the Lacedaemonians adopted the
resolution of sending succours to the Syracusans, renewing
their invasions into Attica, and fortifying, at the distance of
one hundred and twenty fadium from Athens, thepolis of
Decelea, which held that city blocked on the land side. To
annihilate the power of Athens, it was necessary to favour
the revolt of her allies, and destroy her navy. Alcibiades
repaired to the coasts of Afia Minor; and Chios, Miletus,
and other flourishing cities, declared for the Lacedaemonians.
His accomplishments he captivated Tissaphernes, the
governor of Sartio; and the king of Persia engaged to pay
the fleet of Peloponnesus. This second war, conducted
with more regularity than the former, would quickly have
been terminated, but not Alcibiades, pursued by Agis,
king of Lacedemon, whose wife he had seduced, and by
the other chiefs of the league, who took umbrage at his
glory, at length considered that, after avenging himself on
his country, it was now only remained for him to protect it from
inevitable ruin. With this view, he contrived to suspend
the operations of Tissaphernes, and the departure of the
Persian succours, under the pretense that it was the interest
of the great king to suffer the nations of Greece mutually
to exasperate each other. The Athenians having soon after
resolved the decree for his banishment, he put himself at
their head, reduced the strongholds of the Hellespont,
forced one of the Persian governors to sign an advantageous
treaty with the Athenians, and the Lacedaemonians to sue
for peace. Their demand was rejected; for, deciding them-
selves invincible henceforward under Alcibiades, the Athe-
nians made a rapid transition from the most profound con-
firmation to the most infantile presumption. The hatred
with which they were animadvised against that general was as
quickly succeeded by the most extravagant gratitude, and the
most unbounded affection. When he returned to his own
country, his arrival, and the pains he took to justify
his conduct, were a series of triumphs for himself, and of
public rejoicings for the multitude. When, amidst the
annihilations of the whole city, they saw him fall from the
Piraeus with a fleet of a hundred ships, no doubt was en-
terained but that his rapid victories would soon force the
inhabitants of the Peloponnesus to submit to the law of the
conqueror; the arrival of a courier was every moment ex-
pected with the news of the destruction of the enemy, and
the conquest of Ionia. In the midst of these flattering ex-
pectations, they learnt that fifteen of the Athenian galleys
had fallen into the hands of the Lacedaemonians. The
engagement took place during the absence, and in contempt
of the precise orders, of Alcibiades, who had been obliged
to pass into Ionia to levy contributions for the subsistence of
his troops. On the first intelligence of this check, he in-
stantly returned, and offered battle to the victor, who did
not venture to accept it. He had retrieved the honour of
Athens; the loss was trifling, but it sufficed for the jealousy
of his enemies. They exasperated the people, who flung
him from the general command of the armies with as much
precipitation as they had manifested in inveigling him with
that dignity. After the second exile of Alcibiades, the
war continued for several years, the Spartans being now
commanded by Lyfander, after Alcibiades the first general
of Greece. Till the twenty-seventh year of the war, the suc-
cess was various, and operations were principally maritime.
The great object of the Peloponnesians was the reduction of
the Athenian colonies; and the northern parts of the
Aegean sea were the chief scenes of warfare. In the twenty-
seventh campaign, a large Athenian fleet was stationed at
the mouth of the river Egos. Considering themselves as
incontrovertibly superior to the enemy, many of the Athe-
nian vessels left the ships, and were carelessly dispersed on
shore. Alcibiades, being in that neighbourhood, and,
though in banishment, anxious for the welfare of his coun-
try, warned the Athenian generals of their hazardous posi-
tion, and the want of discipline among their forders and
seamen; after representing to them the danger of their situa-
tion, on an inhospitable coast, without either harbours or
cities to which they might retire in case of necessity, he of-
fered to co-operate with them, byfalling upon the enemy at
land, with some Thracian troops under his command. But
the generals despised his advice, and refused, out of jealously,
accept of his service. Lyfander, in the mean time, prepared
to attack the Athenians when totally off their guard. Hav-
ing learned from his scouts, that the enemy were struggling
with even more than their usual carelessness, Lyfander em-
braced the opportunity; and bore down upon the ships thus
defeated by the chief portion of the fighting men. The
victory was complete, if thence be called a victory where
there was scarcely any resistance. The vigilant activity of
Conon endeavoured feaunably to assemble the strength of
the
the Athenians; but his advice was disregarded by officers incapable and unworthy of command, and his orders were despised by seamen unaccustomed and unwilling to obey. At length they became fearful of the danger, when it was too late to avoid it. Their ships were taken, either altogether empty, or manned with such feeble crews as were unable to work, much less to defend them. The troops and sailors who fled to the shore from different quarters, and with disordered precipitation, were attacked by the regular onset and disciplined valor of the Peloponnesians. Those who fought were slain; the remainder fled into the utmost recesses of the Chersonesus, or took refuge in the Athenian fortresses, which were scattered over that peninsula. Out of a fleet of an hundred and eighty sail, only nine vessels had escaped, eight of which were conducted by Conon to the friendly island of Cyprus, while the ninth carried to Athens the melancholy news of a disaster equally unexpected and fatal. Lytfander proposed to pursue his blow to the destruction of the Athenians, reduced all the colonies of Athens under the dominion of Sparta, and proceeded to the siege of Athens. While he invested this city by sea, a powerful army co-operated with him by land. The Athenians, having defended themselves for three months, were reduced to the extremity of distef, and at length this celebrated city was captured, dismantled, and rendered a dependency of Sparta. Such was the ruinous termination of the Peloponnesian war. (B.C. 404.) The conquerors placed the government in the hands of thirty persons, who, from their capacity and cruelty, cared and acquired the name of the thirty tyrants. During their sway Athens had scarcely any political existence, and its history is only marked by domestic injustice and misery. The unhappy Athenians cast their eyes on Aulis, in the confidence that he could, and the hopes that he would, effect their deliverance. But Lyfander, entertaining a similar idea of the powers and dispositions of that illustrious exile, prevailed on Pharnabazus, the Persian satrap, to perpetrate his murder. The thirty tyrants, seized from the fear of such an avenger, proceeded to greater enormity than ever; until Thrasybulus, inheriting the magnificent spirit of a free Athenian, put himself at the head of his injured countrymen, expelled the tyrants (B.C. 401), and, favoured by the diffusions of the Spartan leaders, re-established a free government in Athens. Deprived, however, of her colonial, naval, and many of her commercial resources, Athens continued of little importance in the public transactions of Greece. The chief domestic event which distinguishes this part of Athenian history, is the fate of Socrates; but of the life as well as of the death of this extraordinary sage, a full account will be given under the appropriate article.

While the Athenians had thus lost not only pre-eminence but independence and political importance, they were still distinguished for good and bad qualities, which had since been conspicuous in the days of their prosperity. Genius was still transcendent, though directed to different objects from those which had employed a Themistocles and a Cimon. Instead of active efforts for aggrandizing their country, Athenian talents were now chiefly employed in pursuits defined to delight and instruct all the enlightened world. Poetry, history, and philosophy by different means purified the same end, the promotion of wisdom, virtue, and happiness. But as epic and dramatic excellence had been already carried to the highest conceivable perfection; the poetry of Athens at this period was less pre-eminent than her history and philosophy. Thucydides and Socrates being dead, Xenophon and Plato occupied the highest rank.

The over-bearing influence with which the Spartans exercised their supremacy over the Grecian states proved ultimately the means of their degradation, and enabled the Athenians to recover a certain portion of their political power, and their onus among their neighbours. The confederacy which was formed against Sparta enabled the Athenians to defeat the Lacedaemonians at sea, to regain their naval superiority, and to rebuild their harbour and walls. (B.C. 394.) This revolution from dependency to maritime supremacy they owed to the courage and policy of the celebrated Conon. (See CONON.) ThrasybulusFeedback the exploits of Conon, and the Athenians resumed the command of maritime settlements, which had been wrested from them ten years before by the victorious Spartans. The reviving fortune of the Athenians recalled their military energies, and various commanders started up, not unworthy of the native country of Pericles and Alcibiades. Iphicrates, Chabrias, and Timotheus, gave glorious specimens of valour and conduct; but the peace of Antalcidas (B.C. 387) suspended their exertions. For several years after this treaty, the Spartans endeavoured by stratagem and surprize to re-establish their predominancy; they seized the island of Thebes, and attempted to make themselves masters of the harbour of Athens, though nominally at peace with both countries. The Athenians joined with the Thebans in revenging this outrage; Chabrias repulsed the army of Sparta, while Iphicrates and Timotheus destroyed her fleets, and Athens rose to an equality with her rival. Peace being again concluded between the Spartans and Athenians, the latter were spectators of the contest between Sparta and Thebes, where the renowned Epaminondas gave Lacedaemon (B.C. 371) such a blow to Spartan power; the Athenians were invited by the victors to join in an alliance for crushing their ancient enemies; but they regarded found policy more than repentment, and would not throw their weight into the Theban scale, already preponderant. The Theban hero having still further reduced the Spartans, and invaded Laconia, the Athenians took active steps for rendering affiance to the now weaker party, and sent an army to defend Peloponnesus; but the battle of Mantinea (B.C. 362) arrested Epaminondas in the career of victory. After him no Theban arose fit for imitating his example, or executing his designs. The Thebans became haggard; the Spartans on the other hand were exhausted. Athens did not fail to take advantage of the contests which had weakened her two foes in the dominion of Greece. Taught by experience, they did not attempt to subdue the territories of her warlike neighbours; but the numerous islands of the Aegean and Ionian seas, the various cities of "Thrace and Asia, invited the profitable commerce of their fleet, which they might now employ in foreign conquests, fears of domestic envy. It appears, that from after the death of Epaminondas, Euboea again acknowledged the authority of Athens, an event facilitated by the division of the Theban partisans belonging to that place, in the battle of Mantinea. From the Thracian Bosphorus to Rhodes, several places along both shores submitted (B.C. 350.) to the arms of Timotheus, Chabrias, and Iphicrates; men, who, having survived Agesilaus and Epaminondas, were far superior in abilities and in virtue, to the contemporary generals of other republics. The Cyclades and Corcyra coursed the friendship of a people able to interrupt their navigation, and to destroy their commerce: Byzantium had become their ally; and there was reason to hope that Amphipolis would soon be reduced to submission. Such multiplied advantages revived the ancient grandeur of Athens, which once more commanded the sea, with a fleet of near three hundred sail, and employed the best half of her citizens and subjects in ships of war or commerce. This tide of
of prosperity, flowing so grateful after adversity and oppression, proved eventually the cause of their ruin. The populace abandoned themselves to idleness, dissipation, and lewdness; and to supply their extravagances, sought proper inequalities and injustice. To direct the formation, and lead the execution of such schemes, a daring and profligate leader presented himself in Chares, whose soldier-like appearance, blunt address, and bold impudent valour, masked his licentious ambition, and rendered him the idol of the populace. His perfidy was gigantic and robust, his voice commanding, his manners haughty; he affected positively, and promised boldly; and his presumption was so excessive, that it concealed his incapacity, not only from others, but from himself. Though an enterprising and successful partisan, he was unacquainted with the great duties of a general; and his defects appear the more striking and palpable, when compared with the abilities of Iphicrates and Timotheus, his contemporaries, who prevailed as often by address as by force, and whose conquests were secured to the republic by the moderation, justice, and humanity with which they had been obtained, and with which they continued to be governed. Chares proposed a very different mode of administration; he exhorted his countrymen to supply the defects of their treasury, and to acquire the materials of those pleasures which they regarded as essential to their happiness by plundering the wealth of their allies and colonies. This counsel was too faithfully obeyed; the vexations anciently exercised against the tributary and dependent states, were renewed and excelled. The weaker communities complained and remonstrated against this intolerable incapacity and oppression; while the isles of Chios, Coos, Rhodes, as well as the city of Byzantium, prepared openly to revolt, and engaged with each other to repel force by force, until they should obtain peace and independence (B. C. 358). Chares, probably the chief instrument as well as the adviser of the arbitrary measures which had occasioned the revolt, was sent out with a powerful fleet and army to quash at once the hopes of the insurgents. He failed towards Chios, with an intention to seize the capital of that isle, which was supposed to be the centre and prime mover of rebellion. The confederates, informed of his motions, had already drawn thither the greatest part of their force; the city of Chios was besieged by sea and land; the insurcend were defended themselves with vigour; Chares found it difficult to repulse their fanatics; his fleet attempted to enter their harbour without success; the ship of Chabrias alone penetrated thus far; and that able commander, whose valour and integrity merited a better fortune, though defeated by the fleet, yet forsook not the ship extricated to him by the republic. His companions threw away their shields, and fended themselves by swimming to the Athenian squadron, which was full west by their reach; but Chabrias, fighting bravely, fell by the darts of the Chians, preferring an honourable death to a disgraceful life. Encouraged by advantages over their enemy, who had at first affected to despise them, the insurgents augmented their fleet, and ravaged the isles of Lemnos and Samos. The Athenians, indignant that the territories of their faithful allies should fall a prey to the depredations of rebels, fitted out, early in the next year, a new armament under the command of Mneheus, the son of Iphicrates, and son-in-law to Timotheus, expecting that the new commander would respectfully listen to the advice of those great men, who perhaps declined acting as principals in an expedition where Chares professed any share of authority. That general had raised the siege of Chios, and now cruised in the Hellespont; where, being joined by Mneheus, the united squadrons amounted to an hundred and twenty sail. It was immediately determined to cause a diversion of the enemy's forces from Samos and Lemnos, by laying siege to Byzantium. The design succeeded; the allies withdrew from these isles, collected their whole naval strength, and prepared vigorously for defending the principal city in their confederacy. The hostile armaments approached each other with a resolution to join battle, when a sudden and violent storm arose, which rendered it impossible for the Athenians to bear up to the enemy, or even to keep the sea, without being exposed to shipwreck. Chares alone confidently insisted on commencing the attack, while the other commanders, more cautious and experienced, perceived the disadvantage, and declined the unequal danger. His impetuousity, thus overruled by the prudence of his colleagues, was converted into resentment and fury; he called the sailors and soldiers to witness his opposition, which he branded with every odious epithet of reproach; and with the first opportunity, dispatched proper messenger to Athens, to accuse them of incapacity, cowardice, and total neglect of duty. The accusation was supported by venal orators in the pay of Chares; Timotheus and Iphicrates were tried capitally. The former truel to his innocence and eloquence; the latter used a very extraordinary expedient to sway the judges, conformable, however, to the spirit of that age, when courts of justice were frequently instruments of oppression, governed by every species of undue influence, easily corrupted and easily intimidated. The taxeors, or light infantry, who had been armed, disciplined, and long commanded by Iphicrates, enjoyed the same reputation in Greece, which the "Fabia" folders afterwards did in Italy. They were called "Iphicratian" troops, from the name of this commander, to whom they owed their merit and their fame; and to whose person (notwithstanding the strictness of his discipline) they were strongly attached by the ties of gratitude and affection. The young and brave of this celebrated band readily obeyed the injunctions of their admired general; surrounded, on the day of trial, the benches of the magistrates, and took care feasonably to display the points of their daggers. It was the law of Athens, that after preliminaries had been adjusted, and the judges assembled, the parties should beheard, and the trial begun and ended on the same day; nor could any person be tried twice for the same offence. The rapidity of this mode of procedure favoured the views of Iphicrates; the magistrates were overawed by the imminence of a danger which they had neither strength to resist nor time to elude; they were compelled to an immediate decision; but instead of the sentence of death, which was expected, they imposed a fine on the delinquents, which no Athenian citizen in that age was in condition to pay. This severity drove into banishment those able and illustrious commanders. Chabrias failed to Chalce, in Euboea, and afterwards to the isle of Lebos, both which places their valour and abilities had recovered for the republic, and which, being chosen as his residence in disgrace, sufficiently convince the mildness of his government, and his moderation in prosperity. Iphicrates travelled into Thrace, where he long resided; he had formerly married the daughter of Cotys, the most considerable of the Thracian princes, yet he lived and died in obscurity; nor did either he or Timotheus henceforth take any share in the affairs of their-ungrateful country. Thus did the social war destroy or remove Iphicrates, Chabrias, and Timotheus, the best generals whom Greece could boast; and, honest Plecon expeetcd, the last venerable remains of Athenian virtue. (See Gillies, vol. ii. p. 384.)

Sunk in idleness, amnesia, and despair, the Athenians wanted nothing to complete their destruction but an ambitious and enterprising foreign enemy. Thus they found in Philip,
Philip, king of Macedon, who first extended his power in countries not immediately connected with Greece, and at the same time increased the means of farther extension. Meanwhile a war broke out in Greece; first between the Thebans and Phocaeans, concerning lands annexed to the temple of Delphi, which afterwards involved the greater part of Greece, and among others the Athenians. Philip, taking advantage of their difference, marched towards the interior of Greece, knowing that the Athenians were the most immediately intended to oppose his progress, and the abhor, if they exerted themselves, to do it effectually; he directed a great part of his policy to the prevention of those exertions. He was aware that in a democracy the governors are the tools of the demagogues; by flattery, by carelesse, and by bribery, he effectually procured the favour of those leaders of the populace. One patriot, however, he could never corrupt; Demosthenes exerted the whole force of his oratorical eloquence (from B.C. 356 to 326) to rouse the Athenians to a sense of their danger, from the encroachments of Philip. (For the nature and character of Demosthenes's eloquence, see article Demosthenes.) This powerful orator occasionally roused his countrymen from their lethargy, but never to such great exertions as he declared necessary, and as the circumstances required; on gaining temporary partial advantages, they returned to their indolence and licentiousness. Philip amased them by emolument; seduced them by their demagogues; and continued his encroachments: when they should have been sending powerful armaments, they sent ambassadors: these, Demosthenes excepted, Philip corrupted; and the interests of the Athenians were betrayed. In vain Demosthenes demonstrated the views of Philip, and treachery of the demagogues; he could not stimulate them to vigorous and persevering efforts, until Philip's power became too formidable for resistance. A combination of the states of Greece was at length formed against Philip; but too late to be successful. The allies were totally defeated at Chaeronea (B.C. 338), and the Athenians became a dependency of Macedon. A popular writer (see Travels of Anacharsis, vol. l. p. 112.) observes, that the history of the Athenians, properly speaking, commences about 150 years after the first olympiad: and concluded at the battle of Chaeronea, it continues scarcely more than 300 years. In this series of years it is easy to discover certain important intervals, which mark the rise, progress, and decline of their empire; and if these can be distinguished by characteristic names, the first may be called the age of Solon, or of the laws; the second, the age of Themistocles and Aristides, or the age of glory; and the third, that of Pericles, or the age of luxury and the arts.

The Athenians after the battle of Chaeronea never recovered their importance. During the contentions of Alexander's successors, they followed the fortunes of different claimants, but chiefly adhered to the side of Demetrius and his descendants, who established themselves on the throne of Macedon. When the intrigues of the second Philip with the renowned Hannibal provoked the Romans to invade Greece, the Athenians joined the invaders, and Athens became the dependent ally of the conquerors. In the Mithridatic war, Athens having been conquered by the Asiatic monarch, was besieged by Sylla (B.C. 87), who took and plundered their city, demolished its walls and fortifications, butchered its inhabitants, and reduced it to a state of defoliation. When this horrid subfide, Athens enjoyed profound tranquillity till the civil war broke out between Caesar and Pompey, when it took part with the latter, and was reduced to great miseries by Calenus, the lieutenant of Caesar. Disappointed in their hopes of being relieved by Pompey, the Athenians surrendered at discretion, and were more kindly treated than they expected; for Caesar not only pardoned them, but took them under his protection, alleging that he feared the living for the sake of the dead. But averse from ferititude, they no sooner heard of Cæsar's death than they openly declared for his murderers; and bringing Brutus and Cassius into their city, and even erecting statues to them, which were placed next to those of Harmodius and Aristogiton. After the defeat of Brutus and Cassius, they attached themselves to Antony, who restored them to their former privileges, and enlarged their dominions, by subjecting to Athens the islands of Céa, Sicæthus, Paparathus, and Aegina. Of this island, however, they were deprived by Augustus, and forbidden to sell the freedom of their city, as a punishment which he inflicted upon them for their ingratitude to Julius Cæsar. Towards the latter end of the reign of Augustus, they revolted, but were soon reduced to their former obedience. Germanicus, the adopted son of Tiberius, honoured them with the privilege of having a Flaminus, which was considered as a mark of sovereign power. This grant was confirmed by him to Cæsar and his successors, under whose protection they maintained their ancient form of government till the reign of Vespasian, who reduced Attica, with the rest of Greece, to a Roman province, saying, "that the Greeks knew not how to enjoy their liberty." But the emperor Adrian, who had been prætor of Athens before his accession to the imperial dignity, restored to them the full enjoyment of their former privileges. He repaired the two ports of the Piræus and Munchia, and added a whole district of new buildings to the old city. This quarter was called Adrianopolis, from Adrian, whom the Athenians styled the second founds. of their city. The privileges granted by Adrian were confirmed and extended by his successors M. Antonius Pius and M. Antoninus the philosopher. Severus abridged them of many privileges in revenge for an affront which he received at Athens, while he sojourned in that city. They were favoured by Valerian; but the city was taken and plundered by the Goths in the reign of Gallicanus, or of Claudius (A.D. 267 or 268); but the invaders were soon obliged, by a precipitate flight, to abandon their new conquest. Contantine the Great was a peculiar patron and benefactor of the Athenians. He honoured their chief magistrates with the title of grand duke, an office at first annual, but afterwards hereditary; and granted them many privileges, which were confirmed and enlarged by Constan- tinus, who also put them in possession of several islands in the Archipelago. In the time of Theodosius I. 380 years after Christ, the Goths laid waste Thessaly and Epirus; but Theodore, general of the Acharans, preferred the cities of Greece from pillage; and a number of mable was erected to him at Athens by order of the city. During the reigns of Aurelius and Honorius, the Athenians were cruelly harried and assaulted by the Goths under Attilic (A.D. 366), who reduced all their flattery and magnificent structures into heaps of ruins, and removed the invaluable treasures of antiquity. Synclus, a writer of that age, says, that Athens resembled the bleeding and empty skin of a slaughtered victim. After Athens became only part of a Roman province, it still remained the central point in the republic of letters, and continued to be frequented by all who desired to acquire that attainm which so highly valued by the ancients, and that standard which enabled them to estimate, with peculiar accuracy, the real beauties of every work of genius and art. Here too, and here only, were to be learned the true principles of eloquence. All, therefore, who applied themselves to public speaking, and
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after her Perlian triumphs, adopted the philofophy of Ionia and the rhetoric of .Sicily; and thefe ftudi
became the patrimony of a city, whofe inhabitants, about their focial ma iner aid fom traces,
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the garden of the
collection, that Ifocrates was the companion of Plato and Epicureans, were planted with trees and decorated with
Xenophon ; that he aififted, perhaps with the hiftorian ftatues and the philosophers, inftead of being immured in
•Thucydides, at the firlt reprefentations of the Oedipus of a cloyfter, delivered their inilructions in fpacious and pleala it walks, which, at different hours, were confecrated to
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pupils jEfchiues and Denu fthenes contended foi the
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oi the mind and body.
wn
of patriotifm i.i the prefence of Ariftolle, the mafter of founders (till lived in thofe venerable feats
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Theophraftus, who taught at Athens with the founders of Succeeding to the matters of human reafon, excited a genethe Stoic and Epicurean Lets.
The ingenious youth of rous emulation and the merit of the candidates was deterAttica enjoyed the benefits of their domeftic education, mined, on each vacancy, by the free voices of an enlightened

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which was communicated without envy to the rival cities.
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The Athenian profeffors were paid by their difcithoufand difciples heard the leflbns of Theophraftus
ples, according to their mutual wants and abilities
the price
the fchools of rhetoric mull have been Hill more populous appears to have varied from a minato a talent
and Ifocrates
than thofe of philofophv ; and a rapid fucceflion of Undents* himlelf, who derides the avarice of the fophiils, required in
diffulcd the fame of their teachers, as far as the utmoft
his lchoel of rhetoric, about thirty pounds from each of his
limits of the Grecian language and name.
Thole limits hundred pupils. The wages of indullry arc juib and honourwere enlarged by the victories of Alexander ; the arts of able, yet the fame liberates (bed tears at the firil receipt
Athens furvived her freedom and dominion and the Greek ofaftipend; the Stoic might blufh when he was hired to
colonies which the Macedonians planted in Egypt, and fcat- preach the contempt of money
and 1 Ihjuld be forry
tered over Alia, undertook long and frequent pilgrimages to difcover, that Ariltotle or Plato fo far degenerated from
to worlhip the mufesm '.heir favourite temple on the banks
he example of Socrates, as to exchange knowledge for gold.
of the lliil lip.
The Latin conquerors refpectfully liftened But fome property of hinds and houfes was fettled by the
to- the inftru&ions of their fubjefts and captives
the names permiffion of the laws, and the legacies of defeated friends,
oi Cicero and Horace were enrolled in the fchools of on the philofophic chairs of Athens.
Epicurus bequeathed
Athens; and after'the perfect fettlement o'i the Roman to his difciples the garden which he had purchaj d foi
empires the nativi s oi Italy, of Africa, and of Britain, con- eighty minx or two hundred and fifty pounds, with a fund
\nled in the groves of the academy with their fellow- Sufficient for their frugal fubfiftence and monthly feftivals'
'.nts of the Eaft.
The ftudies of philofophy aud elo- and the patrimony of Plato afforded an annual rent, which,,
quence are congenial to a popular f.ate, which encour;
in eight centuries, was gradually iucreafed from three to
the freedom of inquiry, and fubmits only to the force of one thoufand pieces of gold.
The fchools of Athens were
perfuafion.
in the republics of Greece and Rome, the art protected by the wife ft and molt virtuous of the Roman
it (peaking was the powerful engine of patriotifra or am- princes.
The library which Hadrian founded, was placed
and the fchools of rhetoric poured forth a colony of in a portico adorned with pictures, ftatues, and a roof of
bition
ftatefmenand legijlators. When the liberty of public de- alabafter, and fupported by or.e hundred columns of Phrybate was iuppreffed, the orator, in the honourable profc (Hon gian marble.
The public falaries were affigned by the
of an advocate, might plead the caufe of innocence and generous fpirit of the Antonines and each profefTqr, of
jullice ; he might abufe iiis talents in the more profitable politics, of rhetoric, of the Platonic, the Peripatetic, the
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and the fame precepts continued to Stoic, and the Epicurean philofophy, received an annual
dictate the fanciful declamations of the fophift, and the llipend of ten thoufand drachmae, or more than three hun-

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dread pounds; ferling. After the death of Marcus, these liberal donations, and the privileges attached to the thrones of science, were abolished and revived, diminished and enlarged: but some vestige of royal bounty may be found under the successors of Constantine: and their arbitrary choice of an unworthy candidate might tempt the philosophers of Athens to regret the days of independence and poverty. It is remarkable, that the impartial favour of the Antonines was bestowed on the four adverse facts of philosophy, which they considered as equally useful, or at least as equally innocent. Secrates had formerly been the glory and the reproach of his country; and the first illusion of Epicurus so strangely banalized the poems of the Athenians, that by his exile, and that of his oracle, they fenced all vain disputes concerning the nature of the gods. But in the ensuing year they called the halcyon decree, restored the liberty of the schools, and were convinced by the experience of ages, that the moral character of philosophers is not affected by the diversity of their theoretical speculations.

But the schools of Athens were suppressed by an edict of Julianus; an edict, which excited the grief and indignation of the few remaining notaries of Grecian science and superstition. Seven friends and philosophers, Diogenes and Hermas, Eulalius and Priscian, Damascius, Isidore, and Simplicius, who differed from the religion of their sovereign, resolved to seek in a foreign land the freedom of which they were deprived in their native country. Accordingly the seven fugitives sought an asylum in Persia, under the protection of Choeranes; but, dissatisfied and disappoitted, they hastily returned, and declared that they had rather die on the borders of the empire, than enjoy the wealth and favour of the barbarian. These associates ended their lives in peace and obscurity; and as they left no disciples, they terminate the long list of Grecian philosophers, who may be justly praised, notwithstanding their defects, as the wisest and most virtuous of their contemporaries.

From the time of Arcadius and Honorius, nothing memorable concerning the Athenian state has been recorded in history till the thirteenth century, when it was in the possession of Baldwin, as Nicaea informs us, and unsuccessfully besieged by Theodosius Lascaris, one of the generals of the Greek emperor. In the 252 years, from A.D. 1204 to A.D. 1456, that elapsed between the first and last conquest of Constantinople; the possession of Greece was disputed by a multitude of petty tyrants. However, in the partition of the empire, the principality of Athens and Thebes was assigned to Ortho de la Roche, a mountebank and buffoon of Burgundy, with the title of great duke. Ortho followed the standard of Boniface, the Marquis of Montferrat; and the ample plate which he acquired, was peaceably inherited by his son and two grandsons, till the family was changed by the marriage of an heiress into the elder branch of the house of Brienne. The son of that marriage, Walter de Brienne, succeeded to the duchy of Athens; but his family and nation were expelled by the Catalans, who seized possession of Attica and Boeotia. During fourteen years they were the terror of the Grecian states. Their factions drove them to acknowledge the sovereignty of the house of Aragon; and, during the remainder of the fourteenth century, Athens, as a government or an appendage, was successively belauded by the kings of Sicily. After the French and Catalans, the third dynasty was that of the Accioli; a family, plebeian at Florence, potent at Naples, and sovereign in Greece. Athens, which was embellished with new buildings, became the capital of a state, that extended over Thebes, Argos, Corinth, Delphi, and a part of Thessaly; and their reign was finally determined by Mahomet the second, about the year 1455, who starved the last duke, and educated his sons in the discipline and religion of the feraglio. This fatal catastrophe, which happened near 2000 years after the time of Phidias, brought Athens, together with the whole of Greece, under the despotic domination of the Turks. In 1462, the Venetians landed at the Piraeus, surprised the city, and carried off their plunder and captives to Venice. In 1487, it was taken, after a short siege, by the Venetians; and not many years after, retaken by the Turks, under whose yoke it has ever since continued. As to the present state of Athens, though no more than the shadow of its former self, it still contains about 8 or 10,000 inhabitants; of these, three fourths are Greeks in religion and language; and the Turks, who compose the remainder, have relaxed, in their intercourse with the citizens, somewhat of the pride and gravity of their national character. The olive-tree, the gift of Minerva, flourishes in Attica; nor has the honey of mount Hymettus lost any part of its exquisite flavour: but the legalized trade is monopolized by strangers: and the agriculture of a barren land is as advanced to the vagrant Walachians. The Athenians are still distinguished by the futility and acuteness of their understanding; but these qualities, unless emboldened by freedom and enlightened by study, will degenerate into a low and feline cunning; and it is a proverbial saying of the country, "From the Jews of Thebassonia, the Turks of Neapogrot, and the Greeks of Athens, good Lord deliver us!" This artful people has eluded the tyranny of the Turkish sultans, by an expedient which alleviates their servitude and aggravates their shame. About the middle of the last century (the 17th) the Athenians chose for their protector the Kilif Aga or chief black eunuch of the seraglio. This Egyptian slave, who possesses the sultan's ear, confederates the tribute of 30,000 crowns: his lieutenant, the Wayvode, whom he annually confirms, may reserve for his own account five or six thousand more; and such is the policy of the citizens, that they seldom fail to receive and punish an oppressive governor. Their private differences are decided by the archbishop, one of the richest prelates of the Greek church; since he possesses a revenue of 1000l. ferling; and by a tribunal of the eight generals or elders, chosen in the eighth quarters of the city: the noble families cannot trace their pedigree above 300 years; but their principal members are distinguished by a grave demeanor, a fair cap, and the lofty appellation of archon. By some, who delight in the contrast, the modern language of Athens is represented as the most corrupt and barbarous of the several dialects of the vulgar Greek; this picture is too darkly coloured; but it would not be easy, in the country of Plato and Democritus, to find a reader, or a copy of their works. The Athenians walk with feline indifference among the glorious ruins of antiquity; and such is the dejection of their character, that they are incapable of admiring the genius of their predecessors." Gibbon's Hist. vol. vi. p. 355. &c. For the modern account of Athens and the Athenians, see Spoon, Voyage on Greece, t. ii. p. 79—199; Wheeler's Travels into Greece, p. 337—414; Stuart and Rivett's Antiquities of Athens, vol. i. ii. and iii. passim; and Chatterer's Travels into Greece, p. 25—172. It is now called Athini, and Stintes; which see.

ATHENIANS, Character and Manners of the. These people were highly susceptible of lively and transient fancies, and, accordingly, they stand distinguished beyond all other nations for uniting the most discordant qualities, and such as were often prevented and made occasions of misleading them. History represents them to us (see the authorities
ties cited in the "Travels of Anacharsis," vol. ii. p. 262.), sometimes as an old dotard, who may be deceived with impurity; or as an infant who requires continual amendment; and sometimes as displaying the discourses and sentiments of elevated minds; as piously fond of pleasure and of liberty, of indulgence and of glory; or intoxicated with flattery, and yet receiving merited reproach with applause; as polluting penetrance to apprehend a word the plans proposed to them, but too impatient to listen to the particulars, or to foresee their consequences; as making their magistrates tremble before them, and at the same moment pardoning their most bitter enemies; as paining with the rapidity of lightning from rage to consolation, from dependence to independence, from injustice to repentance; as beyond conception sicken; and to frivolous, that in the most furious, and even the more desperate situation of their affairs, a single word spoken at random, a happy fallacy of pleading, the smallest object, the most trivial incident, provided it were unexpected, sufficed to dispel their fears, or to divert them from attention to their most important interests. As nothing was more easy than to excite and inflame the passions of such a people, it was equally easy to acquire, and also to lose, their confidence. A popular leader, whilf in favour with them, might without difficulty persuade them, by good or evil measures with an equal degree of ardour. When guided by wise and virtuous men, they bestowed public offices of trust or power on those, who united great abilities with eminent virtue: at other times, they made a choice at which they ought to have blushed; and they were thus frequently the sport of flattering orators and ambitious tyrants. Such, however, was their inherent detestation of tyranny, that they were extremely jealous, on many memorable occasions, of their privileges, and both zealous and active in defence of their liberty, whenever they thought it attacked and violated by men in power. Indeed, an ardent love of liberty was their predominant quality, and the main spring of their government. They left, without hesitation, their cities and their houses, to fight at sea or by land the common enemy, who threatened them with the danger of servitude. It was a glorious day for Athens, when, all her allies yielding to the advantageous offers of the king of Persia, the reply by Ariadne to the ambassadors of that monarch; "that it was impossible for all the gold in the world to tempt the republic of Athens, and to prevail with her to sell her liberty, and that of Greece." By such sentiments, and a conduct actuated by them, the Athenians not only became the bulwark of Greece, but likewise guarded the rest of Europe from a Persian invasion. The Athenians, however, notwithstanding their attachment to the rights of their country, and the jealousy with which they watched over them, were volatile, capricious, and inconstant; and this disposition betrayed them into errors, incompatible with true patriotism. Whilf the Athenians indulged views of conquest that were extensive and ambitious, they were, in private life, and in their domestic arrangements and expenditures, frugal, simple, and unostentatious; but when the honour of the state required it, sumptuous and magnificent. Their conquests, their riches, and their connections with the inhabitants of Asia Minor, never betrayed them into luxury, pomposity, and profusion. Xenophon observes, that a citizen was not distinguished from a slave by his drécs; and it is remarked with approbation by Demolhènes, that in the best times of the republic, the houses of Themistocles and Ariadne could not be distinguished from those of their neighbours. The wealthy citizen, and the most renowned general, were not ashamed to go themselves to market. In the form and disposition of the several articles of dregs, the men were expected to study decency, and the women to unite elegance with taste. The latter, whenever they went out, wore a veil over their heads; and they painted their eye-brows black, and applied to their faces a layer of cerule or white lead, with deep tinge of rouge. Their hair, which they crowned with flowers, was sprinkled over with a yellow-coloured powder. Shut up in their apartments, they never participated in the pleasures of the companies assembled by their husbands. In the day, the law permitted them to go out only on certain occasions, and never in the night time, but in a carriage, and with a flame to light them; but notwithstanding the restraint of this law, the women of the lower classes indulged themselves with greater liberty. In public festivals they were present at the spectacles as well as the ceremonies of the temple; but they were generally attended by youths, or female slaves. At an early period the Athenians were so jealous, that they would not permit their women to show themselves at the window; but this restraint was gradually relaxed, and several laws were introduced to guard against seduction and impiety. (See Adultery.) M. de Pauw, in his "Recherches Philosophiques sur les Grèces," on the authority of Athenæus and Plutarch, represents the Athenian matrons as addicted to drunkenness, and the most delightful festivity; he says that they were turbulent and impetuous, that they were fated to live and die, and that, notwithstanding the restraint of their husbands, domestic peace was very seldom found in their habitations. It is certain, that the feasts of Bacchus, and some other religious institutions which the women claimed a right to celebrate, could not tend to inspire either gentleness of manners or purity of morals. Courtezans were protected at Athens by the laws, but the public manners were contaminated by this licence. Females of this description, however, were not allowed to appear in the streets with rich trinkets or jewels, nor were men in office permitted to appear with them in public. The Athenians were naturally abstemious: their chief food consisted of salt meat and vegetables. The necessaries of the poor were supplied either from the public treasury, or other means. In Athens there were several societies, the members of which entered into a solemn engagement to affix each other in cases of judicial prosecution; and there was one society, whose only object was to observe and collect every species of ridiculous affluence, and to divert itself with pleasures and bon-mots. At Athens, a small number of citizens enriched themselves by commerce, and by silver mines which they possessed at Laurum. Others deemed themselves master of a decent fortune when they possessed clattes to the value of fifteen or twenty talents (the talent being equal to about 2251. sterling), and when they were able to give their daughters a marriage portion of 100 minas, or about 3751. sterling.

The taste of the Athenians for literature and science is well known. The inhabitants of Athens, says Cicero (De Orat. and Orat. pro Flacco), were the inventors of all learning; the men who invented and perfected eloquence, and from whom humanity, learning, religion, and laws were diffused through the whole world; nevertheless, he adds, "they only knew what was right, but would not do it." When the Athenians, says the ingenious Mr. Harris (Philosophical Inquiries, part. iii. c. 3.), had delivered themselves from the tyranny of Pisistratus, and after this had defeated the vast efforts of the Persians under Darius and Xerxes, they may be considered as at the summit of their national glory; and for more than half a century afterwards, they maintained, without control, the sovereignty of Greece. As their taste was naturally good, arts of every kind soon arose among them, and flourished.
Valour had given them reputation; reputation gave them an acendant; and that acendant produced a security, which left their minds at ease, and gave them leisure to cultivate every thing liberal or elegant. It was then that Pericles adorned the city with temples, theatres, and other beautiful public buildings. Phidias, the great sculptor, was employed as his architect, who, when he had erected edifices, adorned them himself, and added statues and baso-relievs, the admiration of every beholder. It was then that Polygnotus and Myro painted; that Sophocles and Euripides wrote; and not long after that they faw the divinity of Socrates. Although their military strength and political sovereignty were impaired by the Lacedaemonians, humiliated by the Thebans under Epaminondas, and wholly crushed by Philip the Macedonian; yet, happily for mankind, their love of literature and arts did not link along with it. Juft at the close of their golden days of empire, flourished Xenophon and Plato, the disciples of Socrates, and from Plato defended that race of philosophers called the "Old Academy," which was succeeded by the "New Academy." (See Academy.) With the study of philosophy was united that of rhetoric, upon which treatises were written by the ablest Greek philosophers. To this object they were incited by the intrinsic beauty of their language, as it was then spoken among the learned and polite. The fame love of elegance which made them attend to their syle, made them attend even to the places where their philosophy was taught. Such was the Academy of Plato; the Lyceum of Aristotle; the portico or colonnade of Zeno, the walls of which were decorated by various paintings of Polygnotus and Myro; and the gardens of Epicurus. These public institutions were called among the Greeks by the name of Gymnasia, in which were taught all those exercises, and all those arts, which tended to cultivate not only the body but the mind. Dr. Gillies, in his, "History of Greece," has dwelt with a degree of enthusiasm on the advantages, both natural and moral, resulting from the gymnastic exercises and public games; but M. de Pauw (ubi supra), differs in opinion, affirring that nothing could be more pernicious, or tend more to eneimate the human race, than these exercises. As to the moral advantages of these public games, it is not very easy to decide: but their physiological effect is much less questionable, and cannot be justly disputed.

Athenæ. Population of. From comparing the several accounts of the population of Attica in the time of Pericles, of Demosthenes, and of Demetrius Phalereus, M. de Pauw (ubi supra) conjectures, that the number of citizens was preferred nearly at the same level, in conféquence of the adoption of strangers, to repair the extraordinary devastations of war and deficiency, and of emigrations, when the number exceeded that which the rules of policy had established; this was 25,000 men; and he supposes that there was an equal number of women. In the time of Demetrius Phalereus, the strangers settled in Attica amounted to 10,000, and the slaves to 400,000; so that the whole number may be estimated at 450,000 to about eighty-six square leagues of territory, or above 5000 on an average to each square league. This, he observes, is a much greater population than that of France, which, according to M. Necker's calculations, contains not more than 900 inhabitants to a square league.

The people of Athens were comprehended under the classes of freemen or citizens, Ἱπατοί; sojourners, or Μελίανθις; and slaves, or Δραμαί. Cecropes distributed them into four φαναρία, or tribes, each tribe being subdivided into three parts, and each of these into thirty families. The names of the tribes were different at different times; and their number was increased by Clitihenes to ten; and they were afterwards augmented to twelve. These tribes had public feasts, at which they met to promote friendship and good neighbourhood. To each tribe belonged several little boroughs in Attica, called Δεαναί; of these there were 174, besides other boroughs that belonged to no particular tribes. It was enacted, that all strangers who intended to live at Athens, should be compelled, after a short residence, to enroll their names among the free citizens, and that none but persons of eminent meritorious character should be citizens. This privilege was conferred by the popular assembly. It was also enacted, that none should reside as free citizens at Athens, except those who were banished from their own country, or who voluntarily settled there with their whole families. They were admitted to their rights by certain ceremonies, and enrolled in a certain tribe. Solon decreed, that none should be accounted free but such as were Athenians both by father and mother: this regulation was revived, after difufs, by Pericles, and at his motion repealed; and after the expulsion of the thirty tyrants, Solon's law was restored. In the Cynoarges there was a court of judicature, to which causes of illegitimacy belonged; and great care was taken that none should be enrolled as citizens, whose title was not examined and proved.

The Μελίανθις, or sojourners, were those who came from foreign country and settled in Attica, being admitted by the council of Areopagus, and publicly registered. Of these, several services were required; and both men and women paid an annual tax. Those who failed to pay it were fined and exposed to sale by the officers of the public revenue: such, according to Diogenes, was the fate of Xenocrates the philosopher; but those who rendered any service to the public, were exempted from the payment of all imposts, except such as were demanded of free citizens. Such penitents as did not constantly reside at Athens, were called νομίζομενοι, or strangers.

The slaves were of two sorts: such as became so from poverty, the chance of war, or the peridy of those who trafficked in them, and who were at liberty to change their masters, and to release themselves from servitude; and such as were at the absolute disposal of their masters. Slaves were not allowed to imitate freemen in their dress and manners. They were forbidden to wear long hair, and what is more astonishing, Solon prohibited them to love boys, as if this practice where honourable: they were not permitted to plead for themselves, or to be witnesses in any cause; confiscation was extorted from them by torture; nor were they allowed to worship certain deities, to be called by honourable names, and to bear arms. They were reduced to obedience, and punished by corporal severities; they were sometimes marked on the forehead, or stigmatized in any other part of the body. Nevertheless they were allowed at Athens to take refuge in the temple of Theseus, when they were oppressed, and it was farcical to force them from it. They were allowed to bring an action against all their masters for ill treatment, and against those who injured them; and in various respects their condition was preferable to that of slaves in other places, as they might purchase their freedom, and were sometimes advanced to the dignity of citizens. In the first day of every month, the merchants called αριστοκράτοι, exposed them for sale in the slave-market. In the time of Adrian, masters were prohibited from putting their slaves to death.

Athenæ. Magistrates and Government of. By the law of Solon no man who had not a good estate, could bear the office of a magistrate; but by the law of Arilides, every man
Athenians was admitted to a share in the commonwealth; but before he was admitted, he was obliged to give an account of his past life before judges in that part of the forum called Scena. It was a capital crime for a person to enter on his office in debt. The magistrates of Athens were of three forts, viz. Xeraphes, who were elected by the people, and so called because chosen by holding up of hands; Kastex, who were promoted by lots drawn by the Thesmophorës, in the temple of Theseus; and Agora, who were extraordinary officers appointed by particular tribes, to superintend public affairs. The magistrates entered on their offices on the first day of the month Hebaton. The first and most important of these magistrates was that of the archons. (See Archon.) Among the inferior magistrates may be reckoned the Nomophylæces, Phylarchi, Phylarchæ, Phylarhochi, Demarchi, Lenarchi, Taxarchi, and Nomotheti, to whom were added the Rhetories, which see respectively. There were other magistrates who had the superintendence and regulation of the general assembly of the people called Ecclesia; such as the Epistates, Prytanes, and Prytaneum. (See also Senate, and Prytanæum.) The courts of justice, exclusive of the Areopagus, were ten in number, of which four had cognizance of criminal, and five of civil causes. These courts were painted with various colours, and on each was engraved one of the ten first letters of the Greek alphabet; and hence they were denominated Alpha, Beta, &c. The names of those who were to hear and determine causes, and the names also of their father and borough, inscribed upon tablets, were delivered to the Thesmophorës, who returned it with another tablet on which was inscribed the letter of one of the courts according to the lots. These tablets were carried to the crier of the several courts directed by the letters, who gave to every man a tablet inscribed with his own name and the name of the court in which he was to sit; and having received a sceptre, the usual ensign of judicial power, they were severally admitted into the court. When their respective caufes were determined, they returned the sceptre to the Prytaneum, from whom they received their due reward, sometimes one obolus, and sometimes three oboli. No man was allowed to fit in more than one court in a day; and if they were convicted of bribery, they were fined. The first criminal court after the Areopagus was that of the Ephes; the second was called Delphinium; the third, Prytaneum; and the last Phratæum; see the respective articles. Of the judiciaries courts for civil causes, the first was the Pyrgus; the second, the Cainoni; the third, Triagon; the fourth, the court of Lycaeus; the fifth, that of Mystichus; and the sixth, Helice. All the Athenians who were free citizens were allowed to sit in these courts as judges; but they were previously obliged to take a solemn oath, by Apollo Patrius, Ceres, and Jupiter the king, that they would pass a just sentence, according to the law, and to the best of their judgment. This oath was administered near the river Ilissus, in a place called "Ardettus" from a person of that name, who, in a public sedition, united the contending parties, and engaged them to confirm their treaties of peace by mutual oaths in this place; whence common swearers were called aridotæ. They were other courts of less consequence, where the deiætæ, or τετραπονοι, or other magistrates, took cognizance of causes belonging to their several offices. Such were the courts at Cynoarges, Odeum, the temple of Theseus, Bucolæum, &c. In the judicial procès, the plaintiff delivered to the magistrate the name of the person against whom he brought his action, with an account of his offence; this was followed by an inquiry on the part of the magistrate, whether it belonged to his cognizance, and whether it ought to be tried, called "Ammonis," the plaintiff then, with petition of the magistrate, summoned his adversary to appear; but if the latter refused to appear, he was dragged by force. When both plaintiff and defendant were before the magistrate, he inquired of the former whether the writers were all ready, which was the second "Ammonis," when no plea was urged on the part of either plaintiff or defendant for setting off the trial, an oath was administered to both parties. These oaths, with those of the witnesses, and other matters relating to the action, were written upon tablets, and deposited in a vessel, which was delivered to the judges. The judges, being appointed by lots, took their places at the aligned day in the tribunal. The magistrate then proposed the cause to them, and gave them authority to determine it. The public criæ read the indictment containing the grounds of the accusation which were noted down by the judges. If the defence did not appear, sentence was immediately passed against him; but if he presented himself within ten days, alleging reasons for his absence, the former sentence was reversed, and the trial was to be brought forward by the defendant within two months; but if it was not brought on, the former sentence was confirmed. Before trial, both parties deposited a sum of money in the hands of the magistrates, who introduced their cause into the court, who, if the money was not paid, carried their cause from the roll. The deposit, which was 3 drachmas for a cause of the value of 100 drachmas to 1000; and 80 for more than 1000 and less than 10,000; was divided among the judges; and the person who lost his cause, restored the money to his adversary, and paid the charges. The witnesses in the trial were to be free-born, and delivering of credit; and they were considered as infamious if they had forfeited their privileges by misconduct. The testimony was sometimes given aloud in open court, and sometimes in writing upon a tablet of wax. If the parties required it, they were allowed advocates, whose speeches were limited as to length of time, measured by a water-glass. When the parties had finished, the crier was commanded by the presiding magistrates, to order the judges to bring in their verdict; and where the law had provided penalties, a verdict of guilty or not guilty was sufficient; but when the laws were silent, another sentence was necessary, determining the punishment due to the offence. When the laws were silent, the judges might limit the punishment; sentence was at first given by black and white sea-shells called καιαυρος, or pebbles called βράτη; half of brats were afterwards used, and then beans; the white beans were whole, and used to acquit; the black were bored through, to condemn. The cause while pending was engraved on a tablet, and expounded to public view, and hung up at the statue of the heroes named Δρηπον. If the person convicted was guilty, he was delivered to the Δρηπον, to receive punishment; but if he was fined, the Τετραπος gave the fine paid; if unable to pay it, he was doomed to perpetual imprisonment. If the plaintiff had unjustly accused his adversary, he was sentenced to suffer that punishment which the law inflicted on the crime with which his adversary was accused. The plaintiff was called δρηπον, the cause itself δρηπον, and the accused δρηπον. Anew was the name of the indictment before conviction, and δρηπον after it. When the trial was closed the judges went to the temple of Lycaeus, returned their tablets, and received their money. The Athenian judgments were of two kinds: public, concerning those crimes that affected the state, called καθαρμια, and all persons were encouraged by law to avenge the public wrong, by bringing the criminal to punishment; and private, concerning all controversies between private persons.
A T H E N S.
called lass; and no one could prosecute an offender except he who was injured, or some of his family. The public judgments were murder, malicious wounding, a confabulation of the city, piracy, conspiracy against the life of another, forde, punished with death, impiety, treason, forgery; whereas, punishable by fine; sedition; refusing to serve in war, and commonwealth with infamy; defection of the fleet and of the army, punished by fine; defer- tion from their poll, as leaving the infantry for the cavalry; refusals in the fleet, or losing their shield, punished with infamy; charging men with debts already paid, punished by fine; an action for false arrest, for beating a free man or reducing him to slavery, assault or frivolous accusation, punished by a fine; receiving bribes for any public affair, or perverting justice, fined ten times the value of what they received, and punished with the greatest degree of in- "famy; for offering bribes for the perversion of justice, and particularly in cases relating to the freedom of the city; for erasing a name out of the public debt-book before the debt was discharged; digging a mine without the public knowledge, a twenty-fourth part of the metal belonging to the public; against magistrates who had neglected to surrender their accounts; for proposing a new law, and acting contrary to the established laws; against magistrates, ambassadors, and other public officers, who had misemployed the public money, or others offended; against ambassadors who had forfeited their trust; against defactious tumultuous persons; an action for debts due to the public, falsely charged upon those who had never paid the fines imposed upon them; for the diffor- vency of any secret injury; and against such as exported corn from Attica, appropriated the public money or land, or for misappropriating the property of orphans; against those who confected their crimes without standing a trial; against those who protected murderers; and against such as had been guilty of certain state-offences. Of private judgments, which were very numerous, the principal were against those who had done an injury punished with fine, an action of assault, a la- wfull generally for the recovery of an estate, a suit concerning relationship, an action of divorce, an action by a master or patron against his clients who were freed slaves, and who re- fused to perform the services incumbent upon them, an ac- tion against fojourners who neglected to chuse a patron, an action of ingratitude, against those who had violated the chastity of women, or injured the persons of men, an action concerning nuisance, against those who would not divide their property among just claimants, for demanding rent, against guardians who had defrauded their wards, of flander, by which the criminal was fined 500 drachmas, against those who had furnished false witnesses, against thieves, an action claiming an estate against those who refused to redote that with which they were entrusted, against those who would not fulfil their contracts, and a suit between debtors and creditors.

The criminal punishments of the Athenians were 18,0001., infamy or disgrace; 2000 drachmas, a deep pit into which condemned perons were cast headlong (See BARATHRUM); 2000 drachmas, or the ignominious punishment of hanging or dragging; 2000 drachmas, the punishment of fetters or imprisonment; death, by which a criminal was reduced to the condition of a slave; 300 drachmas, a peculiar fine laid upon the criminal, according to the nature of his offence; death inflicted for various offences; 2000 drachmas, a precipice from which the malefactor was thrown headlong; 300 drachmas, a collar usually made of wood; 2000 drachmas, laceration, a common punishment for adultery; 500 drachmas, with which the criminal was beheaded; fetters with five holes; 2000 drachmas, a round instrument to confine the hand; a crofs, confining of two beams laid across one another, to which the malefactor was nailed; 3000 drachmas, a pillar, on which the crimes of the offender were engraved; 2000 drachmas, marks impressed with a hot iron upon flaves; 2000 drachmas, or 2000 drachmas, clubs, with which malefactors were beaten to death; 1000 drachmas, small cords, by which criminals were strangled upon the rack; 2000 drachmas, poison, of which various sorts were used, but the most common was the juice of hemlock; 500 drachmas, or banishment, of which there were several sorts: the fetters, in which the legs were fastened; 1000 drachmas, a piece of wood to which the criminal was bound; 1000 drachmas, drowning in the sea; and 500 drachmas, or burning. Public honours and rewards were 5000 drachmas (see ATELLEIA), or an immunity from taxes and other public duties; 1000 drachmas, the honour of a statue erected in any public place; 500 drachmas, or the liberty of the first feasts at public entertainments; 500 drachmas, an entertainment at the public expense, given to those who had deserved well of their country; and 500 drachmas, crowns conferred by the vote of the people in their public assembly, by the senators in council, by the tribes to their own members, and by the demotic in their own deme, or borough.

As to the laws of the Athenians, it was a received opin- ion that they were taught the use of laws by Ceres; but it is certain that Theseus retained the privilege of making and preferring laws. Draco was the next law-giver, and his laws were called 500 drachmas; these were, all except those of murder, repealed by Solon, whose laws were distinguished by the term 500 drachmas. The theomithetes swore to the observance of them, on the penalty of dedicating a statue as large as life to the Delphian Apollo; and the people were bound to obey them for a hundred years. Pilitistratus afterwards allowed for himself, and left to his sons, the authority of a law-giver; but the laws of Solon were in some degree enforced by Chisthenes, who himself added new ones. These continued in force till the Peloponnesian war, when the go- vernment was altered by the four hundred, and afterwards by the thirty tyrants. The ancient laws were again restored by Eucleides, and others by the influence of Diocles, Ari- topphon, and afterwards by Demetrius Phalereus; and these, with Aeschylus and Thales, were the chief legislators of Athens. (Suidas.) The laws were annually revised; and a new law was to be propounded before an old one could be repealed. Solon, and other law-givers who succeeded him, committed their laws to writing. The laws of Solon were engraved on tablets of wood; and some affirm, that the original in his hand-writing were always kept in the citadel, and copies of them in the prytaneeum. The laws were all engraved on the wall in the 500 drachmas, or royal portico, for the inspection of the public. This was the custom after the expulsion of the thirty tyrants.

A T H E N I A N S, Commerce of the. The harbour of Piraeus was much frequented, not only by Grecian vessels, but also by those of the nations which the Greeks denominated Barbarians. But as the Athenians were actuated by the spirit of conquest, and aspired to the sovereignty of the seas, in order to obtain that of the land, they directed their attention to the navy with this view; and therefore their com- merce was restrained to the procuring from other countries the commodities and productions necessary to their subsistence. Nevertheless, the Athenians adopted a variety of regulations, and enacted many laws for extending commerce, and preventing as much as possible the litigations and obstacles which impeded its operations. They inflicted a fine of a thousand drachmas (about 35l. 10s.), and sometimes the punishment of imprisonment, on him who secured a merchant of any crime which he was unable to prove. As Attica produced but little corn, the exportation of it
ATHENS.

was prohibited; and those who fetched it from foreign countries were forbidden, under rigorous penalties, to carry it to any other market but that of Athens. A great quantity was brought from Egypt and Sicily; and a greater quantity from Panticapaeum and Theodolia, cities of the Chersonesus Taurica, because the sovereign of that country, the master of the Cimmerian Bosphorus, exempted the Athenian vessels from paying the duty which he levied on the exportation of that commodity. In consequence of this privilege, they traded in preference to the Cimmerian Bosphorus, from which Athens received annually 400,000 mediumri of corn. The Athenians also imported from Panticapaeum, and the different coasts of the Euxine sea, timber for building, flax, felt, wool, linen, and goat-skins; from Byzantium, and other parts of Thrace and Macedonia, falt-fish and wood; from Phrygia and Miletus, carpets, coverlets for beds, and the fine wool of which they made their cloths; from the islands of the Ægean sea, wines of the various kinds of fruits which they produce; and from Thrace, Thessaly, Phrygia, and many other countries, a great number of flax. Oil was the only commodity which Solon allowed them to exchange for foreign merchandise; the exportation of all other productions from Attica was prohibited; nor was it permitted to carry out of their country, without paying heavy duties, the timber of the fir, the cypresses, the plane, and other trees which grew in the environs of Athens. In their silver mines the Athenians found a great resource for their commerce. As several states debased their coin, the money of Athens, in greater estimation than that of other countries, procured for them an advantageous exchange. In general, they purchased wines in the islands of the Ægean sea, or on the coasts of Thrace; for it was principally by means of this commodity that they trafficked with the people who inhabited the borders of the Euxine sea. The taste conspicuous in the works of their artificers, rendered the productions of their skill and industry desirable; so that they exported to distant countries swords and arms of different kinds, cloths, beds, and various utensils. Books were with them also an article of trade. They maintained correspondents in almost all the places to which they were attracted by the hope of gain; and, on the other hand, many of the states of Greece appointed agents at Athens to superintend the interests of their trade. The Athenians for the most part employed their money in trade; but they were not allowed to lend it in the public markets of Athens. The lender had his fear or on the merchandise or goods of the borrower; and as the dangers of the sea were partly risked by the former, and the profit of the latter might be very considerable, the interest of money thus lent might rise as high as 30 per cent. more or less, according to the length and hazards of the voyage. The landed interest amounted to 12 per cent. per annum, sometimes to 16 per cent. monthly, and among the lower classes of the people, the quarter of the principal was exacted for daily interest. Commerce, by increasing the circulation of wealth, gave rise to the occupation of bankers, and thus its circulation was still more facilitated.

ATHENS, Money of, was of three sorts. Silver was first coined, afterwards gold, and lastly copper. The most common coins were those of silver, and they were of different value. Above the drachma (16d. English), containing of five oboli, was the dirachma, or double drachma, and the tetradrachma, or quadruple drachma; below it were the pieces of 4, 3, and 2 oboli; after which were the obolus and semidrachm (i.e. 6d. 4½d. 3d. 1½d. and 3d. English). The latter being found inconvenient for common use, copper money was coined about the beginning of the Peloponnesian war; and pieces of that metal were struck, which were not worth more than the eighth part of an obolus. The largest piece of gold weighed two drachmas, and was worth twenty silver drachmas (i.e. fifteen shillings English). Gold was very scarce in Greece; it was brought from Lydia and Macedonia, where the peasants collected the small pieces which the rains washed down from the neighbouring mountains. See Money.

ATHENS, Revenues of, sometimes amounted to the sum of 2000 talents or 450,000l. and these revenues were of two kinds; those which were raised in the country itself, and those that were drawn from the tributary cities and states. The first class comprehended the product of the houses, lands, and woods, appertaining to the republic, and farmed out for a certain sum; the twenty-fourth part referred from the silver mines, payable by individuals who had permission to work them; the annual tribute received from freedmen and the 10,000 foreigners settled in Attica; the fines and confiscations, the principal of which went into the treasurY of the state; the fifth, levied on corn and other merchandise imported, and also on several commodities that were exported from the Piraeus; which, during the Peloponnesian war, were farmed at thirty-six talents (8100l.); and a number of other taxes of less importance, yielded by commodities sold in the market, and levied on such as kept counts in their houses. Most of these duties were farmed; and the farmers remitted, before the ninth month of the year, the sum filiipulated to the receivers of the revenue. The second and principal branch of the revenues of the state, consisted in the tributes which were paid by a number of cities and islands dependent upon it. Its claims of this kind were founded on the abuse of power. After the battle of Platae, the conquerors having resolved to revenge on Peria the insults offered to Greece, the inhabitants of the islands who had entered into the league agreed to set apart every year a considerable sum to defray the expenses of the war. The Athenians collected in different places 460 talents (1053,500l.); and by degrees, as their power increased, they changed the gratuitous contributions of the allied cities, into an humiliating exaction, imposing on some the obligation to provide ships whenever they should be called upon, and demanding of others the annual tribute to which they had formerly subjected themselves. In the same manner they taxed their new conquests, and the sum total of the foreign contributions amounted, at the beginning of the Peloponnesian war, to 600 talents (135,000l.); and as the fame of Philip, to two hundred and thirteen hundred. The conquests of Philip reduced this sum to 400 talents, and the Athenians flattered themselves they should again be able to advance it to 1200 (270,000l.).

The 460 talents drawn annually from the states leagues against the Persians, and deposited by the Athenians in the citadel, at first amounted to the sum of 10,000 talents (2,250,000l) according to Iocrates (t. p. 392); or 9700 (2,182,500l.) according to Thucydides (l. ii. c. 12.). Pericles, during his administration, had laid up 8000; but having expended 3700, either in the embellishment of the city, or the expenses of the siege of Potidaea, the 9700 were reduced to 6000 (1,350,000l.) at the beginning of the Peloponnesian war. This war was suspended by a truce, which the Athenians entered into with the Lacedemonians, and the contributions which they had then received amounted to 12 or 1300 talents; and during the seven years of the truce, they placed 7000 talents (1,550,000l.) in the public treasury. These revenues, however considerable, were insufficient to defray the expenses of the state; and recourse was frequently had to free gifts and forced contributions. Of all the branches of public expenditure, the maintenance of the navy was the most heavy; when an armament was to
to be fitted out, each of the ten tribes levied in its district the same number of talents as there were galleys to be equipped, and demanded them from the same number of companies, composed sometimes of sixteen persons liable to contribute. Demosthenes made an amendment in the mode of assessing this tax. The decree proposed by him for this purpose was as follows: every citizen, whose fortune amounted to ten talents, was to furnish the state with one galley; if he poissessed twenty talents, with two; and however rich he might be, no more should be required of him than three galleys and a halllop. Tho whole substance was less than ten talents were to join in contributing a galley.

Atar. Religion of. From the earliest times the objects of religious worship multiplied among the Athenians. They received the twelve principal divinities from the Egyptians, and others from the Libyans and different nations; and they were so fearful of omitting religious worship, that they even erected altars to the unknown God. (Paulus, in Attic.) See Aths. In process of time a law was enacted, prohibiting, under pain of death, the introduction of any foreign worship, without a decree of the aereopagus. It was an ancient practice, to consecrate, by monuments and festivals, the memory of kings, and other distinguished persons, who had rendered essential service to their country, or to mankind. To this class the Athenians referred Thetis, Erectheus, such as desired to have their names approached to the ten tribes; and many others, as Hercules, &c. But the worship of the latter differed from that of the gods, in the ceremonies that accompanied it, as well as in the object to which it was directed. Before the deity they prostrated themselves, imporing his protection, thanking him for his bounties, and acknowledging their dependence. In honour of the heroes, and as a memorial of their illustrious deeds, they consecrated temples, idols, and groves, and celebrated festivals and games. Incense was burnt on their altars, and libations were poured over their tombs to procure repose to their manes. The religion of the common people entirely consisted in prayers, sacrifices, and purifications. Individuals presented their prayers to the gods at the commencement of any undertaking; and they offered up their addresses in the morning, the evening, at the rising and setting of the sun and moon. Sometimes they repaired to the temple with downcast eyes and dejected countenances; they kissed the ground, offered their prayers kneeling, on their knees, and prostrate, and held branches in their hands, which they lifted up towards heaven, or flung out towards the statue of the god, after applying it to their mouths. In addressing the infernal deities, they struck the earth with their feet or hands. Some pronounced their devout addresses in a low voice; but Pythagoras wished them always to be uttered aloud, that nothing might be asked which could excite a blush. At the feaons of worship, the space before the temple, and the porticoes that surrounded it, were full of people; so jollily has the apostle Paul characterized the Athenians, when he called them (Acts, xvii. 22.), "Melissae, "too superfluous," as the common translation renders it, or perhaps as it might be rendered less officiously and more conformably to the conciliatory address, which the apostle would have used on such an occasion, and also to the frequent use of the term, "very devout." See Lardner's Works, vol. i. p. 193. The priests were the principal ministers of religion; and they were next in precedence to the kings and chief magistrates. They obtained their office by inheritance, sometimes by lot, by the appointment of the prince, or by popular election; and they were required to be unimpeached in body, chaste and uncontaminated by the pleasures of the world in their disposition and character, and in their habits devoted to retire ment and piety. Of these priests there were several orders, and among them there was one, denominated Athenai, high priest, who had the superintendence of the rite. Some temples were served by priests only, particularly that of Bacchus in the quarter of the marines. The revenues assigned for the maintenance of the priests and temples were derived from different sources, as a certain part of the produce of penalties and confiscations, and of the spoils taken from the enemy, and the offerings of individuals. They formed, however, no separate and independent body; nor had the ministers of different temples any common interest; and in crimes which respected them personally, they were amenable to the ordinary tribunals. Functions of inferior facility, that related to the service of the temple, were intrusted to lay officers; some of whom were guardians of the treasury, and others appointed as witnesses and inspectors at solemn sacrifices. Next to the priests, were the lexicographers and interpreters of omens. The worship of the Athenians was originally performed in the open air, upon the tops of mountains; and on the lips of temples were afterwards erected, and dedicated to Jupiter, Apollo, and the other gods. Their altars were, also, constructed of various materials, and of different dimensions, according to the variety of gods to whom they were consecrated. Both temples and altars were places of refuge, or asylum, for malefactors and criminals, on all descriptions; and it was deemed an act of favor to force them from their sanctuary. See Asylum. Their sacrifices were also of various kinds, as to their object and design, the materials of which they consisted, and the places in which they were offered, and the ceremonies that attended them. (See Sacrifices.) As public worship was prescribed by one of the fundamental laws, and therefore closely connected with the constitution, it was impossible to attack religion, without endangering that constitution. It was consequently the duty of the magistrates to maintain it, and to oppose all innovations visibly tending to its destruction. Hence the poet Hesiodus was accused of having, in one of his tragedies, revealed the doctrine of the mysteries; Diogoras, under a similar charge, saved himself by flight; Protagoras was criminally prosecuted, and obliged to fly; Procles of Cees was condemned to drink poison; Anaxagoras was imprisoned, and his life was preferred by the interpolation and influence of Pericles; and the life of Alcibiades was endangered by a charge of his having been concerned in the mutilation of the statues of Mercury. See each of these biographical articles.

Athen, in Geography, a township of America, in Windham county, Vermont, thirty-two miles north-east from Bennington, and about six west from Connecticut river, having 450 inhabitants.

Athen, in the state of Ohio and county of Washington, lies on the great Ohio river, 46 miles by water from the Ohio, in the election district of Middletown. This settlement, which commenced in 1797, is in a healthy situation; and the town, which is seated on elevated ground of easy ascent, is abundantly supplied with springs of excellent water. The adjacent country is deemed superior to any in the state for pleasaunts and fertility. An act passed in 1801 for establishing an university in this town, which is called "The Ohio University," and endowed with two townships of land, amounting to 46,060 acres, within which the town of Athens is situated.

Atherdee. See Ardee.

Atherina, or Atherrine, in Ichthyology, one of the Linnaean genera of abdominal fishes; and distinguished by having the upper jaw rather flat, six rays in the gill-membrane, and a silvery stripe on each side of the body. Gmelin
ATHINNIODES, a species of Clupea, distinguished from the other fishes of the same genus by having a silvery lateral line. Gmelin observes, that this fish from its broad silvery line appears to belong to the genus Atherina; but having a compressed body, and small ventral fins, approaches nearer to the Clupea genus, in which he places it. This kind is a native of Surinam.

In the dorsal fin are twelve rays; fourteen in the pectoral fins; eight in the ventral fins; thirty-two in the anal fin; and eighteen in the tail.

ATHEROMA, in Surgery, is a soft, pulvaceous, uninflamed tumour, generally contained within a cyst, or membranous bag. The cure of this swelling consists in its removal with a scalpel. See Tumour, and Exstirpation.

ATHERTON, in Geography, a market town in the county of Warwick, situated upon the Watling Street way, confining principally of one long street, excepting two small avenues or streets on the north side leading to the marketplace and the chapel, the mother church being at Manecett, now a small village about a mile to the south, on the road leading to Coventry. The liberty is bounded on the north by the river Anker, which separates it from Leicestershire. The market is on Tuesday. The trade consists principally in the hat manufacture, wool-combers, ribbon-weavers, and the cotton trade has been likewise lately introduced. It contains about 2650 inhabitants. Distance from London 108 miles.

ATHESIN. See Adige.

ATHIAS, in Biography, a Jew, was a famous printer of Amsterdam, in the seventeenth century; and in 1661, and 1667, he printed two editions of the Hebrew Bible, in two volumes 8vo., for which he obtained of the States-general an honorary remuneration of a medal, and a chain of gold. He also printed the Bible in Spanish, German, and English. He died in 1700. D.It. Hist.

ATHIE, in Geography, a town of France, in the department of the Somme, and chief place of a canton in the district of Peronne, two leagues S.S.E. of Peronne.

ATHINI, or Setines, the modern Athens, is not inconsiderable, says Chandler (Travels in Greece), either in extent, or in the number of its inhabitants. It enjoys a fine temperature, and a serene sky; the air is clear and wholesome. The town stands beneath the acropolis or citadel, and does not encompass the rock as it formerly did, but spreads into the plain, chiefly on the west or north-west. The houses are mostly mean and straggling, with many large areas or courts before them. The water is conveyed to them in channels from mount Hymettus, and in the market-place is a large fountain. The Turks have several mosques, and public baths. The Greeks have convents for men and women, with many churches, in which service is regularly performed, and oratories, or chapels, frequented on the anniversaries of the saints to whom they are dedicated. Besides the more able antiquaries, of which some notice has been taken under Athens, there are many detached pieces that have been found in the town, near the fountain, and also in the streets, the walls, the houses, and the churches. Among these are fragments of sculpture, a marble chair or two, which probably belonged to the gymnasium or theatres, a fun-dial at the catholicon or cathedral, inscribed, as it is said, with the name of Euclid; and at the archiepiscopal house, a curious vessel of marble, used as a cistern for receiving water, but once, probably, serving as a public standard or measure. Many columns, mained statues, and pedestals, are scattered about; and also a fine mutilated Herma. The acropolis, or citadel, is now a fortress, with a thick irregular wall, standing on the brink of precipices, and including a large area, about twice as long as broad. Some portions of the ancient wall remain, and it is repaired with patches of pieces of columns, and with marbles taken from the ruins. The site contains of a few Turks, who reside there with their families, and are called by the Greeks "Cafrians," or followers of the cufle. Their houses overlook the city, plain, and gulf; but the situation is as pleasant as pleasant; the rock is lofty, abrupt, and inaccessible, except the front, which is towards the Piræus; and on that quarter is a mountainous ridge, within cannon shot. The acropolis furnished, says Chandler, an ample field to the ancient virtuosi. It was filled with monuments of ancient glory, and exhibited an amazing display of beauty, of opulence, and of art; each contending, as it were, for the superiority. Heliodorus, named Periegetes or the guide, employed in this place fifteen books. Poleno Periegetes, four volumes; and Strabo, in the Augustan age, affirms, that as many would be required in treating of other portions of Athens and of Attica. The number of statues, in particular, was prodigious. Tiberius Nero, who was fond of images, plundered the acropolis, as well as Delphi and Olympia; and yet Athens, and each of these places, had not fewer than 3000 remaining in the time of Pliny. This banquet of the fesves, continues this traveller, has long been withdrawn; and is now become like the tale of vifion. The spectator views with concern the marble ruins intermixed with mean flat-roofed cottages, and extent amid rubbish; the fad memorials of a nobler people. The antiquities of this city have been also described by Wheeler and Spou, who visited it in the time of Charles II.; and by Mr. le Roy and many others. Mr. Stuart, however, who resided there between three and four years, has amplified others in the accuracy and elegance of his plans and of his description. Spou, in speaking of Athens, says, that the road near Athens was pleasing, and the very peafants pafsible. Wheeler, his fellow-traveller, speaking of the civilization of the Athenians, obferves, that even the fepherdts bid them welcome, and withfoned them a good journey; and that their bad fortune had not been able to deprive them of that bjectivity of wiff which they poifefed by nature; and that, notwithstanding the barbarism that hath long prevailed, they feem to be much more poifefed in their manners and convefation than any others in those places. Stuart confirms, with regard to the prefent Athenians, the account given by Spou and Wheeler of their anceffors; as he found among them the fame addrefs, and the fame natural acumen, though feverely curbed by their defpotic masters. At their convivial meetings, it was a frequent custom for one of them to take a lyre, or a species of guitar, and after a short prelude on the instrument, to accompany the instrumental music with his voice; suddenly chanting some extempe verses, feldom exceeding two or three diflches; this performer delivered the lyre to his neighbour; who, after he has done, delivers it to another; and thus the instrument circulated, till it had passed round the table. He adds, that, notwithstanding the various fortune of Athens as a city, Attica was still famous for olives, and mount Hymettus for honey. Thus "human fulflations perib, but nature is permanent."

The prefent Athens, Athini, or Setines, is the capital of Lивadia, a province of European Turkey, the fee of an archbishop; and contains, as some fay, 15,000, or, according to others, 15 or 16,000 inhabitants, chiefly Greeks. The chief articles of trade are flax, wax, wool, and oil. It is a fea-port, and Situated on the north-east coast of the gulf of Engia in the archipelago, with a fado and large harbour, narrow at the entrance, and commanded by the citadel. N. lat. 38° 5'. E. long. 23° 57'.

ATHIS, a town of France, in the department of the

Orne,
Orne, and chief place of a canton in the district of Domfront; thirteen miles south-west of Falaise. The place contains 33,512, and the canton 15,877, inhabitants: the territory includes 185 kilometres and 20 communes.

Ath, in Ancient Geography, a town of Alba, situated on the western bank of the Euphrates, south-west of Nisopolis.

Athlet, E, in Antiquity, persons of strength and agility, disciplined to perform in the public games. The word is formed from ἀθλος, certamen, combat; whence also ἀθλος, the prize, or reward, adjudged to the victor.

Under athletes were comprehensive wrestlers, boxers, runners, leapers, throwers of the disk, and those practiced in other exercises exhibited in the Olympic, Pythian, and other solemn sports; for the conquerors in which there were established prizes.

From the five usual exercises, the athletes were also distinguished, by and the Latin quinturtiones; at least such as professed them all.

Those who were designed for this profession, frequented the gymnasia or palestra from their youth; and they were obliged to submit to the most strict discipline and abstemious regimen. Their fare was coarse and scanty; they were prohibited the use of wine, and enjoined continence; and thus Horace (Art. Post. v. 412.) describes them:

"Oui fluitat optatan curiu contingere metam, 
Multa tuit et fugitique puer; ludavit et alit; 
Abstinens evocatut est in vesta.

"The apostle Paul, in his first epistle to the Corinthians (ch. i. 25.) enforced temperance by an allusion to the athletes; and Tertullian encourages the martyrs by the same reference. But when the privilege of being supported at the public expense, was granted to such of the athletes as were victorious, they abandoned their habits of abstinence and exercise, and indulged themselves to a very shameful degree of indolence and of gluttony. Before their exercises, their bodies were rubbed with oils and various unguents, in order to render them supple and vigorous; and they practised a kind of noviciate in the gymnasia for several months, that by previous application and practice they might be fitted for the contests in which they engaged. At first they made use of a belt, with an apron annexed to it, for the sake of decency; but they afterwards laid aside this covering, and engaged in several of the combats naked.

To this insult on public decency, some of the belter writers of antiquity have attributed that infamous passion, to the indulgence of which the Greeks were notoriously addicted. The women, indeed, were prohibited from approaching the places where these public games were celebrated. Before they were admitted to the combat, they were examined as to their birth, for none but Greeks were admitted; as to their condition, which was required to be free; and as to their manners, which were to be irreproachable. The name and country of each champion were registered, and a herald, before the commencement of the contest, proclaimed their names. They solemnly vowed not to employ any unfair means, and to conform to the established regulations by which the games were conducted.


Athletic Habit denotes a strong build constitution of body, which was the object the athlete aimed at, and to which their diet corresponded.

Athletic Weight. See Weight.

Athlone, in Geography, the most considerable town of the county of Westmeath, in Ireland, situated on the river Shannon, over which it has a long bridge of many arches, so that it was formerly an important post into the western province. It is partly in the county of Roscommon, and is the most central town in the island. Notwithstanding its advantageous situation for trade and improvement, it is said to be in many parts a poor, ruinous, dirty looking place. The bridge, which was on the Roscommon side, called the Irind town, was built by king John, on a high raised round hill resembling a Danish rath or fort, so as to command the bridge and the adjacent country. This was long the residence of the lord-presidents of Connought, who held in it their courts of justice. In the time of the civil war, it was strongly fortified on both sides of the river; and the English under the lord-president stood a long siege in the castle, in 1641 and 1642. During the whole of this melancholy period, it was a place of great strength and importance, generally in the possession of the Irish or Catholic party; till, in 1651 it was taken by the Charles Coote, at the head of the parliamentary forces. After the defeat of James the Second at the Boyne, his adherents remained at Athlone, and having destroyed the English town which was east of the Shannon, and broken the bridge, resolved to maintain the Irish district on the west. For this purpose they strongly entrenched themselves; and in the following year, the general St. Ruth took his station with the main army behind the town. The English, under Ginkel, succeeded however in passing the river after many unsuccessful attempts, and by a surplusing effort of valour got possession of the town and castle, which was in great measure to be attributed to the carelessness and confidence of St. Ruth, the French general. General Ginkel received a title of the town, which is still enjoyed by his descendants.

Athlone, in Geography, the most northern dioclet of Perthshire, in Scotland; extending about 43 miles in length, and 30 in breadth, and bounded on the north by Baderoch, on the west by Lochaber, on the east and south-east by Mor and Gowrie, on the south by Strathearn and Perth proper, and on the south-west by Braithalane. It is mountainous, and contains part of the ancient Caledonian forest; but the mountains are interfaced with fruitful valleys. It has several villages, but no towns of any importance. The most famous places are Blair castle, seated on the river Tilt, near its influx into the Gurry, an agreeable stream that flows into the Tay, and belonging to the duke of Athol, whose title is derived from the district; and the pass of Gilcrosky, memorable on account of the battle fought here in the beginning of king William's reign, between his general M'Kay, and the highlanders who adhered to king James.

Athol, a township of America, in Worcestershire county, Massachusetts, comprising 16,000 acres of rocky land, and watered with streams and rivers, and containing 848 habitants; 35 miles N.W. from Worcester, and 72 from Boston.

Athos, in Mythology, the name of one of the most ancient deities of Egypt; signifying in the Coptic language, "night." By this name the priests did not originally mean to denote the obscurity which is occasioned...
flowed by the disappearance of the sun, but the darkness which overspread chaos previously to the creation, and from which the Almighty Creator called forth into an habitable world the material universe. This mysterious night was in their opinion the origin of things. Orpheus, initiated in the mysteries of the Egyptians, communicated them to the Greeks, and recommended them by the harmony of his verses. Paulusanas, when he visited Greece, saw at Megara "the oracle of the night," where every thing was taught that related to Athos. This sympathy of deity, by which the Egyptians characterized the principle of things, became, in the language of the Greek philosophers, the "Venus Celestis," or the mother of the world. Orpheus taught them this part of their theology in his hymn to the night, where he says, "I shall sing the night, mother of gods and men, the origin of the creation, whom we shall call Venus." The poets soon took possession of this metaphysical idea, and as they must have a deity for embellishing their poems, they made her spring from the froth of the sea, and represented her as animating the world, and giving life to every thing that breathed. See Ovid, Fastalia, i. iv. 91, and Lucan, De Filis, i. l. c. 21. The Egyptian priests, who had painted night as a divinity, appraised that the moon of the vulgar reposed in the hollow of the heart, and that the sun, having entered into the moon, the planet of the night, and the moon was represented by the cow, whose horns exhibited, as their imagination suggested, her first phases. The philosophers farther extended this doctrine; and they believed the name of night, Athor, and Venus, on the period during which the sun, having passed the equator, remains in the southern hemisphere, when the days are shortest and the nights longest. See Macrobius, l. i. c. 21. The following passage from Plutarch (De Irida, &c.) proves that this opinion originated in Egypt: "In the month of Athyr (the third month of the Egyptian year), the Egyptians say that Oiors (or the sun), is dead. Then the nights become longer, the darkness increases, and the force of the light is diminished. On this occasion, the priests perform mournful ceremonies. They expel to the people a gilded ox covered with a black veil, in token of the grief of the goddess Isis (or the moon); for in Egypt the ox is the symbol of Oiors, and of the earth." Athor had temples in Egypt. Herodotus mentions "Athor-Beki," the city of Athor, which Strabo (l. 17.) and Diodorus (l. 1.) render by the name of Aphrodopolis, the city of Venus. Aelian (De Anim. l. ii. c. 27.) speaking of Chufus, a town of the Hermopolitan nome, says, that in this town they worship Venus; and that a peculiar worship was also paid to the cow. He also informs us, that Isis, or the moon, was represented by the horns of the cow. Jablonowski, Pantheon, Ath. vol. 1. Savary's Letters, vol. ii. p. 354—360.

ATHOS, in Geography, a famous mountain of Greece, in the Chalilian region of Macedonia, seated on a peninsula, the coasts of which form the Sinus Strymonicus, or gulf of Cones, and the Sinus Singiticus, or gulf of Monte Sancy, and joined to the land by an island about twelve leagues broad. The circuit of this peninsula, and of the base of mount Athos, is commonly reckoned to contain about forty leagues. N. lat. 40° 10'. E. long. 24° 45'. This mountain consists of a chain of eminences or summits, seven or eight leagues long, and three or four broad, one of which attracts particular attention on account of its height and habitations, and is denominated Athos Agioforos or the holy mountain, and Monte Sancy. Of its elevation very extravagant and incredible accounts have been given by some ancient writers. Mela reports, that it is so high as to reach above the clouds. Martialis Capellus affirmed that it was six miles high; and it was believed that no rain fell upon it, as the ashes left on the altars erected near its summit remained dry and undiffiger. Plutarch and Pliny have asserted, that it projected its shadow, at the summer solstice, on the market-place of Myrina, the principal city of the island Lemnos. On this account, it is laid the inhabitants of the city erected a brazen cow at the termination of the shadow, on which was inscribed this verse:

"Athos habet montem, Lemnos opem festinans." "Half Lemnos calls Athos its shadow hide." According to Pliny, the distance between the foot of mount Athos and the island of Lemnos was 87000 paces; and according to Belon (Obser. l. c. 25.), eight leagues. The Greeks, struck with the singular situation and towering ascent of this mountain, erected upon it so many churches, monasteries, and hermitages, that it became almost wholly inhabited by devotees; and this circumstance gave occasion to its being denominated the holy mountain; which it still retains, though many of the consecrated buildings are decayed. Among modern travellers, there is a considerable difference of opinion about its height; some make it thirty miles in circumference, and two in perpendicular elevation; and add, that it may have been traversed in three days, and seen at the distance of ninety miles; others state the altitude of its conical summit at 3500 feet. The cold on its summit is extreme; nevertheless it abounds with many different kinds of plants and trees, particularly the pine and fir, and it supplies a multitude of springs and fountains. Its variety of monasteries and churches gives it a picturesque appearance. It is now inhabited by Calyons, a sort of Greek monks, of the order of St. Basil, who never marry, and fare hardly, as they abstain from flesh, and fulfill chiefly on olives picked when they are ripe. Their number is reckoned about 6000, and they inhabit several parts of the mountain, on which are twenty-four monasteries, raised to the height of five or six stories, and surrounded with high walls, flanked with towers, and guarded with artillery against the assaults of banditti and robbers. They are much respected by the Turks, and receive alms from them. They have the character of being very indulgent, and they clothe themselves like hermits. They had formerly several valuable Greek manuscripts, and employed themselves in writing copies of the Greek Testament (see Alexandrian Manuscripts), but they are now become so illiterate, that they can scarcely read or write. As the sea on this coast is very tempestuous, and the Perian fleet had suffered shipwreck in doubling this promontory, Xerxes is said, for preventing a similar disaster, to have cut a passage through the mountain of sufficient width to admit two galleys, with three banks of oars each, to pass in front of, by these means he lowered from the continent the cities of Dion, Olympius, Acrathos, Thyssus, and Cleone. Before he began his works, he is said to have written a letter, addressed to the mountain, in the following terms: "Athos, thou proud and aspiring mountain, that liftest up thy head to the skies, I advise thee not to be too audacious, as to put rocks and stones in the way of my workmen; if thou thus opposest me, I will cut thee entirely down, and throw thee headlong into the sea." Modern travellers inform us, that they perceive no traces of this work: and many of them are of Juvenal's opinion: "Perforatus Athos, et quicquid Graecia mendax
Audet in historia." Dinocrates, an architect in the suit of Alexander, proposed to his conqueror to perpetuate his memory by forming
A THY, in Geography, a town of the county of Kildare, near the borders of the Queen's county, 32 miles from Dublin, at which the affize are held alternately with Naas. It is situated on the River Barrow, which is navigable hence to the sea, and which a branch of the grand canal from Dublin to the Shannon meets at this town. It was founded in the twelfth century, on account of a ford over the river; and became of importance as a place, and sometimes as a frontier town of the English pale, in the difficulties which harassed the country for many centuries, whilst the old towns of Ardree and Ardfeull in its neighbourhood gradually decayed; and the position of either can now only be ascertained from a Danish rath, and some ruins. It was early granted the immunities of a merchant or market town, being mentioned as such in a statute of Henry VI.; and it was made a borough by James I. in 1615, in consequence of which two members were returned to parliament. It is six miles long and five miles broad, and contains 2729 houses, of which 160 were slated and built of lime and stone, and 500 thatched cabins; the population of which might be estimated at about 3500. There were at that time no manufactories which deferred the name, notwithstanding the advantages derived from the canal; and the unhappy state of that part of the country since gives too much reason to suppose that no improvement has yet taken place. The exports from the neighbouring country to Dublin, by the canal, consisted of coals, corn, flour, butter, and potatoes, to the amount of above 20,000 pounds per annum. N. lat. 52° 59'. W. long. 7° 1'. Anthology, Hibern. vol. i. Dr. Beamont's Map and Memoir.

ATHYNA, a small town of Hungary, in Scronia province; sixty miles from Poders, beyond the Drave.

ATH, or AT, a small canto of Africa, in Guinea, upon the Golden Coast, north of Taffin, and to the call of Abrahame.

ATII, See Odogo, or A TII.

ATIBAR, a name given by the inhabitants of the kingdom of Gago, in Africa, to gold-duff; from which word the Europeans, and specially the French, have compos'd the word tiber, which also signifies gold-duff among those who trade in that commodity.

ATICHY, in Geography, a town of France, in the department of the Orne, on the right bank of the river Caston, in the district of Norty, eight miles easterly of Compiegna.

ATICK-GOM-ASHISH, in Ornithology, the name by which the species of Locusta hudsonicus is known in Hudson's bay. Latham, Sowerby, in his "Additions à l'Histoire Naturelle de Buffon," adopts the first part of this long denomination, Atick, as the name of this species. See Hudsonica LOCUSTA.

ATIENCA, in Geography, a town of Spain, in Old Castile, at a small distance from the mountains called "Sierra de Atienza," between Siguenza and Berga d'Oliana.

ATIMIA, infamy or disgrace, in Antiquity, a punishment among the Athenians, inflicted for various crimes. A person suffered this punishment, when, retaining his property, he was deprived of some privilege, enjoyed in common with other citizens: and also, when he suffered a temporary deprivation of the privilege of free citizens, and his goods were confiscated. Those who were indicted to the public treasury, till their debts were paid, incurred this penalty. Also, when the criminal and his posterity were deprived of every right of a free citizen. This was incurred by those that were guilty of theft or perjury, or other similar offences. Infamous persons were not allowed to give evidence.

ATINGA, in Ichthyology, a species of Diodon, of an oblong form, and becket with rounded spines. Gmelin, Ac. in Nat. Ad. Fr. It is described as 'oration diodon corpore spinis unique armato; and in Ameon, Ac. 'oration conico-oblongus, sculpis unique longis retortiformibus, in primis in lateribus. It is called Maregravia guamajacu atinga, and is Poutingus, or paif u crom of French writers. In England it is known by the name of percussion fish.

This species lives in the American seas, and about the cape of Good Hope; and keeps the shores for the sake of its food, which consists of crabs and theacoccus verna or shell-fish. The length rather exceeds twelve inches; the body is compressed at the sides, and blunt; the back rather broad, round, and dusky; belly broad, long, white, and spotted all over with black. The head is hard, broad above, and rather compressed on the sides; eyes large, iris yellow; mouth small and straight; tail long, yellow, rather longer, and angular in the middle; fin yellow, spotted with black; margin brownish, and the rays rampant. This creature has the power of dilating its body, and erecting its spines at pleasure. It is usually taken in nets, but will also take bait, which is commonly the tail of a crab, fastened on the hook. The flesh is edible; but if the relation of Pifo may be depended upon, it should be prepared for the table with the utmost caution; he tells us that the gall is very poisonous, and that should the flesh become impregnated with it (which must be the case if the gall-bladder burst in gutting of the fish), the most dangerous consequences might ensue to those who eat of it; the feaces of the afflicted persons fail, their limbs become languid, and their tongue trembles, cold fits succeed, and in this state they die, unless some speedy remedy be applied.

Gmelin deems diodon holocanthus scalaei capitis colloquie longioribus of Lin. Syph. Nat. and his description of Willoughby, to be a variety of the preceding species; it is distinguished by having the spines of the head and neck longer than in the other.

ATINGACU CAMUCU, in Ornithology, the name affirmed by Maregrava in "The history of Brail," Rays, Willoughby,
ATHINKS, in Geography, the defendant of a good family at Thirleigh, in Gloucestershire, finished his education at Balliol college in Oxford. From thence he removed to Lincoln’s Inn and, after a short interval, during which he travelled into France, he became an accomplished lawyer. In the civil war, he joined the king’s party, and was a considerable sufferer. After the restoration, he was appointed one of the deputy benovent of the county of Gloucester. But being imprisoned in the Marshalsea gaol of Southwark for debt, he died there in 1677. He was the author of several pieces; and particularly of a treatise

"Of the original and growth of Printing," in which he gives an extract from an old MS. chronicle, said to be preserved in the palace of the archbishop at Lambeth, containing an historical account of the invention of this valuable art in this country. The authority of this chronicle has been much disputed by Mr. Palmer, in his "General History of Printing," and also by Dr. Middleton; and vindicated by Mr. Bowyer, in the notes to his abridgment of Dr. Middleton’s "Dissertations upon the origin of printing in England." See Printing.

ATKINSON, in Geography, a township of America, in Rockingham county, New Hampshire, incorporated in 1767, and containing, in the year 1790, 479 inhabitants. It is distant from Portsmouth thirty miles, and has an academy, founded in 1789 by the hon. N. Peabody, and endowed with 1000 acres of land.

ATKYNES, Sir Robert, in Biography, an eminent and patriotic English lawyer, descended of an ancient family in Gloucestershire, and born in 1621, was the son of Sir Edward Atkyns, one of the barons of the exchequer. Having finished his academical course of education at Balliol college, Oxford, and entered for the study of law at Lincoln’s Inn, he afterwards became eminent in his profession. Distinguished by his professional reputation and his loyalty, he was soon after the restoration created a knight of the bath, and in 1672 appointed one of the judges of the court of common pleas. In 1679, defeated by the arbitrary measures of the exiling government, he resigned his poht and retired into the country. On occasion of the trial of Lord William Russell, he gave his advice, and afterwards wrote free remarks on this subject. He then avowed the maxim, "that there neither is, nor ought to be, constructive treason; it defeats the very scope and design of the statute 25 Edw. III. which is to make a plain declaration what shall be adjudged treason by the ordinary courts of justice." His argument in favofir William Williams, speaker of the commons’ house of parliament, who was prosecuted by the crown for signing an order for the printing of Dangerfield’s narrative concerning the papish plot, was afterward quoted under the title of "The power, jurisdiction, and privilege of parliament, and the antiquity of the house of commons affected." In the reign of James II. his attachment to the constitution was manifested by an argument on the case of Sir Edward Hales, which was printed under the title of "An Inquiry into the Power of dispensing with Peal Statutes." The doctrine of dispensations was further diffused in his "Dissertation concerning the ecclesiastical jurisdiction in the realm of England." After the accession of King William III. this friend to the revolution was appointed, in 1689, lord chief baron of the exchequer. He then wrote two pieces in defence of the memory of Lord Russell, whose attainder was reverted by parliament. In 1689, he was advanced to the office of speaker of the house of lords, and retained it till the year 1693. The last public act of his life was his memorable speech addresed to Sir William Amhurst, lord mayor of London, on occasion of his being sworn into his office, in October 1693. This speech, referring to the alarming projects of Louis XIV. and the designs of Charles II., and to establish absolute power, and to introduce popery, was very favourably received; it passed through several editions, and was thought to have been eminently serviceable to the government. In 1695, he resigned his offices, and retired to his seat in Gloucestershire, where he died in 1709, at the age of 88 years. He was a man of great probity, as well as of great skill in his profession; and a warm friend to the constitution, which he was ready to maintain against all opponents. "In whatever view we consider him," says his biographer, "in his private, or in his public station; as a gentleman, or as a judge; as an eminent lawyer, or a distinguished patriot; as a flatelman, or an author; we shall find nothing but what is great and valuable, worthy of love and esteem, and of that veneration which is due to virtuous men from posterity." Besides his valuable "Tracts," which were collected and published in one volume, he is said to have been the author of a treatise against the exorbitant power of the court of chancery.

Biog. Brit.

His only son, Sir Robert Atkyns, who was born in 1646, and died in 1711, differed from his father in his opinions, but inherited his prudence and probity, and was equally esteemed and beloved by men of all parties. As he preferred the character of a country gentleman, he is chiefly known as the author of a topographical work, intituled "The ancient and present State of Gloucestershire," which was published after his death respect of the general manuscript work was delivered by a friend in the printer’s warehouse, so that those which remained became scarce and dear.

Biog. Brit.

ATLANTA, in Ancient Geography, a town of Greece, in the country of the Locrians, destroyed by an earthquake before the birth of Plato.

ATLANTES, a people of ancient Libya, of whom no record now remains but the name.

ATLANTIC Ocean, in Geography, a name given to the sea which separates Europe and Africa on the east from America to the west. Mr. Kirwan, conceiving that at the time of the deluge the water of the great southern ocean below the equator, rushed on the northern hemisphere, describes...
ATLANTIDES, in Astronomia, a denomination given to the Pleiades, or seven stars, sometimes also called virgins. They are thus called, as being supposed by the poets to have been the daughters either of Atlas, or his brother Hesperus, who were translated into heaven. See 

ATLANTIS, in Antiquity, an island spoken of by Plato, and many other writers, under some extraordinary circumstances; and rendered famous by a controversy among the moderns, concerning its place and existence. The Atlantis took its name from Atlas, Neptune's eldest son, who, they tell us, succeeded his father in the government of it. The most distinct account of this celebrated country is given us in Plato's Timaeus and Critias; which amounts, in a few words, to what follows. "The Atlantis was a large island in the Western ocean, situate before, or opposite to, the straits of Gades. Out of this island there was an easy passage into some others, which lay near a large continent, exceeding all Libya and Asia. Neptune settled in this island, which he distributed among his ten sons; to the youngest fell the extremity of the island called Gadira, which in the language of the country signifies fertile, or abundant in fish. The descendants of Neptune reigned here from father to son, for a great number of generations, in the order of primogeniture, during the space of 9000 years. They also possessed several other islands, and passing into Europe and Africa, subdued all Libya as far as Egypt, and all Europe to Asia Minor. At length the island sunk under water; and, for a long time afterwards, the sea throughout was full of flats and shelves." This island was 30,000 stadia in length, and 2000 in breadth; it was in a very high degree fertile and productive, abounding with pasture and arable, and in metals and trees. The northern part of it had various mountains, which were stoned with villages and magnificent habitations. The inhabitants were numerous and powerful, and distinguished both by arts and arms. It was governed by ten archons, who, in their respective districts, adhered to established customs, and were invested with the power of life and death over their subjects. This federal republic was established, according to Plato, in a dialogue of which only a fragment remains, by a law derived from Neptune himself, its first founder, engraved upon a column and placed in a temple. Assemblies were held alternately every five years, in which all public affairs were the subjects of deliberation. The offences of citizens were examined by the archons and punished according to the degree of their aggravation. Plato in this dialogue has recited several ceremonies which were observed by the archons in the exercise of their legislative and judicial offices.

The actual existence and local situation of the Atlantic island has given occasion to many different opinions. The reality of Plato's Atlantis has had many advocates. Buffon (Nat. Hist. by Smellie, vol. i. p. 507), after citing the paillage relating to it from Plato's Timaeus, adds; "this ancient tradition is not devoid of probability. The lands swallowed up by the waters, were, perhaps, those which united Ireland to the Azores, and the Azores to the coast of America, for in Ireland there are the same fossils, the same shells, and the same sea-bodies, as appear in America, and some of them are found in no other part of Europe." M. Bailly, in his "Lettres sur l'Atlantide de Platon, etc." published at Paris, in 1759, 8vo., maintains the existence of the Atlantides, and their island Atlantis, by the authorities of Homer, Sanchoniathon, and Diodorus Siculus, in addition to that of Plato. In proof of the opinion that Plato's account of the Atlantic island is not a fiction of his own devising, a late writer (see Taylor's translation of the Cratylus, Phædo, Parmenides, and Timaeus of Plato, 1793) alleges the following relation of one Marcellus who wrote an history of Ethiopia, referring to Proclus in Tim. p. 55: "That such and so great an island once existed is evinced by those who have composed histories of things relative to the external sea; for they relate that in their times there were seven islands in the Atlantic sea sacred to Persephone; and besides these, three others of an immense magnitude, one of which was sacred to Pluto, another to Ammon, and another, which is the middle of these, and is of a thousand stadia, to Neptune. And besides this, that the inhabitants of this last island preferred the memory of the prodigious magnitude of the Atlantic island, as related by their ancestors, and of its governing for many periods all the islands in the Atlantic sea; and such is the relation of Marcellus in his Ethic history." The learned Rudbeck, professor in the university of Upsal, in an express treatise, intituled, "Atlantica, sive Manheim," maintains, very strenuously, that Plato's Atlantis is Sweden and Norway; and attributes to his country whatever the ancients have laid claim of their Atlantis or Atlantic island. M. Bailly (ubi supra, letter 24.), after citing many ancient testimonies which concur in placing this famous life in the north, quotes that of Plutarch, who confirms these testimonies by a circumstantial description of the life of Ogygus, or the Atlantis, which he represents as situated in the north of Europe, and as having near it three islands more, in one of which the inhabitants of the country say, that Saturn is kept prisoner by Jupiter. The four islands may, as M. Bailly conjectures, be Iceland, Greenland, Spitzbergen, and Nova Zembla, or some others near the Pole. He controverts the opinion of Rudbeck as not conformable with the account of Plato, who represents the Atlantis as an island, which Sweden is not. Adhering still to his system, M. Bailly, perusing by a variety of plausible circumstances, which he has ingeniously combined, places that famous island among those of the Frozen Ocean. In this he is strongly seconded by Plutarch, who tells us that the Atlantis is in a region where "the sun during a whole summer month is scarcely an hour below the horizon, and where that short night had its darkness diminished by a twilight." This, it may be said, is a palpable indication of a northern climate; but how is this situation reconcilable with the fertility of the soil, the mildness of the air, particularly the fruit called the columns of Hercules, which Plutarch and Plato mention among the circumstances pertaining to the abode
abode of the Atlantis? how is it also possible to conceive astronomy cultivated in a frozen and cloudy region, where the observations of the heavenly bodies must have been inconvenient and impracticable? These difficulties, lays out fanciful author, cannot be removed without supposing a change of air and climate in those regions by the gradual cooling of the earth, and its progressive motion towards universal congelation. Such is the "fairy tale" of this learned and ingenious author. Sir W. Jones, the learned president of the Asiatic Society, in his elaborate account of the Periplus (Asiatic Researches, vol. ii. p. 44.), suggerst that one may consider "Irun" as the noldit island, for to the Greeks and Arabs would have called it, or at least as the nothed peninus-fula in this habitable globe; and he adds, "if M. Bailly had fixed on it as the Atlantis of Plato, he might have supported this opinion with stronger arguments than any that he has adduced in favour of Nova Zembla. If the account indeed, of the Atlantees," says this writer, "be not surely an Egyptian or an Utopian fable, I should be more inclined to place them in Irun than in any region with which I am acquainted."

Others will have America to be the Atlantis; and hence infer that the new world was not unknown to the ancients; but what Plato says, does by no means support this supposition. America should rather seem to be the vast continent beyond the Atlantis, and the other islands mentioned by Plato.

Kircher, in his Mundus Subterraneus; and Beckman, in his History of Islands, chap. v. advance the most probable opinion, if the reality of this island be admitted. The Atlantis, according to them, was a large island which extended from the Canaries to the Azores; and those islands are the remains thereof not swallowed up by the sea.

Atlantis, New, is the name of a fictitious, philosophically commonwealth, of which a description has been given by lord Bacon.

The new Atlantis is supposed to be an island in the South-sea, to which the author was driven in a voyage from Peru to Japan. The composition is an ingenious fable, formed after the manner of the Utopia of Sir Thomas More, or Campanella's City of the Sun. Its chief design is to exhibit a model or description of a college, instituted for the interpretation of nature, and the production of great and marvellous works, for the benefit of men, under the name of Solomon's house, or the college of the six days work. Thus much, at least, is finished; and with great beauty and magnificence. The author also propouses a frame of laws, or of the belt flate or mould of a commonwealth: but this part is not executed. Enc. Works, tom. ii. p. 235.

ATLAS, in Biography and Mythology, an ancient king of Mauritia, the son of Uranus and brother of Prometheus, who is said to have lived about the time of Moses, or about 1582 years B.C. He is represented as having been an excellent astronomer, as an observer of the stars, and as the inventor of the sphere. The poets have exhibited him as bearing the heavens on his shoulders, and thus he is seen in the famous statue at the Faun's palace in Rome; and one of them represents him as groaning under the burden, on account of the multitude of gods whom superstition had placed in this elevated mansion. He was metamorphosed into a mountain for his hospitality to Perseus. His daughters, it is said, were transformed into flares, in complement to his astronomical talents and observations; some of them forming the Pleiades, and the other seven the Hyades.

Atlas, in Geography, a celebrated mountain or rather chain of mountains, in Africa, which is so high, that it seems to bear the heavens. Hence the fable, in which Atlas, the king of this country, is said to bear the heavens on his shoulders.

The ancients, however, ascribed to this mountain a magnitude and an elevation to which it has no claim; as it can no where stand in competition with the Alps or the Apennines. They seem to have considered it as one high mountain, not as a ridge. Thus Pliny (l. v. c. 1.), describes it as a detached mountain, rising from the sands to a great height on the shores of the ocean to which it gave its name; and yet, in the same chapter, he represents it as a range passed by Suetonius Paulinus on his progress to the Niger. Strabo (l. xiv.) mentions its being called Dyros, or Aspis, by the ancients, and as being beyond the pillars of Hercules, on turning to the left or fourth. Dr. Shaw (Trav. p. 5.) represents it as a remarkable chain of eminences, which sometimes borders upon the Sahara, and sometimes lies within the Tell. He adds, "that if we conceive, in an easy ascent, a number of hills, usually of the perpendicular height of 4, 5, or 600 yards, with a succession of several groves, and ranges of fruit and forest trees, growing one behind another, upon them; and if to this prospect we sometimes add a rocky precipice of superior eminence, and more difficult access, and place upon the side, or summit of it, a mud-walled Dahkhrah of the Kabyles, we shall then have a just and lively picture of mount Atlas, without giving the least credit to the nocturnal flames, the melodious sounds, or Inebrious reins of such imaginary beings, as Pliny, Solinus, and others, have in a peculiar manner attributed to it." According to some modern accounts, this ridge divides the kingdom of Algeria from Zaaf and Biskulunz, or its direction is south-west and north-east; and therefore it may be considered as extending from Cape Geer in a north-east direction, and giving source to many rivers flowing north and south, till it terminates in the kingdom of Tunis. This main ridge in some places may present a double chain, and in others diverge its branches. Its structure towards the western extremity is granite and primitive. M. Lepriore, in his journey to Morocco, seems to have clearly ascertained the range of Atlas. The town of Santa Cruz islands near its western extremity; while Tarant, on which he passed through an open plain, lies on the south of the Atlas. Hence it appears, that Cape Geer is its termination, or the great Atlas of Ptolomy, while the smaller Atlas is a branch extending towards Saffa or Cape Castan; and another branch, now called the Left or Atlas, reaches to Tangier. According to Cheyney (Prefis State of Morocco, vol. i. p. 12.), Mount Atlas is the eastern boundary of all the western provinces of Morocco. He represents it as formed by an endless chain of lofty eminences, divided into different countries, inhabited by a multitude of tribes, whose ferocity permits no stranger to approach. He professes to be unable to describe these mountains accurately; but adds, that nothing would be more interesting to the curiosity of the philosopher, or conducing more to the improvement of our knowledge in Natural History, than a journey over mount Atlas. The climate, though extremely cold in winter, is very healthy and pleasant; the valleys are well cultivated, abound in fruits; and are diversified with forests and plentiful springs, the streams of which, uniting at a little distance, form great rivers and lakes themselves in the ocean. According to the reports of the Moors, there are many quarries of marble, granite, and other valuable stone, in these mountains; and it is probable, there are also mines, but the inhabitants have no idea of
of these riches: they consider their liberty, which their situation enables them to defend, as the most inexplicable of all treasures.

As the province of Morocco lies to the west of mount Atlas, part of the ancient Numida, call'd the kingdom of Tafdet, situated in a sandy plain, lies to the east: and from Morocco to this province there is no way but by crossing one of the extremities of the Atlas, either by the side of the province of Sus, or by that of Fez: the latter road, being less fruitful than the other, is most frequented.

Atlas, in Anatomy, the name of the first vertebra of the neck, which supports the head. See Vertebræ, and Skeleton.

Atlas, in Commerce, a silk fabric manufactured in the East Indies. It must be owned that the manufacture of these silks is wonderful, especially of the flowered silks; in which the gold and silk are wrought together in such a manner, as no workman in Europe can imitate: yet they are far from having that fine gloss and luster, which the French know how to give their silks.

In the Chinese manufactures of this sort, they gold paper on one side with gold leaf, then cut it into long slips, and wound them into their silks; which makes them with very little cost look very rich and fine. The same long slips are twisted or turned about silk threads for artificially, as to look finer than gold thread, though it be of no great value.

Atlas, in Entomology, a species of Phalæna, belonging to the Bombyx tribe. The wings are falcated or hooked, yellow-brown and varied; a transparent spot in the middle of each wing, with a smaller one next that on the anterior pair. Linnaeus, Fabric. &c.

Phalæna Atlas is the largest insect of the moth tribe hitherto discovered, and is indeed a gigantic creature. The species is common in China, but is not peculiar to that country, being found in other parts of Asia, and in America. The influence of climate may be easily traced on the varieties from different countries; that from Surinam is the largest, and of the deepest colours. The Chinese kind is the next in size; the colours incline to orange, and the anterior wings are more falcated or hooked at the ends; there are two other Asiatic varieties known, that are still smaller, and have the wings extremely falcated.

The larva of Phalæna Atlas is figured by M. Merian in his Insecta Surinamensia, Plate 52: it is about four inches in length, green, with a yellow stripe disposed longitudinally. Upon each segment are four distinct round tubercles, of a coral-like orange colour, which are surrounded with very delicate hairs. The pupa is large, and is inclosed in a web of an ochraceous colour. The silk of this web is of a flaxen texture, and it has been imagined, if woven, would be superior in durability to that of the common silk-worm. Seba has also represented the larva. (f. i. pl. 57., vol. 4.), in his Thefaurus Naturæ. It is figured by him nearly six inches in length, and bulky in proportion; the Phalæna or Moth is also larger than that figured by Merian, which is a small specimen of the Surinamese kind. According to Merian, there are three broods of this insect in a year; they are very common, and feed on the orange trees. Linnaeus says, that they adhere to tenaciously to the leaves, that they can fearlessly be taken off. An opinion has been long prevalent, that the web of this insect might easily be manufactured into a very durable silk; and it certainly admits of doubt whether the Chinese do not actually rear the moth for this purpose. Silk is an important article in China, and other Eastern countries, where the use of linen is little known; the Japanese mimicaries mention several sorts in use among the Chinese, some of which is admired for its beauty, and others for durability; these kinds are probably the produce of different insects, and Phalæna Atlas may be of that number. Lefèvre and Lyonnet, in their "Théologie des Insectes," say, that at this day there are to be found in China, in the province of Canton, silk worms in a wild state, which, without any care being taken of them, make in the woods a kind of silk, which the inhabitants, after work from the trees; it is grey, without luster, and is used to make a very thick and strong cloth, termed there Kim Télon; and by some European naturalists it is imagined to be the product of this very species." Vide Donov. Inf. China (Atlas). We shall again return to this subject under the articles Phalæna, Silk-Works, &c, in treating of these analogous creatures which produce a silk of such strength or beauty as to be useful, or promise to become so, in the concerns of man; a subject this that highly merits consideration; and which we shall endeavor to elucidate as copiously and accurately, as the magnitude and importance of the article demand.

Atlas, a species of Scarabæus, found in South America. The thorax is armed with three knobs, the middle one of which is very short; holy on the head recurved. Linneus, Fabric. Linn. Ent. Syll. Atlas Amблиnæus (Capilla sp.) a name given by some Entomologists to the Linnæan Papilio Parnassus. Muf. petrop. 644, &c.

Atlas is also a title given to books of universal geography, containing maps of the known parts of the world; as if they were viewed from the top of that celebrated mountain, which the ancients esteemed the highest in the world; or rather on account of their holding the whole world like Atlas. The same name is given to maps of the stars.

ATLENBURG, or ATTTLNURGH, in Geography, a town of Germany, in the circle of Lower Saxony, and duchy of Lauenburg, on the Elbe; four miles west of Lauenburg.

ATLITA, in Entomology, a species of Papilio found in the East Indies. This butterfly is indented, brown, glistened with blue; beneath fulvous, with undulated glaucous flanks, and five blind-eye shaped spots. Fabricius and Donov. Inf. India. Gmelin has overlooked this species in his Syll. Nat.

ATLITES, a name under which the species of Papilio Laodæma was at first described in Amoen. Acad. 6. p. 407. 72.

ATMOSPHERE, formed of aëræ, vapour, and ætheræ, a sphere, an appendage of our earth; consisting of a thin, fluid, elastic substance, called air, which surrounds the terrestrial globe to a considerable height, gravitates towards its centre, on its surface, is carried along with it round the sun, and partakes of all its motions both annual and diurnal.

By atmosphere is understood the whole mass, or appendage of ambient air; though among some of the more accurate writers, the atmosphere is restrained to that part of the air next the earth, which receives vapours and exhalations, and refracts the rays of light.

The farther or higher spaces, though perhaps not wholly delimit of air, are supposed to be modified by a finer sub-stantial called ether, and are hence called etherial regions.

For the nature, constitution, properties, and different states and uses of the atmosphere, see Air, the sequel of this article, Eurometer, and Eudiometry; where this subject will be treated of at large as its importance requires.

A late eminent author considers the atmosphere as a large chemical
CHEMICAL VELVET, wherein the matter of all the kinds of sublunary bodies is copiously floating; and thus exposed to the continual action of that immense furnace the sun; whence proceed innumerable operations, sublimations, separations, compositions, digestions, fermentations, patrimonial farts, &c.

Now let a large apparatus of instruments, contrived for indicating and measuring the state and alterations of the atmosphere, be assembled—such as anemometers, barometers, hydrometers, barographs, manometers, thermometers, &c.

Atmosphere, Electricity of the. Define those large quantities of the electric matter, with which the clouds are charged in a thunder-storm, it has been observed first by M. Mounier in 1752, and afterwards repeatedly and with particular attention by others, particularly by the abbe Mazery in 1753, and Mr. Kemanley, that the atmosphere is never wholly destitute of the electric fluid. A particular electrified matter may satisfy himself of this, by extending his arm in the open air, and prefending a long hollow needle with its point upwards; for the electric matter collected from the remoter air will appear luminous, as it converges to the point of the needle. Mr. Canton's balls are likewise an excellent contrivance for the same purpose, and may be made use of, not only for determining the electricity of the atmosphere in general, but the positive or negative quality of it. According to this ingenious philosopher, electrified atmospheric air, when heated, becomes negatively electric; and when cooled, the electricity is of the positive kind, even when the air is not permitted to expand or contract; and the expansion or contraction of atmospheric air occasions changes in its electrical state. But no electricity, in the earlier stage of this science, conducted his observations in this way with greater accuracy and farther pursued them, than M. Bonnet. (See *Beccaria's Essay on Atmospheric Electricity, annexed to the English translation of his Artificial Electricity," p. 421.) From him, we learn, that the atmosphere discovers no signs of electricity in windy and clear weather, nor in moist weather without rain, nor when the sky is covered with distinct and black clouds with a slow motion; but he always observed a moderate, though interrupted electricity, for the most part of the positive kind, in a clear sky, when the weather was calm; and in rainy weather without lightning, a little before the rain fell, and during the continuance of it, till the rain was almost over. The electricity of the atmosphere, according to Beccaria, was always positive, during the day and in dry weather, but always negative, when a bright or clear atmosphere succeeded dark and moist weather. The quantity of atmospheric electricity was found to increase after the rising of the sun, and during his progress; and its augmentation was the more considerable, as the moisture of the air was diminished; but it decreased in the evening. In days equally dry, the degree of electricity at noon was proportional to the degree of heat; and in a serene atmosphere, with little wind, a considerable quantity of the electric matter commonly arose after fun-fest, during the precipitation of dew. Thick fogs were observed, during their ascent into dry air, to carry with them a considerable quantity of the electric matter. And the electricity was stronger, as his rods were higher, and the things, which were extended and insulated in the open air, were longer. Mr. Cavalli (Complete Treatise on Electricity, vol. ii. p. 12, ed. 4.) deduces the following conclusions from his experiments and observations on this subject; viz. that there is in the atmosphere at all times a quantity of electric matter—that the electricity of the atmosphere, and of fogs, is always positive—that, in general, the stronger electricity is observable in thick fogs, and also in frothy weather; and the weaker, when it is cloudy and warm, and rain approaches—that it does not seem to be left by night than in the day—and that the electricity is stronger in places more elevated than those that are lower; and therefore, according to this rule, if it may be extended to any distance from the earth, the electricity in the higher regions of the atmosphere must be exceedingly strong. Mr. Read, in his "Summary View of the Spontaneous Electricity of the Earth and Atmosphere," observes that the electricity of the atmosphere in moderate weather, was always found to be positive; in storms and disturbed states of the air, frequently negative; and suddenly and repeatedly changing from one state to the other. Warm small rain was found to be very slightly electric; large drops, strongly; hail flowers, the most intensely of all. In an easterly wind of long continuance, and reckoned unhealthy, the electricity was so faint, as to require the needle of all known tools for discovering its existence. The vapour of water, as soon as it had attained the height of five or six inches of elevation in the air, was found to be permanently and positively electrified; and the surface from which it evaporated, negatively. Vapour has a greater capacity for electricity, or affords and requires more of this fluid, than water in its dense state; and therefore rarefaction much diminish, and condensation increase, the sensible electric charge of the vapour. Hence, in serene weather, the atmosphere is subject to a regular fluctuation, or increase and diminution of electricity, twice in every twenty-four hours, depending on the action of the sun, and the consequent evaporation and state of the vapours. This diligent observer and judicious reasoner further observes, that a limited portion of the earth's surface is often feebly electrified; over it, there is always a proportionate quantity of the contrary electricity in the atmosphere; and when a electrified cloud is carried forward by wind, an equal and opposite electric charge keeps pace with it on the earth, till the two charges, becoming more augmented, or approaching nearer to one another, or meeting with some conducting medium, rush together, and produce an explosion.

The subject of atmospheric electricity has engaged the particular attention of M. Saffier; and few persons have had more favourable opportunities for observing the phenomena that attend it, or possessed a more extensive acquaintance with meteorology in general, for enabling him to illustrate these phenomena by apposite observations, than this author. He confirms the fact noticed by others, and previously known, that aerial electricity varies according to the situation, being generally strongest in elevated and insolated situations, and not observable under trees, in forests, hedges, or enclosed places. But it is not so much the height, as the situation of the places, which determines the degree of electricity; for the projecting angle of a high hill will often exhibit a stronger electricity than the plain at the top of the hill, as there are fewer points in the former to deprive the air of its electricity. The intensity of the atmospheric electricity is subject to a great variety of changes, of which some depend on obvious circumstances and others are altogether inexplicable. These changes, according to M. Saffier, were sometimes so rapid in their succession, that he had not time to note them down. When rain falls without a thunder, these changes are not so sudden; but with respect to the intensity of the electric force, they are very irregular; whilst the quality of it is more constant. Rain or snow almost always gives positive electricity. In cloudy weather, without rains or storms, the electricity generally follows the same laws as in serene weather. Its intensity
\textbf{Atmosphere.}

Intensity is generally diminished by strong winds, which blend the different \textit{flora} of the atmosphere, cause them to fade towards the ground, and thus distribute the electricity uniformly between the earth and the air. M. Saffure has observed a strong electricity, with a strong north wind. In foggy weather, the electricity is the strongest, unless the fog is about to be diffused into rain. The various modifications of electricity in the atmosphere are observed with the greatest advantage in serene weather. M. Saffure found, in winter and in such weather, that the electricity was generally weakest in the evening, when the dew had fallen, and so continued till the rise; afterwards its intensity augmented by degrees, sometimes sooner and sometimes later; but usually before noon it attained a certain maximum, from which it again declined till the fall of the dew, when it would be sometimes stronger than it had been during the whole day; after which it would again gradually decrease during the whole night; but it was never quite destroyed in weather perfectly serene. Hence it may be inferred, that atmospheric electricity, like the water of the ocean, is subject to a flux and reflux, which produce an increase and diminution twice in twenty-four hours. The moments of its greatest force are some hours after the rising and setting of the sun; and those in which it is weakest precede its rising and setting. Of this periodical flux, M. Saffure has given a remarkable instance, deduced from his observations in an extraordinary degree of cold, and at an elevation of sixty feet above the level of the lake of Geneva. From the return of eighteen of these observations, made during three successive days, when the sky was quite serene, we learn, that the electricity was pretty strong at nine in the morning; that from this time it gradually decreased till about fix in the evening, which was its first maximum: after which it increased again till eight, its second maximum; it then gradually declined till fix in the morning, which was the period of its second maximum; after which, it again increased till ten in the morning, which was the first maximum of the following day: but as this day was cloudy, its periods were less regular. The electricity of serene weather is left easily observed in summer than in winter. In summer, if the ground has been dry for some days, and the air is also dry, the electricity increases from the rising of the sun, till three or four in the afternoon, when it is strongest; it then decreases till the dew begins to fall, when it again increases: but after this it declines and is always subject to nothing but chance. During the serene days that succeed rainy weather in summer generally exhibit the same diurnal periods or states of electricity, with those that are observable in winter. The electricity of the air is invariably positive in serene weather, both in winter and summer, in the day and in the night, in the sun and in the dew. Hence it should seem, that the electricity of the air is essentially positive; and that whenever it appears to be negative, as in particular rains or storms, this state is produced by some clouds which have been exposed to the preflure of the electric fluid contained in the upper part of the atmosphere, or to more elevated clouds that have discharged a part of their fluid upon the earth, or upon other clouds. M. Saffure, having collected these and similar phenomena, as the result of numerous and repeated observations, instituted a set of experiments on evaporation, in order to investigate and ascertain their cause. These our limits will not allow us to detail; but the general result was, that evaporation, which seems to be the vehicle that conveys electric matter into the atmosphere, from China and silver always produces negative electricity; and from iron and copper, generally positive electricity; and hence it may be inferred, that electricity is positive with those bodies that are capable of decomposing water, or of being decomposed themselves by their contact with the water; and negative, with all those which are not at all decomposed or altered. 

As to the producing causes or sources of atmospheric electricity, we may observe in general, that they may be reduced to four, viz. friction, evaporation, heat and cold, and condensation and expansion: and with respect to the changes and modifications to which the atmospheric electricity is continually subject, they may be attributed to the operation of the various causes that produce it, and to the chemical processes that are constantly carried on by means of the various ingredients that compose the atmosphere. M. Volta (Phil. Trans. vol. lxxi. p. 32), in reference to this subject observes, that as the vapours on their condensing lose part of their latent heat, on account of their capacity being diminished they part with some electric fluid. Hence (he says) originates the positive electricity which is always more or less predominant in the atmosphere, when the sky is clear, viz. at that height where the vapours begin to be condensed. Accordingly the atmospheric electricity is stronger in fogs, in which case the vapours are more condensed, so as to be almost reduced to drops, and is still stronger when thick fogs become clouds. In accounting for clouds, negatively electrified, he supposes that when a cloud, positively electrified, has been once formed, its sphere of action is extended a great way round, so that if another cloud comes within that sphere, its electric fluid, according to the well known laws of electric atmospheres, must retire to the parts of it which are most remote from the first cloud: and from thence the electric fluid may be communicated to other clouds, or vapours, or terrestrial prominences; thus, a cloud may be electrified negatively, which cloud may, after the same manner, occasion a positive electricity in another cloud, &c. This explains not only the positive electricity, which is often obtained from the atmosphere in cloudy weather; and the frequent changes from positive to negative electricity, and contrarywise, in stormy weather; but also the waving motion observed in the clouds, and the hanging down of them, so as nearly to touch the earth. For an account of the instruments that are used for discovering and eliminating the electricity of the atmosphere, see \textit{Collector, Condenser, Conductors, and Electrometer: and for further observations on this subject, see also Electricity, Evaporation, Lighting, Rain, Vapour, &c.}

The atmosphere envelops all parts of the surface of our globe; if therefore both the one and the other contained at rest, and were not endowed with a diurnal motion round their axis, then the atmosphere would be exactly spherical, according to all the laws of gravity; for all the parts of the surface of a fluid in a state of rest, must be equally removed from its centre. But the earth and the ambient atmosphere are invested with a diurnal motion, which carries both the one and the other round their axis: and the different parts of both having a centrifugal force, the tendency of which is more considerable and that of the centripetal less, as the parts are more remote from the axis; the figure of the atmosphere must become an oblate spheroid, because the parts that correspond to the equator are farther removed from the axis, than the parts which correspond to the poles. Besides, the figure of the atmosphere must represent such a spheroid, because the sun strikes more directly on the air which encompasses the equator, and is comprehended between the two tropics, than on that which pertains to the polar regions. Whence it follows, that the mass of air, or part of the atmosphere, adjoining to the poles, being less heated, cannot expand so much, nor reach so high. Nevertheless,
clearly understood, nor, indeed, is its existence positively ascertained. But whatever it be, it is such as to counteract the weight of the atmosphere. However, if any considerable preeasure be superadded to that of the air, say, by descending into deep water, it is always felt in a greater or less degree (see Diving), more especially when the change is sudden; and on the other hand, if the preeasure of the atmosphere be taken off from any part of the human body, as by the hand placed over the exhausted receiver of an air-pump, the weight of the superincumbent atmosphere is felt, and the feel of the hand is shrunk down, as it were by fiction, into the flat. We might add, that the heat of our bodies renders the air warm upon its surfaces, and therefore a living animal does not yield an equal atmospheric preeasure with that of immoveable and cold substances. Moreover, as the earth's surface contains, in round numbers, 200,000,000 square miles, and every square mile 27,878,400 square feet, there must be 5,573,680,000,000,000 square feet on the earth's surface; which, multiplied by 1256.4 pounds, will give 12,122,756,000,000,000,000 pounds for the preeasure or weight of the whole atmosphere.

Mr. Cotes (Hydrostatical and Pneumatical Lect. p. 112.) mentions the result of a computation which he made of the weight of all the air, which presses upon the whole surface of the earth; and he observes, that it is equal to the preeasure of a globe of lead, nearly 60 miles in diameter. The computation proceeds upon these principles; that the weight of a column of air, reaching to the top of the atmosphere, is most commonly equal to a column of water, having the same base, and the altitude of 34 feet; that the diameter of the earth is equal to 209465 feet; and that the specific gravity of water is that of lead as 100 to 11125.

The difference of the weight of the atmosphere, and of its consequent preeasure, at different times, and in different situations, is a circumstance that deferves our particular notice. This difference in the same situation arises from changes in the state of the atmosphere; and it chiefly occurs in places at some distance from the equator. It is indicated, and of course easily estimated, by the different height to which the mercury is raised in the barometer. As the greatest variation of the height of the mercury occupies a range of about 3 inches, or from 28 to 31 inches, being 4/24 of the whole range, a column of air of any affilable base, equal to the weight of a cylinder of mercury of the same base, and of the altitude of 3 inches, will be taken off from the preeasure upon a body of an equal base, at such times as the mercury is three inches lower in the barometer; and therefore every square inch of the surface of our bodies is preeased upon at one time more than another, by a weight of air equal to that of three cubical inches of mercury. As this is about 4/24 of the whole quantity, the difference of the preeasure, which the human body preeases at one time more than another, amounts to about 1½ ton. The reason why we are not sensible of this preeasure is explained in the following manner by Borellus, de Mot. nat. a grav. fac. prop. 29, &c. After saying that food, perfectly rammed in a hard veiifel, is not capable, by any means, of being penetrated or parted, not even by a wedge; and likewise that water, contained in a bladder composed equally on all sides, cannot yield or give way in any part, he proceeds: 'In like manner, within the skin of an animal is contained a diversity of parts, some hard, as bones; others soft, as muscles, nerves, membranes, &c.; others fluid, asblood, fat, &c. Now it is not possible the bones should be broke or displaced in the body, unless the weight lay heavy on one part than on another, as we
sometimes see in potters. If the pressure be subdivided, so that it be equally all around, upwards, downwards, and sideways, and no part of the skin be exempt therefrom, it is impossible any fracture or luxation should follow. The same may be observed of the muscles and nerves; which though felt, yet being composed of solid fibres, do naturally sustain each other, and resist the common weight. The same holds of blood and other humours; and as water does not admit any manifest conclusion, to the animal humours contained in their vessels may suffer an attrition from an impulse made in one or more particular places, but can never be forced out of their vessels by an universal compression. It follows, that as some of the parts undergo either separation, luxation, contusion, or any other change of situation; it is impossible any sense of pain should ensue, which can only be the effect of a solution of continuity. This is confirmed by what we see in divers, &c. See Diving.

The fame is farther confirmed by Mr. Boyle, who, including a young frog in a vessel half full of water, and introducing so much air that the water might sustain eight times the weight it otherwise would; yet the animal, notwithstanding the great tenderness of its skin, did not seem at all affected thereby.

Besides, it ought to be considered that the pressure of the atmosphere is uniform and equal on all parts of the body; and that we have been accustomed to it by long experience. It should also be recollected, that when the ordinary weight of the atmosphere is augmented, the weather is commonly dry and serene; the blood is driven to the internal parts; a more abundant secretion of the juices takes place; and the tonic tenion of the solid parts is increased; and these circumstances combined produce an additional flow of spirits, and render us more lively and active. The same beneficial effect is observable even in brute animals. On the contrary, when the weight of the air is diminished, the weather is usually moist and foggy, and the animal frame becomes sensible of oppression, littleness, and inactivity. These changes in the state of the atmosphere, which are felt more or less by persons of all descents, and of which valetudinarians frequently complain, would be more sensibly experienced, if they occurred by very sudden transitions; for to this circumstance the sensation of uneasiness and indisposition is chiefly to be attributed; and accordingly great and sudden changes in the state of the barometer and atmosphere, are generally accompanied with a corresponding alteration in the corporeal frame and animal spirits. But when a change of this kind occurs gradually, and when the same state of the atmosphere continues for some time, its effect is less sensibly perceived; as the body possesses a power of accommodating itself to such change. The spring of that elastic fluid, to which we have already referred, serves as a counterpoise to the pressure of the atmosphere, and when this is diminished it becomes more relaxed, so that the equilibrium between the one and the other is maintained. Hence it happens, that in moist foggy weather, when the pressure of the atmosphere is less considerable, our veins never swell, nor are we sensible of any internal expansion of our bodies; but, on the contrary, the vessels are more dilated, the circulation becomes more languid, and we seem to be oppressed with a weight. Upon the whole, we may observe, that the pressure of the atmosphere resembles a kind of bandage, which being drawn tighter, as in the case of increased pressure, constrains the vessels of the body, and accelerates the circulation; and which being more relaxed, as in the diminished pressure, occasions a diffusion of the vessels, and is attended by a more slow and languid circulation. But this is a subject, in the elucidation of which physiologists are not agreed. As variations of the atmospheric pressure in the same place produce effects that are sensibly felt, particularly by persons of delicate and tender constitution, whatever explication may be given of these effects, and to whatever intermediate causes they may be ascribed; the changes of pressure are also perceived in different situations, as they are more elevated or depressed. Indeed, if the ascent from lower to higher stations, and vice versa, be gradual, the body adapts itself to the changes that attend them, and they are scarcely, if at all, perceptible; but in the case of a more rapid ascent or descent, or when the difference of height is very considerable, the effects are more sensible and apparent. Many facts and observations to this purpose have been furnished by those who have ascended in balloons, or defended in diving-bells. (See Aërostation, and Diving.) The accounts given by persons who have ascended considerable eminences above the level of the sea, have been very various; nor is it certain that the effects they have perceived have been owing wholly or merely to the variation of the atmospheric pressure. Some have complained of a total suffocation, which they have ascribed to the dilatation of the corporeal vessels, of obstructions to the actions of the respiratory organs, of violent renderings and vomittings of blood, and, in some cases, the extrusion of blood through the fine coats of the lungs, and an enflaving hemoptysis. M. Sauvage, in his ascent to the top of Mount Blanc, felt great uneasiness, as he advanced upwards. He informs us, that his respiration was much oppressed, the circulation of blood accelerated, and the pulse quickened, that he was seized with other symptoms of a fever; and that his strength was also very much exhausted. These symptoms of oppression and debility; however, did not begin to appear till he had ascended to the perpendicular height of 23 miles above the level of the sea, and upon an additional ascent of ½ of a mile, he found the symptoms above recited. To some other concurring causes, besides the rarity of the atmosphere, it is natural to ascribe some of these symptoms; and, indeed, he himself says, that the atmosphere at the top of the mountain was much more impregnated with carbonic acid, which is known to be pernicious to animals, and to be productive of some of the above-mentioned effects. In other cases, persons in elevated situations have experienced no effects like those which M. Sauvage has related, and which the mechanical theory of diminished pressure would lead us to expect. Mr. Brydone and M. Bowell mention no inconvenience of this kind to which they were subject on the top of Mount Etna; nor do the French mathematicians, who were for some time on the summit of a very high eminence of the Andes, make any other complaint besides that of the difficulty of respiration. (See Aësdes.) But Dr. Heberden, who ascended to the top of Teneriffe, a mountain higher than Etna, makes no mention even of this circumstance. It has also been alleged, that no inconvenience has been experienced by a gradual descent in the diving-bell to considerable depths in the sea, as long as the persons who have descended have remained in the air in the bell; though they have found a very material difference on exposing themselves to the pressure of the water. See Diving. It is not easy to assign the true cause of the variations of the atmospheric weight and pressure that occur in the same situation. In places within the tropics, where these variations are not very considerable, the chief cause seems to be the heat of the sun; and its effects are regular and uniform, as the mercury in the barometer subides about half an inch in the day, and rises again to its former height in the night. But in the temperate zones the range is much greater, extending...
tending from 28 to 31 inches, and flowing, by its various altitudes, corresponding variations in the weather. The caules that influence the variations of the one, produce also a familiar effect on the other; and if the former were known, the latter might be ascertained. The immediate causes may probably be reduced to the two following: viz., an emission of latent heat from the vapours of the atmosphere, or of electric fluid from these or from the earth. Both these caules are observed to produce the same effect with the polar sea in the tropical climates, which is that of rarefying the air by blending with it, or setting loose a lighter fluid, which did not previously act with such power in any particular place. For a more particular account of different theories on this subject, see Barometer, Hall, Meteorology, Rain, Snow, Weather, and Wind. Of the importance and utility of this property of the atmosphere, many instances occur in the animal economy, chemical processes, and mechanical operations. See Cuffing, Respiration, Colour, Convection, Vapour, Pump, and Syphon.

With the gravity and pressure of the air are nearly connected its other properties of density and elasticity. The density of the atmosphere must principally depend on its gravity and, in general, increase and decrease in the same proportion. In the lower and intermediate strata of the atmospheric air, this ratio obtains: but it is not uniform and constant in all elevations. In the higher regions of the atmosphere, where the electric fluid abounds, this fluid may diminish the gravity of the atmosphere, without affecting its density. Besides, the density of the atmosphere in the torrid zone will not decrease so fast in proportion to the height of the column, as in the temperate and frigid zones; because the column is larger, and because a greater portion of atmospheric air occupies the higher parts of this column. Consequentlv, the density of the atmosphere at the equator, which is less at the surface of the earth, and at a certain height equal, and at a greater height exceed, the density of the atmosphere in the temperate zones and at the poles. As a current of atmospheric air is continually ascending at the equator, and part of it occupies the higher regions of the atmosphere, and as its fluidity will prevent its accumulation at the equator, it will of course descend towards the poles; and during our winter a greater portion of the equatorial column will flow to the northern than to the southern hemisphere; but a less portion will pursue this course during the summer. The mercurial column, therefore, will be always highest with us in winter, and the corresponding range of the barometer more considerable than in summer; and vice versâ. The density of the atmosphere will be materially affected by the caloric or matter of heat which it contains, and of course it will depend in a great measure on the degree of cold which prevails. Where the cold is greatest, the density of the atmosphere will also be greatest, and its height will be diminished. In those countries which abound with high mountains that are generally covered with snow, the cold will be more intense than in others less elevated, though situated in the same latitude; and of course the height of the atmospheric columns will be proportionally lower. Hence the superior air in its passage to the poles will be retarded, and accumulate over them. Such accumulations will take place over the north-western parts of Asia, and over North America; and on this account the barometer usually stands higher, and its range is more uniform than in Europe. Similar accumulations are also formed in the southern parts of the old continent; for instance, over the mountainous tract of Thibet, Tartary, Turkey in Europe, Africa, and even in some degree on the Pyrenees and Alps.

When these accumulations have for any time prevailed, the density of the atmosphere becomes too considerable to be balanced by the surrounding medium; and of course it will descend towards the regions of the atmosphere that lie over the adjacent countries, and produce cold winds, that will raise the mercury in the barometer. Thus the north-east winds in Europe are occasionally accompanied by a rise of the barometer, because they proceed from accumulations of the atmosphere in the north-western parts of Asia, or about the poles; and hence it is, that the north-west wind from the mountains of Thibet raises the barometer at Calcutta.

As the mean heat of our hemisphere is not perpetual, the density of the atmosphere, and consequently the quantity of equatorial air which flows towards the poles, must be subject to corresponding variations. The accumulations of atmospheric air on the mountains parts of the south of Europe and Asia, occasionally exceed their usual limit, which is partly owing to earlier falls of snow, or to the exclusion of the polar rays by fogs of long continuance. In this case the atmosphere in the polar regions will contain a corresponding diminution of density. In the torrid zone and equatorial regions the heat is uniform; and the density of the atmosphere, modified by it, as well as the height of the atmosphere, will not be subject to much variation. Kirwan, Irish Trans. for 1785, p. 66. See Density. See also Barometer, under which article the cause of the variations in the weight and pressure of the atmosphere is particularly discussed. For the effects of the removal of the pressure of the atmosphere, see Air Pump, and Vacuum. For the elasticity of the atmosphere, see Air and Elasticity of the air.

Atmosphere, Height of the. The height of the atmosphere has been a subject of particular investigation; more especially since it was discovered by the Torricellian tube, that air is charged with weight and pressure. And, indeed, if the air possessed no elastic power, but were everywhere of the same density, from the surface of the earth to the extreme limit of the atmosphere, like water, which is equally dense at all depths, the whole height of the atmosphere might be ascertained without difficulty. It has already been observed, that the weight of a column of air, reaching to the top of the atmosphere, is equal to the weight of the mercury contained in the barometer, and counterbalancing it; and the proportion of weight likewise being known between equal bulks of air and mercury; it will be easy to find the height of such a column, and consequently that of the atmosphere itself. — For a column of air, one inch high, being to an equal column of mercury as 1 to 1356.4; it is evident that 1156.4 such columns of air, that is, a column 9.67 feet high, would be equal in weight to one inch of mercury; and consequently the 30 inches of mercury sustained in the barometer, require a column of air 2840 feet high; whence the height of the atmosphere would only be 2840 feet, or little more than five English miles and a quarter high.

But the air, by its elastic property, expands and contracts; and it being found by repeated experiments in England, France, and Italy, that the spaces it takes up, when compressed by different weights, are reciprocally proportional to those weights themselves; or, that the air takes up the less space, the more it is pressed; it follows, that the air in the upper regions of the atmosphere, where the weight is so much less, must be much rarer than near the surface of the earth; and, consequently, that the height of the atmosphere must be much greater than is above ascertained.

Mr. Cotes, in his Hydrostatical Lectures, lect. ix. has
demonstrated, in a very familiar and intelligible manner, that if any number of distances from the surface of the earth be taken in an arithmetical progression, the denities of the air at those distances will be in a geometrical progression. Let $a = x$, (Plate IX. Pneumatics, Fig. 72.) represent a vessel reaching from the surface of the earth $a$ to the top of the atmosphere $xx$; and let the side $xx$ be divided into inches $ab$, $bc$, $cd$, &c. and let the lines $bl$, $el$, $dm$, &c. be drawn parallel to $xx$. It is evident that the air contained between these parallel lines becomes rarer as we ascend, because every ascending parallel successively is prefalled by a less column of superincumbent air than the next below it. Suppose then that the air $ab$ is everywhere uniform, but denser than the air $bl$, and so upwards. Let the air $bl$ be reduced into a less space $bl$, so as to become of equal density with the air $ab$, by making the space $bl$ less than $bl$, in the proportion that the air $bl$ is less dense than the air $ab$. And let a similar construction be continued, so as to reduce every inch breadth of air to the same density with the air $ab$. The spaces $ab$, $bg$, $cr$, &c. will evidently be as the densities of the several inches of the air, $ab$, $bl$, $cm$, &c. and the quantity or weight of the superincumbent air belonging to each of these spaces, and reaching to the top of the atmosphere, will always be as the sum of all the spaces situated above any space proposed; the quantity or weight being, by the construction of the figure, as the space which it possesses. Since then the density of the air is as the force which compresses it, and this force is the quantity of superincumbent air, the densities of the air between $ab$ and $bl$, $bl$ and $el$, $el$ and $dm$, &c. are to each other as the quantities of air above $ab$, $bg$, $cr$, &c. up to the extremity of the atmosphere. But these densities, by what we have already shown, are as the spaces $ab$, $bg$, $cr$, &c. and the quantities of superincumbent air are as the spaces $abc$, $bcg$, $crg$, &c.; therefore the spaces $ab$, $bg$, $cr$, &c. are to each other respectively as the spaces $abc$, $bcg$, $crg$, &c. Now the former spaces $ab$, $bg$, $cr$, being the differences of the latter, and mutually proportional, are, by a well known theorem in proportion, in a geometrical progression; as the distances $ab$, $ac$, $ad$, are in an arithmetical progression. And thus the densities of the air belonging to every one of the inches, continued to the extremity of the atmosphere, decrease in the same geometrical progression; and every least variation of altitude will cause the same proportionable variation of density in the air. As the rarity of the air is reciprocally as its density, we may conclude that if the distances from the earth increase in an arithmetical progression, the different degrees of rarity of the air increase in a geometrical progression. Whence it is obvious, since an arithmetical series, adapted to a geometrical one, is analogous to the logarithms of the said geometrical one, that the dilatations are every where proportional to the logarithms of the corresponding rarities. It is also plain, that, as the distances or altitudes are proportional to the logarithms of the densities or weights of the air, any height taken from the earth's surface, which is the difference of two altitudes to the top of the atmosphere, is proportional to the difference of the logarithms of the two densities there, or to the logarithm of the ratio of those densities, and their corresponding compressing forces, as measured by the two heights of the barometer there.

This law was first observed and demonstrated by Dr. Halley, from the nature of the hyperbola; and afterwards by Dr. Gregory, by means of the logarithmic line. See Phil. Trans. No 181, or Abr. ibid. vol. 11, p. 13, and Greg. Astron. lib. iv, prop. 3. See the further illustration and proof of it under the article Atmospheric Logarithmic.

From this proposition, having made two or three arithmetical observations of the rarity or density of the air at two or three different known heights, it is easy to deduce a general rule for determining its rarity or density at any other height, or the height corresponding to any rarity or density; and consequently the altitude of the whole atmosphere, supposing the utmost degree of rarity known, beyond which the air cannot go.

But it is to be observed, that these computations of the rarity of the atmosphere, at different heights, are founded on this principle, that the density of the air is everywhere proportionable to the superincumbent weight. And this rule holds true only upon the supposition that the heat is uniform at different distances from the earth; for if the air be hotter in one part than in another, the air will be more rarified in the hotter part than it will be in the cooler, although prefalled by the same weight, or at the same altitude above the earth's surface.

It must not be here omitted, that some observations made by Cassini, and his associate, seem to render this method precarious. In continuing the meridian line of the observatory at Paris, they measured the altitudes of several mountains with great accuracy; noting the height of the barometer at the top of each; and found that the rarefactions of the air, as you ascend from the level of the earth, are much greater than they ought to be, according to this proportion. Suspecting therefore the justice of the experiments, the Royal Academy made divers others, under great dilatations of air, far exceeding the rarities found on the tops of the mountains; the result whereof was, that they all exactly answered the proportion of the incumbent weights. Whence it should follow, that the higher air about the tops of mountains is of a different nature, and oberves a different law from that near the earth.

This may be owing to the great quantity of grave vapours and exhalations here, more than there; which vapours being less elastic, and not capable of so much rarefaction as the pure air above, the rarefactions of the pure air increase in a greater ratio than the weights diminish. M. Fontenelle, however, from the experiments made by M. de la Hire, accounts for the phenomenon in a different manner; alleging, that the elastic power of air is increased by the admixture of humidity therewith; and consequently that the air near the tops of mountains, being moister than that below, becomes thereby more elastic, and rarefies in a greater ratio than naturally and in a drier state it would. But Dr. Jurin shows, that the experiments produced to support this fiction are by no means conclusive.Append. ad Varen. Geograph.

M. Bouguer likewise, in the Memoirs of the Royal Academy of Sciences at Paris for the year 1753, intimated his opinion, that the condensations of the atmosphere did not observe the same law at different heights: and endeavoured to account for the variation, by supposing that particles of air at different heights are prefalled of unequal degrees of elasticity. If this were the case it would be impossible to apply the barometer to the menuration of heights with any degree of certainty. But M. de Luc has shown, by his more accurate experiments, that this pretended inequality of spring in the particles of air does not subsist; and that its condensations and dilatations follow the same law uniformly at all heights and in all climates, excepting only the differences that are caused by heat, and other local circumstances. Admitting therefore the principles above stated, as applicable to all altitudes within our reach, or as far as the summits of the highest mountains on earth, when a correction is made merely for the difference of heat or temperature,
Atmosphere.

ture; he determined the altitudes of hills both by the barometer and also by geometrical measurement; and showing how to allow for the difference of temperature, he has given a rule for the measurement of heights by the barometer, deduced from a greater number of experiments, and much more accurate than any before published. See his " Recherches sur les Modifications de l'Atmosphère," vol. ii. Similar rules have also been deduced from accurate experiments by Sir George Shuckburgh and general Roy, both concurring to show that such a rule for the altitudes and densities holds true for all heights that are accessible to us, when the elasticity of the air is corrected on account of its density; and the result of their experiments showed, that the difference of the logarithms of the heights of the mercury in the barometer at two stations, multiplied by 10,000, is equal to the altitude in English fathoms of the one place above the other; that is, when the temperature of the air is about 31 or 32 degrees of Fahrenheit's thermometer; and a certain quantity more or less, according as the actual temperature is different from that degree. See the principles and application of these rules, detailed more at large, under the article Barometer. But it may be shown, that the same rule may be deduced independently of a train of experiments merely by means of the density of the air at the surface of the earth. Thus, let $D$ denote the density of the air at one place, and $d$ the density at the other; both measured by the column of mercury in the barometer; then the difference of altitude between the two places will be proportional to the log. of $D$ — the log. of $d$, or to the log. of $\frac{D}{d}$. But as this formula expresses only the relation between different altitudes, with respect to their densities, recourse must be had to some experiment in order to obtain the real altitude which corresponds to any given density, or the density which corresponds to a given altitude. The first and most natural is that which results from the known specific gravity of air, with respect to the whole pressure of the atmosphere on the surface of the earth.

Now, as the altitude is always as the log. of $\frac{D}{d}$, assume $b$, so that $a = b \times \log. \frac{D}{d}$, where $b$ will be of one constant value for all altitudes; and to determine that value, suppose a cafe in which we know the altitude $a$ corresponding to a known density $d$; as, e. g. take $a = 1$ foot or 1 inch, or some such small altitude; and because the density $D$ may be measured by the pressure of the whole atmosphere, or the uniform column of 27,600, when the temperature is 55°, 27,600 feet will therefore denote the density $D$ at the lower places, and 27,599 the density $d$ at one foot above it; consequently, we have this equation, viz. $a = b \times \log. \frac{27,600}{27,599}$, which by the nature of logarithms is nearly $b \times \frac{4342948}{27000} = \frac{b}{63551}$ nearly; and hence $b = 63551$ feet, which gives this formula for any altitude in general; viz. $a = 63551 \times \log. \frac{D}{d}$, or $a = 63551 \times \log. \frac{M}{m}$ feet, or dividing by 6, the number of feet in a fathom, $10,592 \times \log. \frac{M}{m}$ fathoms, where $M$ denotes the column of mercury which is equal to the pressure of the atmosphere at the bottom, and $m$ that at the top of the altitude $a$; and where $M$ and $m$ may be taken in any measure, either feet or inches, &c. This formula is adapted to the mean temperature of the air 55°; but it has been found by the experiments of Sir George Shuckburgh and general Roy, that for every degree of temperature, indicated by the thermometer, different from 55°, in the medium between the temperature at the top and bottom of the altitude $a$, the altitude $a$ will vary by its 435th part, which must be added when the medium exceeds 55°, and otherwise subtracted. It should also be observed, that a column of 30 inches of mercury varies its length by about the 9260th part of an inch for every degree of heat, or rather the 9600th part of the whole volume. This formula may be rendered much more convenient for use by reducing the factor 10,592 to 10,000 by changing the temperature proportionally from 55°; thus, as the difference 592 is the 18th part of the whole factor 10,592, and as 18 is the 24th part of 435; therefore the change of temperature, corresponding to the change of the factor $b$, is 24°, which reduces the 55° to 31°. Consequently, the formula becomes $a = 10,000 \times \log. \frac{M}{m}$ fathoms, when the temperature is 31°, or nearly the freezing point; and for every degree above that, the result must be increased by $\frac{m}{1000}$ times its 435th part, and proportionally diminished below it.

This formula may be comprised under the following principles: 1. Observe the height of the barometer at the bottom of any height or depth proposed to be measured, together with the temperature of the mercury by means of the thermometer attached to the barometer, and also the temperature of the air in the shade by another thermometer which is detached from the barometer. 2. Let the same thing be done also at the top of the said height or depth, and as nearly as possible at the same time; reduce these altitudes of the mercury to the same temperature, if it be thought necessary, by correcting either the one or the other, viz. augmenting the height of the mercury in the colder temperature, or diminishing that in the warmer, by its 9600th part for every degree of difference between the two, and the altitudes of the mercury so corrected are those denoted by $M$ and $m$ in the above formula. 3. Take out the common logarithms of the two heights of mercury so corrected, and subtract the less from the greater, cutting off from the right hand side of the remainder three places for decimals, and then those in the left hand will be fathoms in whole numbers, the tables of logarithms being supposed to comprehend seven places of decimals. 4. Correct the number last found for the difference of the temperature of the air, in the following manner; viz. take half the sum of the two temperatures of the air, shown by the detached thermometers, for the mean one; and for every degree by which this differs from the standard temperature of 31°, take so many times the 435th part of the fathoms above found, and add them if the mean temperature be more than 31°, but subtract them if it be below 31°, and the sum or difference will be the true altitude in fathoms, or being multiplied by 6, it will give the true altitude in English feet.

Example I. To find the altitude, when the rate of the barometers and thermometers is as follows, viz.

<table>
<thead>
<tr>
<th>Thermometers</th>
<th>Barometers</th>
</tr>
</thead>
<tbody>
<tr>
<td>detached</td>
<td>attached</td>
</tr>
<tr>
<td>57</td>
<td>57</td>
</tr>
<tr>
<td>42</td>
<td>43</td>
</tr>
<tr>
<td>Mean 49½</td>
<td>Dif. 14</td>
</tr>
</tbody>
</table>

AS
It might easily be shown by pursuing the calculation in this table, that a cubic inch of the air we breathe would be so much rarified at the altitude of 500 miles, that it would fill a sphere equal in diameter to the orbit of Saturn. Hence it appears that the atmosphere, however indefinitely it may be expanded, becomes at a comparatively small distance, so rare and light, as to be utterly imperceptible in its effects as a refracting medium; and if the atmospheres of the planets resemble that of the earth, they must be so attenuated at the distances of the planets from one another, as to give no sensible resistance to their motions round the sun for many ages.

M. de la Hire, after Kepler, recurred to the more ancient method of ascertaining the height of the atmosphere, viz. from the consideration of the crepusculum. It appears, from the observations of astronomers, of the duration of twilight, and of the magnitude of the terrestrial shadow in lunar eclipses, that the effect of the atmosphere to reflect and intercept the light of the sun, is sensible to the altitude of between 40 and 50 miles. So far then we may be certain that the atmosphere reaches; and at that altitude we may collect, from what has been already said, that the air is above 10,000 times rarer than at the surface of the earth. How much farther the atmosphere may extend, we are altogether ignorant. Cotes's Hydrot. Lect. p. 123. and 125.

It is allowed by astronomers, that when the centre of the sun is 18° or 27° below the horizon, the twilight begins or ends: now the ray which we fee can be no other than a horizontal line, or a tangent to the earth in the place where the observer is; but this ray cannot come directly from the sun, which is under the horizon; and must therefore be a ray reflected to us by the hollow inner and concave surface of the atmosphere. We are to suppose that the sun when 18° or 27° below the horizon, emits a ray which is a tangent to the earth, and strikes upon the lower surface of the atmosphere, and is thence reflected to our eye, being still a tangent, and horizontal. If there were no atmosphere, there would be no crepusculum; and consequently, if the atmosphere were not so high as it is, the crepusculum would begin and end when the sun is at the distance of the sun at 18° or 27°, and consequently. Hence we infer, that the extent of the arc by which the sun is depressed, when the crepusculum begins or ends, determines the height of the atmosphere. We are to note, however, that 33° must be subtracted from the arc of 18° for the refraction which raises the sun so much higher than he would be; and 16° more for the height of the upper limb of the sun, which is supposed to be its highest above his centre, so that the arc which determines the height of the atmosphere is only 15° 17'. Two rays, one direct and the other reflected, but both tangents to the earth, must necessarily meet in the atmosphere at the point of reflection, and comprehend an arc between them of 17° 11', of which they are tangents. Hence it follows, from the nature of the circle, that a line drawn from the centre of the earth, and cutting the arc in two, will go to the point of concurrence of those two rays; and as it is easy to find the excess of this line above the semi-diameter of the earth, which is known, it is easy to find the height of the atmosphere, which is only that excess. See CREPUSCULUM.

On this principle, M. de la Hire discovered the height of the atmosphere to be 37233 fathoms, or near 17 French leagues. The same method was also made use of by Kepler, who only rejected it, because it gave the height of the atmosphere twenty times greater than he otherwise allowed.
The nature of the curve, which is described by a ray of light in passing through the atmosphere, has been the subject of tedious investigation. M. de la Hire took great pains to demonstrate, that, supposing the density of the atmosphere proportional to its weight, this curve is a cycloid; and he says, that if the ray be a tangent to the atmosphere, the diameter of its generating circle will be the height of the atmosphere; and that this diameter increases, till at last, when the rays are perpendicular, it becomes infinite, or the circle degenerates into a right line. This reasoning supposes that the surface of the atmosphere is a plane; but since it is a curve, he observes that these cycloids become in fact epicycloids. Hermanns, in his "Phoronomia," has detected the error of M. de la Hire; and shown that this curve is infinitely extended, and has an asymptote; and Dr. Brook Taylor observes, "Method. Inern." p. 168, that it is one of the most intricate and perplexed that can well be proposed. This ingenious author computes the refractive power of the air, to be 100,000,000 to 1.

The extreme rarity of the atmosphere at considerable altitudes, such as those of forty or fifty miles, bounding the production of twilight, has perplexed philosophers in accounting for meteors, which, whatever be their origin, whether electrical or otherwise, are observed at a much greater elevation than that to which the refractive power of the atmospheric air extends. A very remarkable one of this kind was observed by Dr. Halley in the month of March 1719; the altitude of which he computed to have been between 69 and 73° English miles; its diameter being 2800 yards or more than a mile and a half, and its velocity about 350 miles in a minute. Others of a similar kind, but of a greater altitude and velocity, have been observed by others; and particularly one seen in August 1783, whose height above the earth could not be less than ninety miles, and its diameter was not less than the former, whilst its velocity was certainly not less than 1000 miles in a minute. From analogy and reasoning it is very probable, that such meteors are not essentially different from those that are seen near the surface of the earth. Nevertheless in the high regions where they are observed, the atmosphere, according to our computation, ought not to have density sufficient to support flame and to propagate sound; and yet such meteors are commonly succeeded by one or more explosions, and are accompanied, as it has been reported, with a hissing noise as they pass over our heads. The meteor of 1719 was not only very bright, so that for some time it changed the night into day, but was attended with an explosion that was heard over all the island of Britain, occasioning a violent confusion of the atmosphere and seeming to shake the earth itself. And yet, in the regions in which this meteor moved, the air ought to have been 300,000 times rarer than the air we breathe, or 10,000 times rarer than the vacuum commonly made by a good air-pump. Dr. Halley conjectures, that the immense magnitude of such bodies may compensate for the rarity of the medium in which they move. Allowing them to be electrical phenomena, difficulties occur in explaining several circumstances attending them; and particularly the splendor of their appearance, which requires a circumambient fluid capable of condensing and conducting the electric matter of which they are composed. From late experiments, it has been inferred, that the electric fluid cannot pervade a perfect vacuum. See Meteor.

The atmosphere constants. Refraction and Reflection of the. That the atmosphere has a refractive power, which is the cause of many phenomena, is unquestionable. This power is ascertained by the production of twilight above notice, and by many other facts and experiments. Alhazen the Arabian, who lived about A. D. 1000, seems to have been more inquisitive into the nature of refraction than the preceding writers. But neither Alhazen, nor his follower Vitello, knew any thing of its just quantity, which was not known to any tolerable degree of exactness, till Tycho Brahe, with incredible diligence, settled it. But neither Tycho, nor Kepler, discovered in what manner the rays of light were refracted by the atmosphere. Tycho thought the refraction was chiefly caused by dense vapours, very near the earth's surface. Kepler placed the cause wholly in the higher regions of the atmosphere, which he took to be uniformly dense; and thence he determined its altitude to be little more than that of the highest mountains. But the true constitution of the atmosphere, deduced afterwards from the Torricellian experiment, afforded a fuller idea of these refractions, especially after it appeared by a repetition of Mr. Lowthorp's experiment, that the air's refractive power is proportionable to its density. By this variation of the air's density, a ray of light, in passing through the atmosphere, is continually refracted at every point, and thereby describes a curve, and not a straight line, as it would have done were there no atmosphere, or were its density uniform. See Refraction.

The atmosphere, or air, has also a reflexive power; and this power is the cause that enlightens objects so uniformly on all sides. The absence of this power would occasion a strange alteration in the appearance of things; their shadows would be so very dark, and their sides enlightened by the sun so very bright, that probably we could see no more of them than their bright halve; and that, for a view of the other halve, we must turn them half round, or, if immovable, must wait till the sun could come round upon them. Such a pellucid inefflusive atmosphere would indeed have been very commodious for astronomical observations upon the course of the sun and planets among the fixed stars, visible by day as well as by night; but then such a sudden transition from darkness to light, and from light to darkness immediately, upon the rising and setting of the sun, without any twilight, and even upon turning from or to the sun at noon day, would have been very inconvenient and offensive to our eyes.

However, though the atmosphere is greatly afflissant to the illumination of objects, yet it must also be observed that it stops a great deal of light. By M. Bouguer's experiments, it seems that the light of the moon is frequently 2000 times weaker in the horizon, than at the altitude of 66 degrees; and that the proportion of her light at the altitudes of 66 and 19 degrees, is about 3 to 2. The lights of the sun must bear the same proportion to each other at those heights, which M. Bouguer made choice of.
as being the meridian heights of the sun, at the summer and winter solstices, in the latitude of Croûte in France.

Smith's Optics, Rem. 95. See LIGHT, and REFLECTION.

ATMOSPHERE. Salubrity of the. See EPIIDEMIOLOGY.

ATMOSPHERE. Temperature of the. The variable temperature of the atmosphere, at different seasons and different situations, has been the subject of elaborate investigation; and many speculations and theories have been proposed in order to account for the changes which it undergoes. That the presence of the sun is the principal source of heat as well as of light, and its absence of cold, is too obvious to have been ever doubted; and the effect produced by the greater or lesser obliquity of its rays has been long and universally observed and acknowledged. From this fact, however, the ancient philosophers of Greece and Rome too haughtily inferred, that the torrid zone, under a vertical sun, and the frigid zone, where its rays fall very obliquely, were uninhabitable. Time corrected this mistake; and presented new phenomena which it has been found difficult to explain.

The hottest days are frequently felt in the coldest climates, and the greatest cold, as well as perpetual snow, are found in countries bordering on, or even immediately under, the equator. In the same latitudes, very different temperatures have been observed, not only in different, but even in the same hemisphere. The temperature of the eastern coast of North America differs widely from that of the western opposite coast of Europe, but agrees nearly with that of the eastern coast of Asia lying between the same parallels. Mem. Philad. vol. i. Thence, and similar circumstances, have made it necessary for meteorologists to recur to other causes of varying temperature, besides the immediate agency or absence of the solar rays. Dr. Halley has, indeed, proved, that, abstracting from the intervention of fogs, mists, and mountains of ice, the hottest weather might, in summer, take place even under the poles, the duration of the sun's light more than compensating for the obliquity of its direction (see HEAT); but as many physical causes obstruct the activity of the solar rays in these and other regions, it was necessary to recur to some other cause.

At length M. de Mainan (Mem. Acad. Par. 1734 and 1757) discovered, that the rigour of the cold of winter is tempered by the heat imparted to the atmosphere by the earth itself; which heat, probably poofed from its origin, is preserved and renewed by the incessant influences of the fun, to which one-half of its surface is constantly exposed. Admitting this fact, the temperature of the atmosphere must depend on the capacity of the earth for receiving and retaining heat, and for communicating it to the surrounding medium. But as the earth is composed of land and water, it should be considered that the capacities of these constituent parts for receiving both heat and cold are very different. Land, particularly when dry, receives heat from the sun's rays very readily, but transmits it through its own substance to great depths very slowly; and, on the other hand, water, by reason of its transparency, receives heat very slowly, but diffuses what it receives more readily. Dr. Hales found, that in the month of August, 1724, when the air, and the surface of the earth, were both at 88°, a thermometer, placed only two inches under the surface, stood at 85°; another, 16 inches under the surface, indicated 76°, and a third, 24 inches deep, stood at 68°. The two last thermometers preferred the same temperature both day and night, till the end of the month, and then fell to 63° or 61°; the earth obstinately retaining its heat, at that depth, though the temperature of the air frequently varied.

On the 26th of October, a thermometer, exposed to the air, stood at 35.5°; but one sunk two inches in the earth was heated to 42.8°; another at the depth of 16 inches, stood at 48.8°; and another, 24 inches deep, showed 52°; and from the 15th to the 18th of November, when the temperature of the external air was 27°, a thermometer placed at the depth of 24 inches, stood at 23.8°; but from the month of March to that of September in the following year, the external air was constantly warmer than the earth at the depth of 16 inches or 2 feet: the season, however, was very rainy, and the evaporation, thus occasioned, prevented the earth from being warmed so much as it otherwise might have been. Hales Veget. Statics, vol. i. p. 61, &c. From these experiments it may be inferred, that the surface of the earth is much heated during the summer, but that the heat descends very slowly, a great part of it being communicated to the air; that during the winter, the earth gives out to the air the heat which it had received during the summer; and that wet summers must be succeeded by cold winters. The experiments of Dr. Hales furnish nearly the same results with those of Mariotte (Sur le Froid et le Chaud, p. 189.) who found, that the earth is gradually heated during the summer, and as gradually cooled during the winter months; and that, at the distance of a few feet under the surface, it is constantly warmer than the external air; and the excess was found to remain till April, when the surface is again heated by the sun's rays, and slowly transmits its heat downwards. Hence it appears, that at the distance of about 80 or 90 feet below the surface, provided that there be a communication with the external air, or at a less depth if there be no such communication, the temperature of the earth admits of very slight variation, and generally approaches to the mean annual heat. Then the temperature of rising is nearly the same as the annual temperature, and varies very little. M. Van Swinden has observed, that the greatest cold, and even that which exceeds O of Fahrenheit's scale, if it falls more than a few days, penetrates no deeper than 20 inches when the earth is covered with snow, and not above 10 inches if no snow lies on the surface; and this fact evinces the important and useful purpoes answered by this covering in high northern latitudes. Such facts tend to prove, that the heat of the earth does not increase as we descend into it; but at the greatest depths it is nearly the same as the mean annual temperature of the latitude. It has been observed, that land is capable of receiving much more heat or cold than water. To this purpose, Dr. Raymond found, in the neighbourhood of Marfeilles, land frequently heated to 160°; but he never found the sea hotter than 77°; and in winter he frequently observed the earth cooled down to 14° or 15°, but the sea never lower than 44° or 45°. (Mem. de la Société de Med. de Paris, an. 1778, p. 70.) From these facts it is an obvious inference, that the atmosphere which lies over the sea should maintain a more uniform temperature than that over the land; and this is found to be the fact; nor is it difficult to give a satisfactory explanation of it. During summer, the temperature of the sea on its surface is constantly diminished by the proceeds of evaporation; and in the winter, when the superficial water is cooled, it descends by its augmented gravity to the bottom, and its place is occupied by water of a higher temperature. This alternate change of this heavier and lighter air proceeds, and the winter chalques before the atmosphere has diminished the temperature of the water below a certain degree. Between the mean annual temperature of the atmosphere over the ocean, and that of countries situated at a considerable distance from it, there is a very perceptible difference. As the sea is never heated to the same degree as the land,
the mean temperature of summer over the sea may be considered as lower than that over the land. In winter, when the force of the sun's rays is weakened, the sea absorbs its heat to the atmosphere much more readily than the earth. The mean temperature on the sea, is, therefore, at this season higher than on land, and in cold countries this difference in the evolution of heat is so very considerable, that it more than counterbalances the difference which takes place in summer, so much that in high latitudes, the mean annual temperature at sea ought to exceed that on the land. Mr. Kirwan observes, that in order to find the temperatures in any place latitude between the latitudes 50° and 55°, the standard temperature for the same latitude should be lowered 1° of a degree for every 50 miles of distance; since in winter the cold always increases in proportion to the distance from the standard. At a sea distance than 50 miles the atmosphere on the ocean and land are so blended together by the agency of sea and land winds, that little difference is perceptible in the annual mean temperature. In lower latitudes than 30°, the solar rays even in winter act with no considerable force, the surface of the earth also retains a pretty considerable degree of heat, and consequently the mean annual temperature of the sea and land preserve a greater equality. In proportion as we approach to the equator, the force of the sun's rays in winter is increased with additional energy, and the mean temperature of the land atmosphere at this season approximates nearer and nearer to that of the sea, till at the equator they become equal.

In latitudes distant from the equator, islands are warmer than continents, because they participate more of the temperature of the sea. Countries that lie southward of any sea, are warmer than those that have the same sea to the south of them, at least in our hemisphere, because the winds that should cool them in winter are tempered, by passing to them from that sea; and those that are northward of the sea are cooled in summer by the breezes that arise from it; but a northern or southern bearing of the sea renders a country warmer, than if it lay either to the east or west. Tracts of land which are covered with trees and luxuriant vegetation, are much colder than those which have less surface of vegetable matter; for though living vegetables alter their temperature slowly, and with difficulty, yet the evaporation from their numerous surfaces is much greater than from the same space of land uncovered with vegetables; and besides, when they are tall and close, as forests, they exclude the sun's rays, and shelter the winter snows from the wind and sun. From some experiments of Mr. Williams (Philad. Trans. vol. ii. p. 150.) it appears, that forests discharge one-third more vapour into the atmosphere, than the same space of ground would do if actually covered with water. From this reasoning it appears, that woody countries are much colder than those that are open and cultivated; and it will enable us to account for the amelioration of climate that attends agricultural cultivation. See Climate.

Another principal source of heat, besides the sun's rays and earth, which may be regarded as a repository of heat, is the condensation of vapour. It is well known, that vapour contains a quantity of the matter of heat, which produces no other effect but that of making it assume an aerial expanded state, until the vapour is condensed into a liquid; but during this condensation a quantity of sensible heat is let loose, which warms the surrounding atmosphere. This condensation is frequently occasioned by the attraction of an electrical cloud; and hence we proceed the fulminets which we often experience before rain.

Vol. III.
ATMOSPHERE.

the equator is \(9^\circ\), and that of the pole \(91^\circ\). Upon these principles the following table was calculated.

TABLE of the Mean Annual Temperature of the Standard Situation in every Latitude.

<table>
<thead>
<tr>
<th>Lat.</th>
<th>Temper.</th>
<th>Lat.</th>
<th>Temper.</th>
<th>Lat.</th>
<th>Temper.</th>
</tr>
</thead>
<tbody>
<tr>
<td>90</td>
<td>31</td>
<td>61</td>
<td>43.5</td>
<td>32</td>
<td>69.1</td>
</tr>
<tr>
<td>89</td>
<td>31.04</td>
<td>60</td>
<td>43.3</td>
<td>31</td>
<td>69.9</td>
</tr>
<tr>
<td>88</td>
<td>31.10</td>
<td>59</td>
<td>43.09</td>
<td>30</td>
<td>70.7</td>
</tr>
<tr>
<td>87</td>
<td>31.14</td>
<td>58</td>
<td>42.8</td>
<td>29</td>
<td>71.3</td>
</tr>
<tr>
<td>86</td>
<td>31.2</td>
<td>57</td>
<td>42.7</td>
<td>28</td>
<td>72.3</td>
</tr>
<tr>
<td>85</td>
<td>31.24</td>
<td>56</td>
<td>42.5</td>
<td>27</td>
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<tr>
<td>84</td>
<td>31.28</td>
<td>55</td>
<td>42.4</td>
<td>26</td>
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<tr>
<td>83</td>
<td>31.3</td>
<td>54</td>
<td>42.0</td>
<td>25</td>
<td>74.5</td>
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<tr>
<td>82</td>
<td>31.35</td>
<td>53</td>
<td>41.8</td>
<td>24</td>
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<tr>
<td>81</td>
<td>31.39</td>
<td>52</td>
<td>41.7</td>
<td>23</td>
<td>75.9</td>
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<tr>
<td>80</td>
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<td>18</td>
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<td>14</td>
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<td>39.7</td>
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<td>39.3</td>
<td>11</td>
<td>82.1</td>
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<td>31.97</td>
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<td>39.1</td>
<td>10</td>
<td>82.5</td>
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<tr>
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<td>32.02</td>
<td>38</td>
<td>38.9</td>
<td>9</td>
<td>82.8</td>
</tr>
<tr>
<td>66</td>
<td>32.07</td>
<td>37</td>
<td>38.7</td>
<td>8</td>
<td>83.2</td>
</tr>
<tr>
<td>65</td>
<td>32.12</td>
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<td>38.5</td>
<td>7</td>
<td>83.4</td>
</tr>
<tr>
<td>64</td>
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<td>35</td>
<td>38.3</td>
<td>6</td>
<td>83.6</td>
</tr>
<tr>
<td>63</td>
<td>32.22</td>
<td>34</td>
<td>38.1</td>
<td>5</td>
<td>83.6</td>
</tr>
<tr>
<td>62</td>
<td>32.27</td>
<td>33</td>
<td>37.9</td>
<td>4</td>
<td>83.6</td>
</tr>
</tbody>
</table>

In forming this table, Mr. Kirwan fought for a standard situation, with whole temperature, in every latitude, which we may compare and appreciate the temperature of all other situations in the same latitudes, on water only. Accordingly, he chose that situation for a standard, which is most free from any before the mull permanent causes of alteration, viz. that part of the Atlantic that lies between the 80th degree of northern, and the 45th degree of southern latitude, and extending westward as far as the Gulf stream, and to within a few degrees of the coast of America; and all that part of the Pacific ocean, reaching from N. lat. 45° to S. lat. 40° from the 25th to the 25th degree of longitude, call from London, which is by far the greater part of the surface of the globe. Within this space the mean annual temperature is as expressed in the table, and the author has added the temperature of latitudes beyond 80° in the northern hemisphere, though not strictly within the standard.

Mr. Kirwan has also attempted to ascertain the mean monthly temperature of the standard ocean. With this view he states, that in every latitude, the mean temperature of the month of April seems to approach very nearly to the mean annual heat of that latitude; and as far as heat depends on the action of the solar rays, the mean heat of every day is as the mean altitude of the sun, or rather, as the sine of the sun's mean altitude during that month. Hence to find the mean heat of May, say, as the sine of the sun's mean altitude in April is to the mean heat of April, so is the sine of the sun's mean altitude in May to the mean heat of May. By a similar process, the temperatures of June, July, August may be found; but this rule would give the temperatures of the succeeding months too low; because it does not comprehend the quantity of heat accruing to the atmosphere by communication of the internal heat of the globe, which in every latitude is nearly the same as the mean annual heat of that latitude. Hence the real temperature of those months must be regarded as an arithmetical mean between the astronomical and terrestrial heats. E. g.

In lat. 51°, the astronomical heat of the month of September is 44.06, and the mean annual heat is 52.3°; consequently the real heat of this month is

\[\frac{44.06 + 52.3}{2} = 48.4\]

which is more conformable to observation. Mr. Kirwan has with great labour formed a table, showing the monthly mean temperature of the standard ocean from lat. 80°, to lat. 10°. Hence he shows, that the coldest weather in all climates prevails in the month of January; and that July is the warmest month in all latitudes above 48°; but in lower latitudes, August is generally the warmest; that December and January, and also June and July, differ but little; that the differences between the hottest and coldest months, within 20° of the equator, are inconsiderable, and that they increase as we recede from the equator; that in the highest latitudes we often meet with a heat of 75° or 80 degrees; that every habitable latitude enjoys for two months a heat of 60 degrees at least, which seems to be necessary for the growth and maturity of corn; and that the quickness of vegetation in the higher latitudes proceeds from the duration of the sun’s above the horizon; that as the cold of the higher latitudes, and the heat of the lower, are moderated by the vicinity of seas and mountains, these, instead of being irregular and fortuitous, may be regarded as a wife and beneficial provision of nature, in this respect as well as in many others. Mr. Kirwan has also shown, that the greatest cold within the twenty-four hours generally happens half an hour before sun-rise, in all latitudes; the greatest heat in all latitudes between 60° and 45° is found about half past two o'clock in the afternoon; between lat. 45° and 35°, at two o'clock; between lat. 35° and 25°, at half past one; and between lat. 25° and the equator, at one o'clock. On sea, the difference between the heat of day and night is not so great as on land, particularly in low latitudes.

TABLE exhibiting a Comparison of the Temperature of London with that of other noted Places.

<table>
<thead>
<tr>
<th>Place</th>
<th>Jan.</th>
<th>July</th>
</tr>
</thead>
<tbody>
<tr>
<td>London</td>
<td>1000</td>
<td>1000</td>
</tr>
<tr>
<td>Paris</td>
<td>1028</td>
<td>1037</td>
</tr>
<tr>
<td>Edinburgh</td>
<td>1028</td>
<td>1037</td>
</tr>
<tr>
<td>Berlin</td>
<td>923</td>
<td>949</td>
</tr>
<tr>
<td>Stockholl</td>
<td>811</td>
<td>964</td>
</tr>
<tr>
<td>Peterb.</td>
<td>746</td>
<td>1058</td>
</tr>
<tr>
<td>Vienna</td>
<td>567</td>
<td>1034</td>
</tr>
<tr>
<td>Pekin</td>
<td>1067</td>
<td>1253</td>
</tr>
<tr>
<td>Dourodeaux</td>
<td>1020</td>
<td>1139</td>
</tr>
<tr>
<td>Montpelier</td>
<td>1175</td>
<td>1106</td>
</tr>
<tr>
<td>Madrid</td>
<td>1319</td>
<td>1128</td>
</tr>
<tr>
<td>Spanish Tov in Jamaica</td>
<td>1557</td>
<td></td>
</tr>
<tr>
<td>Madras</td>
<td>1505</td>
<td>1349</td>
</tr>
</tbody>
</table>

The first column of this table exhibits the differences of the annual temperature; the second, that of January; and the third that of July; that of London, as the standard, being
being estimated at 1000. The degree of cold is estimated in the second column, and the degree of heat in the first and third.

**A View of the Annual Temperature of different Places, according to the Order of their Latitude.**

<table>
<thead>
<tr>
<th>Place</th>
<th>Latitude</th>
<th>Longitude</th>
<th>Mean Annual Heat</th>
</tr>
</thead>
<tbody>
<tr>
<td>Waddo, in Lapland</td>
<td>60° 47'</td>
<td>24° 18 E.</td>
<td>49</td>
</tr>
<tr>
<td>Abo</td>
<td>59° 27'</td>
<td>18° 41 E.</td>
<td>43</td>
</tr>
<tr>
<td>Peterburgh</td>
<td>59° 33'</td>
<td>4° 47 E.</td>
<td>41</td>
</tr>
<tr>
<td>Upfal</td>
<td>59° 30'</td>
<td>4° 41 E.</td>
<td>38</td>
</tr>
<tr>
<td>Stockholm</td>
<td>59° 36'</td>
<td>18° 06 E.</td>
<td>59</td>
</tr>
<tr>
<td>Solikamski</td>
<td>59° 34'</td>
<td>1° 16 E.</td>
<td>38</td>
</tr>
<tr>
<td>Edinburgh</td>
<td>59° 33'</td>
<td>3° 16 E.</td>
<td>57</td>
</tr>
<tr>
<td>Franeker</td>
<td>59° 31'</td>
<td>4° 32 E.</td>
<td>52</td>
</tr>
<tr>
<td>Berlin</td>
<td>59° 30'</td>
<td>1° 33 E.</td>
<td>49</td>
</tr>
<tr>
<td>Lynden, in Rutland</td>
<td>59° 30'</td>
<td>0° 3 E.</td>
<td>43</td>
</tr>
<tr>
<td>Leyden</td>
<td>59° 30'</td>
<td>3° 16 E.</td>
<td>40</td>
</tr>
<tr>
<td>London</td>
<td>59° 30'</td>
<td>1° 45 E.</td>
<td>59</td>
</tr>
<tr>
<td>Dunkirk</td>
<td>59° 30'</td>
<td>2° 37 E.</td>
<td>53</td>
</tr>
<tr>
<td>Mejn</td>
<td>59° 30'</td>
<td>2° 2 E.</td>
<td>54</td>
</tr>
<tr>
<td>E. of the Standard</td>
<td>59° 30'</td>
<td>2° 2 E.</td>
<td>54</td>
</tr>
<tr>
<td>Rome</td>
<td>59° 30'</td>
<td>1° 55 E.</td>
<td>51</td>
</tr>
<tr>
<td>Ratibond</td>
<td>59° 30'</td>
<td>3° 55 E.</td>
<td>52</td>
</tr>
<tr>
<td>Paris</td>
<td>59° 30'</td>
<td>3° 2 E.</td>
<td>52</td>
</tr>
<tr>
<td>Troyes, in Champaine</td>
<td>59° 30'</td>
<td>3° 40 E.</td>
<td>52</td>
</tr>
<tr>
<td>Vienna</td>
<td>59° 30'</td>
<td>3° 40 E.</td>
<td>52</td>
</tr>
<tr>
<td>Dijon</td>
<td>59° 30'</td>
<td>3° 40 E.</td>
<td>52</td>
</tr>
<tr>
<td>Nantes</td>
<td>59° 30'</td>
<td>3° 40 E.</td>
<td>52</td>
</tr>
<tr>
<td>Poitiers</td>
<td>59° 30'</td>
<td>3° 40 E.</td>
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</tr>
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<td>Lausanne</td>
<td>59° 30'</td>
<td>3° 40 E.</td>
<td>52</td>
</tr>
<tr>
<td>Fadua</td>
<td>59° 30'</td>
<td>3° 40 E.</td>
<td>52</td>
</tr>
<tr>
<td>Rhodes, in Guinea</td>
<td>59° 30'</td>
<td>3° 40 E.</td>
<td>52</td>
</tr>
<tr>
<td>Bordeaux</td>
<td>59° 30'</td>
<td>3° 40 E.</td>
<td>52</td>
</tr>
<tr>
<td>Montpellier</td>
<td>59° 30'</td>
<td>3° 40 E.</td>
<td>52</td>
</tr>
<tr>
<td>Marseille</td>
<td>59° 30'</td>
<td>3° 40 E.</td>
<td>52</td>
</tr>
<tr>
<td>Mont Louis, in Rosfllon</td>
<td>59° 30'</td>
<td>3° 40 E.</td>
<td>52</td>
</tr>
<tr>
<td>Cambridge, in New England</td>
<td>59° 30'</td>
<td>3° 40 E.</td>
<td>52</td>
</tr>
<tr>
<td>Philadelphia</td>
<td>59° 30'</td>
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<tr>
<td>Pekin</td>
<td>59° 30'</td>
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<tr>
<td>Algiers</td>
<td>59° 30'</td>
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</tr>
<tr>
<td>Grand Cairo</td>
<td>59° 30'</td>
<td>3° 40 E.</td>
<td>52</td>
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<tr>
<td>Canton</td>
<td>59° 30'</td>
<td>3° 40 E.</td>
<td>52</td>
</tr>
<tr>
<td>Tivoli, in St. Domingo</td>
<td>59° 30'</td>
<td>3° 40 E.</td>
<td>52</td>
</tr>
<tr>
<td>Spanish Town, in Jamaica</td>
<td>59° 30'</td>
<td>3° 40 E.</td>
<td>52</td>
</tr>
<tr>
<td>Manilla</td>
<td>59° 30'</td>
<td>3° 40 E.</td>
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<td>Fort St. George</td>
<td>59° 30'</td>
<td>3° 40 E.</td>
<td>52</td>
</tr>
<tr>
<td>Pontcherry</td>
<td>59° 30'</td>
<td>3° 40 E.</td>
<td>52</td>
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<tr>
<td>Falkland Islands</td>
<td>59° 30'</td>
<td>3° 40 E.</td>
<td>52</td>
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<tr>
<td>Quito</td>
<td>59° 30'</td>
<td>3° 40 E.</td>
<td>52</td>
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</tbody>
</table>

At the earth is the chief source of heat in the ambient atmosphere, distance from the earth is a source of cold; and the greatest cold must prevail in the highest regions of the atmosphere, more especially as clear unclouded air seems to receive no heat from the rays of the sun, whether direct or reflected. Thus, if the focus of the most powerful burning glass be directed on mere air, it does not produce the smallest degree of heat, because the air being transparent, a free passage is afforded to the sun's rays. At the level of the sea, the temperature corresponds to that of the standard ocean; but as we ascend above the level, the temperature is gradually diminished; but at a certain height we arrive at the region of perpetual congelation, called by M. Bouguer the "lower term of congelation." The height of this varies according to the latitude of the climate, and at that height it continually freezes at night in every season. At the equator it is at its highest elevation; and it descends towards the earth as we advance towards the poles. On the summit of Pinchincha, one of the Cordilleras, immediately under the line, M. Bouguer found the cold to extend from 7 to 9 degrees below the freezing point every morning before sun-rise. He fixes the height of "the lower term of congelation," between the tropics, at an elevation of 15,577 feet; but in lat. 28° he thinks that it should commence, in summer, at the height of 13,450 feet from the level of the sea. At still greater heights it never freezes, not because the cold decreases, but because vapours do not ascend to high; this height is called by M. Bouguer, "the upper term of congelation," and he fixes it under the equator at the height of 28,400 feet as mid. Mr. Kirwan thinks it of importance to add to the height of both these terms. To this purpose, he observes, that under the equator the height of this is nearly constant; but under other latitudes it is variable both in summer and winter, according to the degree of heat which prevails on the surface of the earth. But as there is a mean annual temperature peculiar to each latitude, so there is a mean height for each of these terms peculiar to each latitude. And if we take the differences between the mean temperatures of every latitude and the point of congelation, it is evident that whatever proportion the difference under the equator bears to the height of either of the above terms, the same proportion will the difference peculiar to every other latitude bear to the height of those terms. Thus, the mean heat of the equator being 84°, the difference of this and 32° is 52°; and the mean heat of lat. 28° being 72° 3', the difference between this and 32° is 40° 3'. Then as 32° = 15577 : 40° 3' = 12072. In this manner Mr. Kirwan calculated the following table.

<table>
<thead>
<tr>
<th>Least height of the Lower Term of Congelation</th>
<th>Mean height of the Upper Term of Congelation</th>
<th>Mean height of the Lower Term of Congelation</th>
<th>Mean height of the Upper Term of Congelation</th>
</tr>
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<tbody>
<tr>
<td>0</td>
<td>28000</td>
<td>45°</td>
<td>7658</td>
</tr>
<tr>
<td>1</td>
<td>27724</td>
<td>50°</td>
<td>6200</td>
</tr>
<tr>
<td>2</td>
<td>27506</td>
<td>55°</td>
<td>4912</td>
</tr>
<tr>
<td>3</td>
<td>26588</td>
<td>60°</td>
<td>3684</td>
</tr>
<tr>
<td>4</td>
<td>25186</td>
<td>65°</td>
<td>25186</td>
</tr>
<tr>
<td>5</td>
<td>24424</td>
<td>70°</td>
<td>18970</td>
</tr>
<tr>
<td>6</td>
<td>23320</td>
<td>75°</td>
<td>13857</td>
</tr>
<tr>
<td>7</td>
<td>22878</td>
<td>80°</td>
<td>9993</td>
</tr>
<tr>
<td>8</td>
<td>22078</td>
<td>85°</td>
<td>9072</td>
</tr>
<tr>
<td>9</td>
<td>21064</td>
<td>90°</td>
<td>7368</td>
</tr>
<tr>
<td>10</td>
<td>19169</td>
<td>95°</td>
<td>5968</td>
</tr>
<tr>
<td>11</td>
<td>16227</td>
<td>100°</td>
<td>4712</td>
</tr>
</tbody>
</table>

In this manner, the height of both terms of congelation may be calculated in every latitude for every degree of heat observed at the surface of the earth, on which it evidently depends; for when that is at 32°, the lower line of congelation must be also on the surface. Hence if the height of the lower term of congelation in any latitude be known, and also the general temperature at the surface of the earth, the decrement of heat at any lower height may be found. The heat is observed to decrease in ascending into the atmosphere nearly in an arithmetical progression; and thus, having the first and last terms, if we make so many terms in the progression as there are hundreds of feet in the distance of the line of congelation, we shall be able to determine the decrement.
ment at each term. Let \( L \) = the entire decrement or difference between the heat at the surface and \( 32^\circ \); \( D \) = the distance of the lower line of congelation, in feet; \( n \) = the number of terms = \( D \times n \); \( d \) = the first decrement = \( L \times n \) and \( R \) = the rank of any given term, whose decrement is required.

Then the decrement at any given term is \( = R \times d \); and, substituting this for the heat at the surface, we have the heat at each given height. The temperature at the upper term of congelation may be investigated in the same manner, or that of any other height in the atmosphere, except over mountains; for the air over mountains is generally warmer than air of the same height over the sea or over plains.

Sometimes the temperature of the upper air is higher than that of the lower, particularly when a large mass of vapour is condensed by electrical agency. For no part of the heat given out by that cause being lost by communication with air much colder, that which surrounds the condensed vapour must be heated to a considerable degree. Air, rendered opaque by clouds, traumatizes left, and absorbs more light, and is therefore more heated than clear air. Sometimes winds, in opposite directions, and different temperatures, flow at different heights, the uppermost being often the warmest; all which circumstances, especially in cloudy weather, render all calculations of the height of the terms of congelation on any particular day precarious, though when they regard a particular month or season, they may be sufficiently exact.

With regard to the effect of elevation on the temperature of the atmosphere, we may observe, that as heat is propagated through the atmosphere, chiefly by contact and communication with the earth, lofty mountains of limited surface cannot warm it to any considerable degree, as they receive the sun's rays more obliquely, and communicating left with the common mass of the earth, are less heated than plains. Hence it happens that the steepest mountains are always the coldest. Indeed, the coldness of the atmosphere on the tops of mountains has been ascribed, by M. Lambert and M. De Luc, to the greater rarity of the igneous fluid, or elementary fire, in such elevated situations, than on the plains. M. Lambert is of opinion, that it is raised above by the action of the air, and that it is condensed below by its own weight. Without absolutely deciding the question, his friends inclined to admit the idea of the rarity of fire and light. M. De Luc compares elementary fire to a continuous fluid, whose parts are condened by being mutually compressed: and though he denies that fire and light are the same, yet he supposes that light puts into motion the igneous fluid contained in bodies, and that it acts with greater force near the earth than at a distance from its surface, by means of this fluid, which he calls an heavy and elastic one, by being more condensed there than at a greater height.

M. Bouger has demonstrated, by simple and obvious principles and facts, that in order to account for the diminution of heat on mountains, it is unnecessary to recur to dubious hypothesis. In his account of what was experienced on the mountains of Peru, he says, "it was proper, in order to explain this subject, to infall on the shorter duration of the sun's rays, which cannot alight the different sides of mountains but for a few hours, and even this not always. A horizontal plain, when the sun is clear, is exposed at mid-day to the perpendicular and uniminished action of these rays, while they fall but obliquely on a plain not much inclined, or on the sides of a high pile of steep rocks. But let us conceive for a moment an infalluted point, half the height of the atmosphere, at a distance from all mountains as well as from the clouds which float in the air. The more a medium is transparent, the less heat it ought to receive by the immediate action of the sun. The free passage which a very transparent body allows to the rays of light, shows that its small particles are hardly touched by them. Indeed what impression could they make on it, when they pass through almost without obstruction? Light, when it consists of parallel rays, does not, by falling through a foot of free atmospheric air, near the earth, lose an hundred thousandth part of its force. From this we may judge how few rays are weakened, or can act on this fluid, in their passage through a stratum of the diameter, not of an inch or line, but of a particle.

Yet the subtlety and transparency are still greater at great heights, as was obvious on the Cordilleras, when we looked at distant objects. Lastly, the greater air is heated below by the contact or neighbourhood of bodies of greater density than itself, which work, and on which it rests; and the heat may be communicated by little and little to a certain distance. The interior parts of the atmosphere by this means contract daily a very considerable degree of heat, and may receive it in proportion to its density or bulk. But it is evident that the same thing cannot happen at the distance of a league and an half or two leagues above the surface of the earth, although the light there may be something more active. The air and the wind therefore must act very cold in the upper parts of the atmosphere, and the height must be extremely cold, and colder in proportion to the elevation."

This theory is adopted by Sauflure, who has superadded the following fact to prove, that the force of the sun's rays, considered abstrafedly and independently of any extrinsic source of cold, is not less powerful on mountains than in plains; viz. that the power of burning leaves and mirrors is the same at all heights. For ascertaining this fact, he procured a burning-glass, so weak in its effect, that at Geneva it would just set fire to tinder. This glass was carried to the summit of Mount Saleve, 3000 feet high, and it there produced the same effect, and even with greater ease. Hence he concluded, that the principal source of cold on the tops of mountains is their being perpetually surrounded by an atmosphere, which cannot be much heated by the rays of the sun, in account of its transparency, or by their reflection from the earth, by reason of its distance; but he wished also to know, whether the direct solar rays had the same power on the top of a high mountain as on the plain below, whilst the body on which they acted was placed in such a manner as to be unaffected by the surrounding air. With this view he instituted a fort of experiments, from which he deduced the following conclusions; viz. that a difference of 777 toises in height diminishes the heat which the rays of the sun are able to communicate to a body exposed to the external air, 14° of the thermometer; that it diminishes the heat of a body partially exposed, only 6°; and that it augments by 1° the heat of a third body completely defended from the air. Hence it appears, that the atmosphere counteracts the operation of the solar rays in producing heat, by a power which is exerted at all distances, from the surface to the higher regions. From the experiments of M. Picquet, to this purpose, it is inferred, that even in places exposed to the rays of the sun, the heat at five feet from the ground is greater only by \( 1° - 2° \) than at fifty feet above the surface, although the ground was at that time \( 15° \) or \( 20° \) warmer than the air immediately in contact with it. This difference, however, small as it is, does not obtain in higher regions; for if it did, the cold in the top of the mountain of Saleve, 3000 feet above the lake of Geneva, would be \( 60° \) greater than at the foot of it; whereas it really is only \( 10° \). In the night the case is reversed; for the flattened air, at
five feet from the ground, was found by M. Pitot to be
colder than that at 50°. Besides, different itarata are found
to poole very different and variable degrees of cold, without
any regard to the altitude or depression of their situation.
In 1780, Dr. Wilton of Glasgow (Phil. Trans. for 1780,
p. 467; and for 1781, p. 308.) found a remarkable cold close
to the surface of the ground; so that the thermometer, when
lain on the surface of the snow and hoar-frost, sunk many de-
ger lower than one suspended twenty-four feet above it.
Hence it has been concluded, that snow, falling from the
higher regions of the atmosphere, is generally colder than the
lower air.

With respect to the precise effect of elevation, Mr. Kirwan
found it to be nearly as follows: when the elevation is mo-
 moderate and gradual, such as that of the interior parts of
most countries very distant from the sea, its effects are
blended with those of distance from the standard ocean, that
the same allowance in the diminution of temperature is to
be made for both. By a gradual elevation, he means such
as rises at a rate per mile, by which the mean annual tem-
perature of the standard must be diminished in that lati-
tude, as follows:

If the elevation be at the rate of
6 feet per mile - - - - 4 of a degree.
7 feet - - - - 1
13 feet - - - - 1
15 feet, or upwards - - - - 1/2

For every 50 miles distant from the standard ocean, the
mean annual temperature in different latitudes must be de-
preficed or prefixed, nearly at the following rate:
From lat. 70° to lat. 35° cooled, 1/2 of a degree.
35° - - - - 2
30° - - - - 2
25° warmed - - - - 1
20° - - - - 1
10° - - - - 1

See on this subject Kirwan’s Estimate of the Temperature of
different Latitudes, 1787, p. 331.

It has been observed, that in clear weather, though the
surface of the earth be then most liable to be heated by the
sun, yet after sun-set, and during the night, the air is coldest
near the ground, and particularly in the vallies. The ex-
periments made on this subject for a whole year, by Mr. James
Six, may be seen in the seventy-eighth volume of the Phi-
thosophical Transactions, but our limits will not allow our re-
citing them. The conclusions deduced from them are thse
that a greater diminution of heat frequently takes place
near the earth in the night-time, than at any altitude in
the atmosphere within the limits of the writer’s inquiry;
that is, 220 feet from the ground; and that at six times the
greatest degrees of cold are always met with nearest the sur-
face of the earth. This is a constant operation of nature, un-
der certain circumstances of the atmosphere, and occurs at
all seasons of the year; and this difference never happens in
any considerable degree, except when the air is still, and the
sky perfectly unclouded. The refrigeration was not at all
impeded, but rather promoted, by the moist hot vapour, as
dews and fogs. In very severe frosts, when the air fre-
cquently departs a quantity of frozen vapour, it is commonly
found greates t; but the excefs of heat, which in the day was
found in the lowest altitude in summer, was diminished in
winter almost to nothing. The fact of the mercury’s sink-
ing in a thermometer, included in a receiver, when the air
begins to be rarefied, has been usually attributed, not to any
degree of cold thus produced, but to the sudden expansion of
the bulb of the thermometer, in consequence of the removal
of the atmospheric pressure; but from some experiments of
Dr. Darwin (see Philos. Trans. vol. 78, p. 45 &c.) it ap-
ppears, that the atmosphere always becomes warm by con-
traction, and cold by dilatation from a compressed state. This
ingenious author mentions a curious phenomenon observed in
the fountain of Hiero, contrived on a very large scale in
the Cheminons, mentioned by Longuet in Hungary. In this machine
the air, in a large vessel, is compressed by a column of water 260
feet high; a stop-cock is then opened; and as the air flites
out with great violence, and in consequence of its previous
condensation becomes immediately much expanded, the
moisture contained in it is not only precipitated, as in the ex-
hauled receiver, but falls down in a shower of snow, with i-
ches adhering to the noed of the cock. See Phi. Trans. for
1761, vol. 52. From this phenomenon, as well as from his ex-
periments, Dr. Darwin infers, that there is good reason for
concluding, that in all circumstances where air is mechani-
ically expanded, it becomes capable of attracting the fluid
matter of heat from other bodies in contact with it. (See Ca-
loric.) Now (says he,) as the vault region of air
which surrounds our globe is perpetually moving along its
surface, climbing up the fides of mountains, and descending
into the vallies; as it passes along, it must be perpetually ex-
duced, its degree of heath, according to the elevation of the
mountain it traverses for; in rising to the summits of moun-
tains, it becomes expanded, having so much of the pressure
of the superincumbent air taken away; and when thus
expanded, it attracts or absorbs heat from the mountains in
contiguity with it; and, when it descends into the vallies,
and is again compressed into its compact state, it again gives
out the heat it has acquired to the bodies it becomes in contact
with. The same thing must happen in respect to the higher
regions of the atmosphere, which are regions of perpetual frigid,
as has lately been discovered by the aereal navigators. When
large districts of air, from the lower parts of the atmosphere,
are raised two or three miles high, they become so much ex-
panded by the great diminution of the pressure over them,
and thence become so cold, that hail or snow is produced by
the precipitation of the vapour: and as there is, in these
high regions of the atmosphere, nothing else for the ex-
panded air to acquire heat from after it is actuated with its
vapour, the same degree of cold continues, till the air, on
descending to the earth, acquires its former state of con-
densation and of warmth.

The Andes, shrouded under the line, rest its base on burn-
ing sands; about its middle height is a moat pleasant
and temperate climate covering an extensive plain, on which is
built the city of Quito; while its forehead is encircled with
eternal snow, perhaps coeval with the mountain. Yet, ac-
cording to the accounts of Don Ulloa, these three dif-
cordant climates seldom encroach much on each other’s
territory. The hot winds below, if they ascend, become
cooled by their expansion; and hence they cannot affect the
snow upon the summit; and the cold winds, that sweep the
summit, become condensed as they descend, and of tempe-
rate warmth before they reach the fertile plains of

Quito. The temperature of the atmosphere, and the vicissitudes
of its heat and cold, are subject to a variety of irregularities,
which no theory that has yet been proposed is altogether
sufficient to explain. For other observations on this subject,
see the articles Clouds, Cold, Congelation, Evapora-
tion, Hail, Heat, Hygrometer, Meteorology, Rain, Snow,
Weather, Wind, &c.

Atmosphere, Uses of the. These are so numerous and
various, that it would require a very minute and extended
detail
detail to recite even the principal of them. Of its indis-
penible necessity to the existence of animal and vegetable 
life, instances frequently occur in the course of this work.
Animals and vegetables, in their immense variety, and from 
their state of eggs and seeds to their full growths, owe 
the commencement and continuance of their being to the 
atmosphere that surrounds them. How much it conduces 
to the fertility of the earth, by means of the parts that 
compose it, and to the convenience and comfort of man-
kind, by furnishing a fit repository for the vapours that 
defend in refreshing showers, and for the winds that form 
an intercours of society and commerce with distant nations, 
and by affording those reflections and refractions of light 
which shed lustre over surrounding objects, and which form 
pleasing transitions from darkness to day, and from day to 
night, by means of twilight, it is altogether needless to 
specify. The subject would afford scope for much declama-
tion; and we might derive from it arguments that would 
impress a thoughtful mind with just and honourable senti-
ments of the creator. How necessary it is to the various 
operations of arts and science, as well as to the common 
purposes of life, will amply appear under the several articles 
in which it would be almost superfluous to mention. See 
Air, and the several articles to which we have already 
referred.

Atmosphere. Method of navigating in the. See Aero-
station.

Atmosphere of the Sun, Moon, Planets, and Comets. See 
the several articles.

Atmosphere of solid or constrict Bodies, is a kind of 
sphere formed by the effluvia, or minute corpuscles emitted 
from them. Mr. Boyle endeavours to show that all bodies, 
even the hardest and most coherent, as gems, &c. have their 
atmospheres. See Gem.

Atmosphere, in Electricity, denotes that medium which 
was conceived to be diffused over the surface of electrified 
bodies, and to consist of effluvia issuing from them: where-
by other bodies immersed in it become endowed with an 
electricity contrary to that of the body to which the atmosphere 
belongs. This was first taken notice of at a very early period 
in the history of this science, by Otto Guericke, and after-
wards by the academicians del Cimento, who contrived to 
render the electric atmosphere visible, by means of smoke 
attracted by, and uniting itself to, a piece of amber, and 
gently raising it, and vanishing as the amber cooled.

But Dr. Franklin exhibited this electric atmosphere with 
great advantage, by dropping rain on hot iron plates held 
under bodies electrified, from which the smoke rose and 
encumbered the bodies, giving them a very beautiful ap-
pearance. He made other observations on these atmos-
pheres; he took notice that they and the air did not seem 
to exclude one another; that they were immovably re-
tained by the bodies from which they issued; and that the 
same body, in different circumstances of dilution and con-
traction, is capable of receiving or retaining more or less of 
the electric fluid on its surface. However, the theory 
of electrical atmospheres was not sufficiently explained and 
understood for a considerable time; and the investigation 
led to many very curious experiments and observations. 
Mr. Canton took the lead, and was followed by Dr. Frank-
lin; Meff. Wilcke and Epinus prosecuted the inquiry, and 
completed the discovery. The experiments of the two 
former gentlemen prepared the way for the conclusion 
that was afterwards drawn from them by the latter, though 
they retained the common opinion of electric atmospheres, 
and endeavoured to explain the phenomena by it. The 
conclusion was, that the electric fluid, when there is a re-
dundancy of it in any body, repels the electric fluid in any 
other body, when they are brought within the sphere of 
each others influence, and drives it into the remote parts of 
the body, or quite out of it, if there be any outlet for that 
propulsion.

But atmosphere, M. Epinus says, no more is to be un-
derstood than the sphere of action belonging to any body, 
or the neighbouring air electrified by it. Sir. Becaaria 
concurs in the same opinion, that electrified bodies have no 
other atmosphere than the electricity communicated to the 
neighbouring air, and which goes with the air, and not 
with the electrified bodies. And Mr. Canton likewise, 
having relinquished the opinion that electrical atmospheres 
were composed of effluvia from excited or electrified bodies, 
maintained that they only result from an alteration in the 
fute of the electric fluid contained in, or belonging to, 
the air surrounding these bodies to a certain distance; for in-
fance, that excited gases repels the electric fluid from it, 
and consequently beyond that distance makes it more dense; 
wheras excited wax attracts the electric fluid existing in 
the air nearer to it, making it rarer than it was before. 
In the course of experiments that were performed on this 
occasion, Meff. Wilcke and Epinus succeeded in charging 
a plate of air, by suspending large boards of wood covered 
tin, with the flat sides parallel to one another, and at 
some inches asunder; for they found, that, upon electrify-
ing one of the boards positively, the other was always 
negative; and a shock was produced by forming a com-
nunication between the upper and lower plates. Becaaria 
has largely considered the subject of electric atmospheres, 
in his Artificial Electricity, p. 179, &c. Eng. edit. Dr. 
Priddle's Hist. of Electricity, vol. ii. sect. 5. Cavallo's 
Electricity, vol. i. p. 241. vol. iii. p. 282. See Condenser, 
and Conductor, Luminous; and Experiments in Elec-
tricity.

Atmosphere, Magnetics, denotes the sphere within which 
the virtue of the magnet, &c, acts.

Atmospheral Logarithm. See Logarithm.

ATNAH, or Carrier Indians, in Geography, a tribe of 
Indians in the north-west continent of America, inhabiting 
the banks of the Columbia river, south of the Nagali-
Indians, about N. lat. 52, and W. long. 122. The 
Atnah language, of which Mr. Mackenzie obtained some 
facimens, has no affinity to any with which he was acquainted. 
Mackenzie's Journal of a Voyage through the N. W. Con-
tinent of America, p. 258.

ATOM, formed of the privative a, and τμος, I divide, in 
Philosophy, a part or particle of matter, so minute as to be 
indivisible.

Atoms are properly the minima nature, the last ultimate 
particles into which bodies are divisible; and are conceived 
as the first rudiments, or component parts of all physical 
magnitudes; or the pre-existing and incorruptible matter 
whereof bodies were formed.

The notion of atoms arises hence, that matter is not di-
visible in infinitum. And hence the Peripatetics are led to deny 
the reality of atoms, together with that of mathematical 
points: an atom, say they, either has parts, or it has none; 
if it hath none, it is a mere mathematical point; if it 
hath, then do these parts also confit of others, and so on 
infinity.

But this is to recede from the genuine character of atoms, 
which are not effaced indivisible, because of their want of 
dimensions, or parts (for all physical magnitude must have 
three dimensions, length, breadth, and thickness, and all ex-
tension is divisible); but they are indivisible on account of their si-
licity, hardness, and impenetrability, which preclude all di-

As atoms are the first matter, it is necessary they should be indivisible, in order to their being incorruptible. Sir Isaac Newton adds, that it is also required they be immutable, in order to the world's continuing in the same state, and bodies being of the same nature now as formerly. To this purpose he observes, at the close of his inquiry into the nature, laws, and constitution of matter, that God in the beginning created matter in solid, massy, hard, impenetrable, moveable particles, incomparably harder than any of the porous bodies composed of them; nor, so far as never to wear or break in pieces; no human power being able to divide what God made one at the creation, while these particles continue entire, they may compose bodies of one and the same texture in all ages; but if they should wear away or break in pieces, the nature of things depending upon them would be changed. See Divisibility, and Solidity.

Hence the ancients were also led to maintain atoms eternal: because what is immutable, must be eternal. They also added gravity; and, in consequence thereof, motion to their atoms: and further observing that atoms thus falling perpendicularly, could not join or unite together; they superadded a fortuitous or slide motion, and furnished them with certain hooked parts, in order to enable them to catch and hang the better together. —And from a casual and fortuitous jumble of these atoms, they supposèd the whole universe to be formed.

**ATOMARIA**, in Zoology, a species of Cypris, about half an inch in length. This shell is oblong, fowtry-white, dotted with brown, and at each end two dusky marks. Marius, Gmel. &c.

**ATOMARIA**, a genus of Conus (Myopa, Fabr.), found in Europe. It is greyish, with an ovate abdomen; wings brown, crowded with white dots. Gmelin.

**ATOMARIA**, a species of Phalæna found in Germany. The wings are pale-grey, with numerous black dots.

**ATOMARIA**, a species of Phalæna (Geminas) that inhabits Europe. The wings are entirely yellowish, streaked and speckled with brown. Gmelin, &c. This is Phalæna penna of Scopoli, and Phalæna artemisia of Thaus. Schmett., is supposed to be a variety of this species by Gmelin. The larva from which this moth is produced is smooth and greyish, with numerous fuggungous interrupted lines, and two evercles on the posterior part; feeds on centaurea scabiosa.

**ATOMARIA**, a species of Notonecæ, about the size of a louse, and inhabits the river Volchova in Russia. It is white; above and wing-cases pale-greyish; wings milky, Pallus, &c.

**ATOMARIA**, a species of Silphæ, (Sphæridium Fabr.) This insect is smooth and black; wing-cases marked with crenate frize; legs pale. Fabr. Gmel. &c. A native of Europe.

**ATOMARIA**, a species of Scarabæus (Melolontha) that inhabits the Cape of Good Hope. In size and appearance this insect resembles S. farniosus. It is powdered with white; thorax ciliated; and black wing-cases brown; abdomen white, with lateral black dots.

**ATOMARIA**, a species of Cerculo found in Europe. This insect is brown; wing-cases frilled, with the interlises smooth, finely punctated, and spiralled with specks of greyish brown hairs; shanks rufous. Muf. Lee., p. 18, n. 380. Lin. Another cerculo atomarum occurs in Linn. Muf. Lee., p. 19, 399, and which does not seem to differ specifically from the foregoing: C. atomarum fuscus, rhystris ferruginei; atoms grisei pilati.

**ATOMARIA**, a species of Carabus that inhabits Europe. It is paterapus, black, and glabrous; wing-cases rather smooth, with minute, scattered, confluent drops of a purple colour; margin purple. Muf. Lee.

**ATOMARIA**, a species of Cynex (Rotundulis, &c.), varied with griscous and brown; wings white, dotted with brown. Fabricius.

**ATOMELIA**, a species of Phalæna (Tineæ). The antennæ are of a moderate length; first wing yellowish, speckled with ferruginous; two ferruginosus dots in the disk, and a yellow marginal spot. Linun. &c. Inhabits Europe.

**ATOMICAL PHILOSOPHY**, denotes the doctrine of atoms; or a method of accounting for the origin and formation of all things, from the supposition of atoms, endowed with gravity and motion.

The atomic physiology, according to the account given of it by Dr. Cudworth (Intelligence System, b. i. vol. i. p. 7. Birch's ed.), supposes —that body is nothing else but absoluta systema, that is, extended bulk; and resolves therefore, that nothing is to be attributed to it, but what is included in the nature and idea of it, viz. more or less magnitude, with divisibility into parts, figure, and position, together with motion or rest, but so as that no part of body can ever move itself, but is always moved by something else. And consequently it supposes, that there is no need of any thing beside the simple elements of magnitude, figure, fite, and motion, which are all equally intelligible as different modes of extended substance, to solve the corporeal phenomena by; and therefore, not of any subfubstantial forms, distinct from the matter, nor of any other qualities really existing in the bodies without, besides the reffults or aggregates of those simple elements, and the disposition of the insensible parts of bodies in respect of figure, fite, and motion; nor of any intentional species or fheus, propagated from the objects to our fenses; nor bly, of any other kind of motion or action really distinct from local motion, such as generation and alteration, they being neither intelligible as modes of extended substance, nor any ways necessar'y. For a fform and qualities of bodies may well be conceived to be nothing but the reffult of those simple elements of magnitude, figure, fite, and motion, variously combined together, in the fame manner as fyllables and words, in great variety; reffult from the different combination of combinations of a few letters, or the simple elements of speech; and the corporeal part of fensation, and particularly that of vision, may be folved only by local motion of bodies, that is, either by corporeal effufion (called fumulation, membranes, and exuvia), breathing continually from the surface of the objects, or rather, as the latter and more refined anatomists conceived, by preffure made from the object to the eye, by means of light in the medium. So that we fee effusio to vim and by effusio to vim; the leaf taking cognizance of the object by the fubtle interposed medium, that is, signifies; and fhalte, (thrusting every way from it upon the optic nerves), deth by that as it were by a flaff touch it. Again, generation and corruption may be fufficiently explained by confequence and fection, or local motion, without fubfubstantial forms and quantities. And, bly, there are fimple ideas of light and colours, heat and cold, fweet and bitter, as they are diffent things from the figure, fite, and motion of the insensible parts of bodies, feem plainly to be nothing else but our own fancies, passions, and fensation, however they be vulgarly mistaken for qualities in the bodies without us."

As to the origin and history of this atomical philosophy, Dr. Cud-
Dr. Cudworth observes, that though adopted by Epicurus, it has been commonly ascribed to Democritus, who was prior both to Aristotle and Plato; but Laeritus represents Leucippus, who was somewhat senior to Democritus, as the first inventor of it. Aristotle, who often mentions this philosophy, commonly ascribes it to Leucippus and Democritus jointly. Plato refers its origin to Protagoras, who was an auditor of Democritus. "However," says the learned Cudworth (Hist. Phil. p. 12), "we are of opinion that neither Democritus, nor Protagoras, nor Leucippus, was the first inventor of this philosophy; and our reason is, because they were all three of them atheists (though Protagoras alone was banished for that crime by the Athenians); and we cannot think that any atheists could be the inventors of it; and much less that it was the genuine frame and bond of atheism itself, as some assert, because however their atheism adopted it for themselves, endeavouring to force their tunes of it, yet if rightly understood, it is the most effectual engine against atheism that can be." This learned writer also gives historical probability for the opinion that this philosophy was much more ancient than either Democritus or Leucippus. To this purpose he observes, that Posidonius, as we learn from Empiricus and Strabo, avowed it for an old tradition, that the first inventor of this atomical philosophy was one Mofheus, a Phcenician, who, according to Strabo, lived before the Trojan war, and who has been supposèd by some persons to have been the same with Moses the Jewish lawgiver. See Moses.

Dr. Cudworth further maintains, that Pythagoras, who is thought to have conversed at Sidon with the Jewish philosophers, priests, and poets, who were the succecors of Moses, to have borrowed many things from the Jews, and to have translated them into his philosophy, was not acquainted with the atomical philosophy, and he therefore concludes, that the philosophy of Democritus was Pythagorean; and the philosophy of Pythagoras, DemOCRITIC or atomical. Accordingly, he alleges the authority of Epicurus, a famous Pythagorean, and other testimonies, to prove that the Monads of Pythagoras were nothing else but corporeal atoms. In order to reconcile Aristotle with himself, and to preserve the credit of Laeritus, both of whom ascribe this philosophy to Democritus and Leucippus, as its first authors, Cudworth suggests, that though the atomical philosophy was in use long before Democritus and Leucippus, yet those two with their confederate atheists, of whom Protagoras seems to have been one, were under the influence of the first, that ever made this philosophy to be a complete and entire philosophy by itself, so as to derive the original of all things as the whole universe from senseless atoms, that had nothing but figure and motion, together with vacuum, and made up a syltem of it, as from which it would follow there could not be any God, not so much a corporeal one. The atomical philosophy, according to this learned writer, existed before and without atheism; and Democritus and Leucippus are to be regarded as the first inventors or founders of the atomical philosophy. "Atheized and adulterated." Consequently there have been two sorts of atomists in the world; the one atheistical, the other religious. The first and most ancient atomists, holding incorporeal substance, used that philosophy in a way of subordination to theology and metaphysics. The others, allowing no other substance but body, made senseless atoms and figures, without any mind and understanding, (i.e. without any God) to be the original of all things; which latter is that, which was vulgarly known by the name of atomical philosophy, of which Democritus and Leucippus were the fource. Dr. Cudworth has shown, by a variety of citations from ancient writers, that the atomists before Democritus did generally join theology and incorporealism with their atomical philosophy; and he has also proved by the most conclusive reasoning, that atheism, so far from being a natural and necessary appendage to atomism, is totally different from it; that there is, neither in reason nor in fact, any inconsistency between the atomical philosophy and theology; and that there is, on the contrary, a most natural cognition or alliance between them. Ubri supr., p. 27, sq. The atomic philosophy of Democritus and Leucippus was cultivated and improved by Epicurus, though he would not acknowledge that he had borrowed his hypothesis from any; and from him it obtained the denomination of the Epicurean philosophy. See the articles DEMOCRITUS, LEUCIPPUS, EPICURUS, AND EPICUREAN PHILOsOPHY. See also COSMOLOGY.

The opinion of Dr. Cudworth with respect to the antiquity of the atomic philosophy has been contested by some later writers. The learned bishop Warburton, in his "Divine Legation of Mofes," admits it as a settled point, that Democritus and Leucippus were the authors of this philosophy; and Brucker "Hist. Philos. de Anfil., vol. i. p. 63") thinks, that the single evidence of Porphyrion, the Roman, who lived so many ages after the time of Mofes, to whom Cicero allows little credit, and of whose authority Strabo and Sextus Empiricus, who refer to him, intimate some fulification, is too feeble to support the whole weight of this opinion. But the circumstance, says this writer, which most of all invalidates it, is, that the method of philosophizing by hypothesis or syltem, which was followed by the Greek philosophers, was inconsistent with the genius and character of the barbaric philosophy, which consisted in simple assertion, and relied entirely upon traditional authority. He adds, that the part of the history of Pythagoras which relates to this subject, has been involved in obscurity by the later Platonists; and that neither the doctrine of monads, nor any of those systems which are said to have been derived from Mofes, are the same with the atomic doctrine of Epicurus. He therefore concludes, that, whatever credit the corporeal syfltem may derive from other sources, it has no claim to be considered as the ancient doctrine of the Phcenicians. We decline however to admit the testimonies and arguments of Dr. Cudworth; and with the distinction which he has adopted between the atomic philosophy derived from tradition before the time of Democritus and Leucippus, and that syltem of materiaism and atheism connected with it by their speculations, and with this re-branch annexed to it transmitted to Epicurus and his followers, by whom it was again modified, it seems most probable, that the atomic philosophy was not first invented by their speculative philosophers, but derived by tradition from Phoenicia or Egypt. The atomic philosophy has been revived by some moderns, and particularly by Gassendi and others, who, rejecting the eternity of atoms and their fortuitous motion, have made it a very intelligible and rational syltem. It is now eloped and adhered to by a great part of the philosophical world, under the denomination of the CORPUSCULAR PHILOSOPHY; which see. It is the philosophy of Newton, Locke, and all their followers; and it claims regard, among other considerations, from its being the genuine philosophy of the first and most ancient atomists. The scholatic divines among the Mahometans, who are very orthodox as to the creation of the world by God, do also admit both atoms and a vacuum; but their atoms are different from those of Leucippus, for they have no magnitude and are all like one another: and they suppose, as that philosopher ought to have done, that every atom of a living body is alive, that every atom of a sensitive body is endowed
died with sense, and that the understanding resides in anatomy; though they differ as to the soul and knowledge, whether they consist in a 'spiritual atom,' or a collection of several Maimon, in More Neoechim, c. 73.

The atomic system, adopted by modern philosophers, and extended by Le Sage and De Lave to great subtilities, supposes that matter fills its space merely by its existence; that it is absolutely imperceptible; that its division can be carried to a certain length only, ending in atoms, which, though extended, are not further divisible; that there are empty interstices between the atoms; that the particles of elastic fluids, as air, vapours, caloric, &c. do not touch each other, and consequently they form different fluids, as they are called; and that the rarity or density of a body depends fully on the quantity of empty interstices, in a certain volume of space occupied by the matter constituting that body. In these respects, the ancient system is opposed to that denominated the dynamic system, illustrated by Kant in his 'Metaphysical Elements of Natural Philosophy.' See Dynamic System.

A late writer has distinguished between common, and philosophic atoms. Under the former appellation he comprehends those who think with the vulgar, not only that matter exists externally, but that it really pos sesses all those properties which attract the senses; such as cold, heat, colour, sound, &c. Under the general name of philosophic atoms, he comprehends all those philosophers, who admit the essential properties of matter, such as extension, imperceptibility, cohesion, and mobility, and who reject the real or external existence of those properties that are called sensible qualities. These latter atoms he further distinguishes into two classes: viz., simple and mixed: simple or pure atoms acknowledge extension and imperceptibility alone, and the attributes necessarily arising from these, viz. inertia and cohesion. According to them, matter is merely passive, endowed with no internal powers; and cohesion, though not necessarily contained in the idea of matter, is essential to the idea of extension; so that all changes are effected by powers foreign to matter: in nature, the power of God: in creatures, the powers of the soul. Mixed atoms, or Dynamists, place powers in matter itself, which in their opinion belong to it, and imbrue in it in such a manner that they are independent of spiritual influence, and are either formed in bodies, or superadded as attributes of material existences. Of this kind are gravity, cohesion, imperceptibility, attraction, repulsion, &c. These powers operate according to the organization of bodies. To atoms of such kinds this writer opposes the Idealists, who entertain the same opinions concerning the primary qualities of bodies, which are held by atoms concerning the secondary. As the latter maintain that no light can exist without being seen, or found without being heard, so the former affirm that neither imperceptibility nor extension can have place independently of our conceptions. This opinion, which seems to have been contemnated by Plato, is fully developed in the syllon of Berkeley. Malebranche is placed by this writer among the Idealists, as his mathematical points, constituent of extension, vanish into nothing when we attempt to analyze them. Locke, by supposing that matter may be made capable of thought, approaches to the Dynamists. Leibnitz and Wolf may be deemed Idealists, since, in reality, they allow of no material existence out of the mind; for although the notions are the occasion of our ideas, yet these ideas have nothing in common with the object. Kant, who derives no sensations from the attention of the soul to real existences, though he acknowledges that our ideas are in some other manner excited, by something existing out of the mind, is placed also under the class of Idealists; as, according to him, all our observations and determinations are founded on appearances. Of Dr. Priestly, this anonymous writer remarks, that, although he makes the soul material, he makes matter spiritual: and therefore he is ranked with the mixed atoms. See account of Prize Dissertations, by Tyrell's 'Theological Society,' vol. x. in Monthly Review Enlarged, vol. iii. p. 485, &c.

ATOMOS, in Entomology, a species of Canes, found in running water in Europe. It has four, head four, with a single flag: legs fourteen, with two oval valves on each side between the fourth and fifth pair.

ATOMUS, a species of Insecta, varied with pale and brown. This insect, Gymnophorus, inhabits Upland; is smaller than a mite, and scarcely to be distinguished except when it is in motion.

ATONEMENT, in Theology, is a term that has been variously explained and applied by divines of different opinions. However, there are three principal feades, in which, with subordinate modifications, the term has been usually understood. The first is, that which has been adopted by those who are commonly called Calvinists; and it supposes, that the death and sufferings of Jesus Christ, partaking of the divine and human nature in one person, being with respect to the former equal to the Father, were such, confirmed in their degree and value, as to be a propofe equivalent for the penalty annexed by the divine law to the transgression of those of the elect who are penitent and believing. Divine justice, it is said, required its victim, either in the fin or his finishes; Jesus became the finer; he paid the debt, and finished the demand. Others, who have not espoused the doctrine of the proper deity of Christ in the fin of the Trinitarians, or who have not contended for an absolute and exclusive equivalent to the demerit and consequent punishment of transgression, have expressed their notion of this doctrine in a manner somewhat different. Accordingly, Dr. Watts, in his 'Redeemer and Sanctifier' (see his Works, vol. iii. p. 742.), explains his sentiments in the following manner. 'By atonement for fin, I do not mean any such thing as shall in a proper and literal sense appease the wrath of God, the offended governor, which is supposed to be kindled against his sinful creatures, and shall incline his heart to mercy, which was before determined upon vengeance; for though this doctrine may be proper to the manner of men, yet this is an idea or fooposition in many respects inconsistent with the attributes and actions of the blessed God, and with the doctrine of the New Testament. In that book God represents himself as rich in mercy, and for this reason he pitied sinful creatures who had broken his law, and had deferved to die, before he had received any atonement; and therefore God himself provided and sent his own Son to become a sacrifice of atonement, and a ransom for them; he appointed him to be a sacrifice for us, the just for the unjust, ied to suffer death in the room and stead of sinners. By the words 'atonement,' or 'propitiation,' I mean therefore some total or painful thing done or suffered, or both, by Jesus Christ the Son of God, in the room and stead of sinful men, as a payment or punishment on account of their faults; and this by the wise and righteous appointment of God, the universal governor, shall excuse the penitent offender from the punishment that was due, and obtain his pardon, because it shall give a recompence to the authority of the divine lawgiver for the affront which was put upon him by the sins of men, and shall make some reparation of honour to his holy law which was broken. And this is not only intended to manifest the evil nature and the defect of sin, together with God's L I hatred
Atonement.

Instead of it; but it shall also answer the demand and design of the threatening by such actual pain or punishment, though it is hid on the face of it unless the offender has been punished. Such a pain, penance, or punishment, are the humiliation and sufferings of Jesus Christ, his labours and losses; and it is in this sense that the language of expiration or atonement, of punishment and atonement, is so often used. See Rom. iii. 24–25: 2 Cor. v. 21, Gal. iii. 10. "Now by these appointed sufferings of the Son of God, in the room and stead of these, there is a sufficient amendment made to the government of the world, forever to secure the lives, and a glorious means made of the greats of mercy in the pardon of the sinner, and this without any imputation of reflection upon the holiness of God's nature and conduct, or any infringement of the justice of his government, as if he would continue at this time as he discovery and declares, that in putting by the lives of his people in former ages, and in pardoning and justifying mortals who now believe in Christ, he will manifest his justice and righteousness by requiring such a sacrifice which is of course to be punished, though the sinner be punished. See Rom. iii. 24–25. To this purpose, Whitby in his notes, p. 53, observes, that Christ, after having reconciled our duty, was not by any means to be delivered from those sufferances upon which were the punishment of our sins: he being as our expiatory sacrifice, not only on the occasion of our sins, but in our stead, to bear the punishment of our iniquity. (See Satisfaction.) In the sense above expressed, the death and sufferings of Christ were properly Vicarious. The advocates for this opinion have sometimes argued, without reserve or qualification, that the necessity of an atonement arose from the immutable nature, and the indissoluble demands of divine justice: and that God could not, in confidence with his moral attributes, have pardoned sin without receiving a plenary satisfaction; that this satisfaction or atonement could not have been given by any other being but his own everlasting and equal Son; and that even he could not have effectual the great and ultimate object of his mediatorial office, unless his sons had been imputed to him in the same degree as his merits are imputed to us. (See Imputation.) On the other hand, those who have carried Calvinist to the extreme in other points, have nevertheless maintained, that punitive justice was not essential to the divine nature, and that God might have pardoned sin by virtue of his own absolute authority, independently of an atonement. Dr. Owen, however, has opposed this tenet in a Latin tract, intituled, "Distrae de justitiae divina." "Christ's death," says the learned biblical writer, Dr. Clarke (Sermons, vol. viii. p. 366.), "was truly and properly, in the strictest meaning of the word, an expiatory sacrifice. For if sinners, by having diminished the honour, and defiled the authority of God's laws, were become liable to the justice and vengeance of God; if the Son of God in our nature, by vindicating the honour of God's laws, hath discharged this obligation, and obtained remission for us: and if the obtaining this remission was by the shedding of his blood, which is called 'the price of our redemption' (1 Cor. vi. 20); it follows, that the wrath of God was appeased by the death of Christ, and that God was graciously pleaded to accept this vicarious sufferings of his Son, in the stead of the punishment that was due to the sinner in his own person; which is the express and most proper notion of an expiatory sacrifice." To the same purpose this excellent writer observes in another place (vol. v. p. 203.), that "Christ hath vindicated the honour of God's laws, by taking upon himself the punishment of their sins who repent, and embrace the terms of the gospel. He condescended to be made sin for us, i.e. to be made a sacrifice for our sins, that we through that expiation might become subjects capable of the mercy of God. He took upon him our nature, and was clothed in flesh, partly, indeed that he might preach the will of God to mankind in a nearer and more condescending conversation with them; but principally, that he who in the form of God could not suffer, might become capable of suffering by being made in the likeness to man. He led a most innocent and spotless life, that he might indeed set us an example, that we should follow his steps; but ch. 5:8, because, as it was required that the typical sacrifices under the law should be whole and without blemish, it was necessary, that he who was to be the real expiatory sacrifice for the sins of others, should have none that needed expiation of his own. He suffered a shameful and ignominious death upon the cross, that he might indeed give us an example of patience and readiness to suffer; but the principal design of it was, that he might put away sin by the sacrifice of himself, and obtain eternal redemption for us through faith in his blood. His resurrection was the demonstration of this fact, he being accepted by God and his ascension into heaven was in order to plead the merits of his sufferings before God, and intercede for those who, according to the terms of the gospel-covenant, should be capable of receiving the gracious benefits purchased by his death." Similar sentiments of the doctrine of atonement are largely illustrated in a treatise, by Mr. M. Tomkins, who was an avowed Arian with regard to the Trinity, intituled, "Jesus Christ, the Mediator between God and Man," of which a second edition was printed in London, in 1701. This writer, having produced several passages of scripture, that speak of Christ's death as a sacrifice, and which declare him to be constituted an high-priest, and having established, as he conceives, beyond all reasonable doubt, the literal sense of those scriptures, proceeds to consider what was the notion of expiatory sacrifices and of the priestly office, under the law of Moses. (See Sacrifice.) These sacrifices, he shows, were intended to make atonement for the person who offered them; i.e. according to his statement they were, by divine appointment, of avail to free him from the guilt he had contracted, and to prevent the punishments to which he was liable. See Numb. viii. 19. xvi. 46. These sacrifices he considers as a proper expiation, or a real propitiation; not that they were the cause of a merciful disposition in God, and in that sense rendered him propitious who was before implacable; but they were appointments for procuring pardon, and the priests by offering them obtained from the mercy of God those blemishes of which they otherwise must have been deprived. Hence he infers, that the effects attributed to the blood of Christ correspond with such effects of these legal sacrifices, and that his acting as our high-priest answers to the office of the high-priest under the law. See Heb. viii. ix. 8, 27, x. 1. He proceeds to show, that our pardon and acceptance with God, and our freedom from accut, are represented, in the New Testament, as the fruit of the sufferings of Christ not merely as an act of obedience, but as a sacrifice for sin, as a demonstration of God's displeasure against it, and of his regard to the righteous function of the original law, which denounced death to the transgressors of it. With this view, when God resolves to show mercy to sinners, he also determines that his only begotten Son, not indeed without his consent, shall suffer death, the penalty which the original law had denounced against transgressors. Thus Christ, by suffering death, prevented or warded off those effects or consequences of sin, which would otherwise have come upon mankind; and accordingly his death and
his mediation are very justly represented as the means of procuring for us the blessings of which we are made partakers. See Heb. ix. 12. 1 Cor. vi. 20. viii. 23. Rev. v. 9.

This representation of the matter gave rise to the term satisfaction, which has been generally used by writers in treating of this subject. (See Satisfaction.) This author having stated his notion of the death of Christ as an atonement for his sins, obviates the objections that have been urged against the opinion he has adopted. But we must refer for further particulars to the author's treatise, p. 155, &c. See also Chapman's Eusebius, vol. ii. ch. iv. v. vi.

The second explanation of the term atonement, which has sometimes been called the Armenian scheme, supposes that the sufferings of Jesus Christ were inconceivably better; and that the object of them was to exhibit the evil and demerit of sin, and the displeasure of God against it, who would not even forgive a sincere penitent, without thus manifesting his hatred of wickedness. This coincides, in a degree, with the illustration of this doctrine already given; it has been denounced the moderate doctrine, and has been adopted, with certain modifications, by many divines and others.

A third hypothesis relating to this subject is that of the learned Dr. John Taylor (see his "Scripture Doctrine of Atonement examined, &c. and also his "Key to the Apocryphal Writings," prefixed to his "Paraphrase," &c. on the Epistle to the Romans," ch. viii., who supposes, "that the scriptures represent the death of Christ as an act of obedience so acceptable to God, that, as the reward of it, he thought fit to grant unto mankind, corrupt and wicked, the forgiveness of sin (absolutely, in relation to antecedent bleedings; and upon condition of repentance, in relation to eternal life), and to erect a new diffusion furnished with all proper means to draw us from sin unto God, and to bring us to the possession of immortality. The blood of Christ, says this writer, or that by which he has bought or redeemed us, is his love and goodnea to men, and his obedience to God, exercised indeed through the whole of his life's humiliation in this world, but most eminently exhibited in his death. It is his complete and perfect righteousness, his humility, goodnea, and obedience unto death, which makes his blood precious in the blood and blessed name, and gives his crofs all its worth and efficacy. Obedience was the sacrifice which he offered unto God for us." "It was his righteousness, or right, kind, and benevolent action, his obedient death, or the sacrifice of his love and obedience, which made atonement for the sin of the world; so far, and in this sense, that God, on account of his goodnea and perfect obedience, so highly pleasing unto him, thought fit to grant unto mankind, whom he might in strict justice have destroyed for their general corruption and wickednesea (John iii. 17.), the forgiveness of sins, not imputing unto them their trespasses, (12 Cor. v. 19.) or those sins which were past, or which they had already committed (Rom. iii. 25.), and for which they deferred to fall under the dreadful effects of God's wrath. And not only did he forgive former trespasses to all the living and to all the penitent and obedient dead, but further he erected a glorious and perfect diffcnation of grace, exceeding any which had gone before it in means, promises, and prospects; at the head of which he set his Son, our Lord Jesus Christ, inviolate with univeral power in heaven and on earth, constituting him king and governor over the new body, which he designed to form, captain of our salvation, the high-priest of our profision, the mediator and surety of the new covenant, to judge and manage all affairs relating to our present instruction and sanctification, to raise all the dead out of their graves, and to put the obedient and faithful into possession of eternal life."—As in various instances, the writer observes, and prayers of good men were the reason of God's building pardon and making blessings upon others, how much more, according to this author, must the perfect righteousness, or obedience and goodness of the Son of God, be a reason for remitting the sins of mankind, so far as, in the nature of things, they are capable of remission, or of being atoned for. For the sins of the impenitent who finally neglect and refuse all means of reformation, cannot be atoned or forgiven.

Grace or favour, through the atonement of Christ, may be so far shown to the world, as to allow them space and means to repent; but none besides the penitent who duly improve the divine goodness and patience, can receive the benefit of eternal salvation through the atonement of Christ. The wisdom as well as the grace of this dispensation, are illustrated, when we consider, that pardon in the gospel is raised to a very high degree; and repentance is made available, not only to exempt from punishment, but also to gain a new and glorious state of being in eternal life, which is a grant of favour extended far beyond the natural value of repentance. Besides, the grant of remission of sin, and of other blessings of the gospel, through the blood of Christ, has a strong and direct tendency to promote our sanctification, and to render us penitent and obedient; and therefore this constitution must be acquiesced in as perfectly wise and beneficent." Dr. Taylor, in examining the notion of atonement above stated, and considered as the satisfying divine justice, by another's suffering the punishment due to the criminal's sin in his stead, addsuces a variety of passages pertaining to this subject, and those more especially in which the Hebrew word יָדָא, by which, or its derivatives, atonement is expreseed in the Old Testament: and though he discards the notions of the imputation of our sins to Christ, his suffering in our stead the punishment due to us, or his paying an equivalent to divine justice, yet he concludes his examination with inferring from it, that the sacrifice of Christ was, truly and properly, in the highest degree, and far beyond any other, pious and expiatory, to make atonement for, or to take away sin; not only to give us an example; not only to allure us of remission; or to procure our Lord a communion to publish the forgivenesses of sin; but moreover, to obtain that forgiveness by doing what God in his wisdom and goodness judged fit and expedient to be done in order to the forgiveness of sin; and without which he did not think it fit or expedient to forgive sin." The truly excellent bishop Butler, in delivering his sentiments on this subject (Analogy, &c. pt. ii. c. 8.), observes, "that some have endeavoured to explain the efficacy of what Christ has done and suffered for us beyond what the scripture has authorized; others, probably, because they could not explain it, have been for taking it away, and confining his office as redeemer of the world to his instruction, example, and government of the church. Whereas the doctrine of the gospel appears to be, not only that he taught the efficacy of repentance, but rendered it of the efficacy which it is by what he did and suffered for us; that he obtained for us the benefit of having our repentance accepted to eternal life, &c. How and in what way it had this particular efficacy, there are not wanting persons who have endeavoured to explain; but we do not find that the scriptures have explained it. It is our wisdom thankfully to accept the benefit, without disputing how it was procured." To the same purpose, Dr. Price, who formed his sentiments very much on the general plan of Butler's Analogy, lays, in his "Sermons on the Christian Doctrine," p. 85: that Christ fenced to this earth from a state of
pre-existent dignity; and that, after having passed through human life, enduring all its sorrows, he delivered himself up to death, and thus acquired the power of delivering us from death. By offering himself a sacrifice on the cross, he vindicated the honour of those laws which sinners had broken, and rendered the exercise of favour to them consistent with the holiness and wisdom of God’s government; and by his resurrection from the dead, he proved the efficacy and acceptableness of his sacrifice. In a word, Christ not only declared, but obtained the availability of repentance in pardoning and becoming, by his intercession, not only the sinner, but the author of the means of our future immortality:—

in such a sense that we owe them to him, as well as primarily to God.” This author has declined the use of the terms sublimation and satisfaction, because they do not occur in scripture; but others have alleged, that though the literal expressions do not occur, the phrasing of the faced writers warrants the use of them.

Among other writers who have totally rejected the doctrine of atonement according to either of the explanations above given of it, we may mention Dr. Prießley, who reckons it in the class of the corruptions of Christianity. See History of the Corruptions of Christianity, vol. iii. p. 152, &c. In all the books of scripture, says this writer, we no where find the principle, which the doctrine of atonement is founded on, which is a display on the part of God, of justice, and of his abhorrence of sin, so that God could not pardon it without an adequate satisfaction being made to his justice, and the honour of his laws and government. Admitting the popular doctrine of atonement, the whole of the Old Testament, as he conceives, is a most unaccountable book, and the religion it exhibits is defective in the most essential article. The Jews in our Saviour’s time, it is said, had certainly no idea of this doctrine; for if they had, they would have expected a suffering, and not a triumphant Messiah. And it is alleged, that our Lord and his apostles are silent with regard to it. This author undertakes to explain the sense in which Christ is represented as a sacrifice, and other figurative interpretations of it, independently of this doctrine. He proceeds to examine the sentiments of the Apocryphal fathers, and though he allows that single expressions occur in their writings which seem to favour the doctrine of atonement, the general strain shows, as he apprehends, that they had no proper idea of it. It is also argued that this doctrine is not enumerated as an article of Christian faith in any ancient summary of Christian doctrine. To the too literal interpretation of the figurative language of scripture, Dr. Prießley ascribes that advance towards the doctrine of atonement, which was observed in the third and fourth centuries. Grotius shows (Opera, vol. iv. p. 547) that this doctrine is maintained by Théodore Abucara, a Greek writer of the ninth century; but in the Latin church it does not seem to have been fixed in the eleventh century, although there are obvious and indelible references to it in the writings of Anselm, and also in Theophilius, a Greek writer cited by Grotius. Wickliffe evidently believed the absolute necessity of the death of Christ in order to the forgiveness of sin, and after the reformation by Luther, the doctrine of satisfaction, or atonement for sin, was reduced to a regular system grounded on certain principles, and pursu’d to its proper extent. It was unequivocally avowed in the confession of faith presented to Charles V. at Augsburg, in 1530; in the Helvetic confession of the year 1536; and at the synod of Dort, 1618. It is now the doctrine of the established churches of England and Scotland; and it is very generally retained, at least in some qualified sense, by divines and others, both Trinitarian and Aran. Socinus dialected it, and his followers have almost universally exploded it. We observe, that though the word atonement frequently occurs in the Old Testament, we meet with it but once in the New Testament, and in other places the same original word, expiatis, is rendered reconciliation. As for those who reject the generally received doctrine of the atonement, they maintain, that the great object of our Lord’s mission was to teach the doctrine of a resurrection to a future immortal life, and that hence arose the peculiar necessity and utility of his own death and resurrection as a proof of his doctrine. See Expiation, Illustration, Propitiation, Sacrifice, and Satisfaction.

Atonement, Day of. See Purl of Expiation.

ANTONIA, see in Medicine, a term which signifies a want of tone, firmness of strength, in the muscular fibre; in other words, a relaxation thereof; from a privative and voc. tend. id est, or extend. This condition takes place either partially or generally in most forms of chronic diffuse, and in the convulsive period of acute diseases. The remedies are the Peruvian bark, hitters, chalybeats, sulphuric acid, cold bathing, country air, and exercise, with a mild and nourishing diet.

ATONICS, in Grammar, denote words unaccented. See Accent.

ATOOL, or Attowai, in Geography, the most northern and the largest of the west group of the Sandwich islands, being about 300 miles in circumference; containing, according to the statement in the third volume of Captain Cook’s voyage, about 54,000 inhabitants. It has a good road and anchoring place on the south-west side of the island, called Wymon. It is observed in the account of Portlock’s and Dixon’s Voyage to the north-west coast of America, that the east side of the island lies gradually from the sea, till it terminates in high land, near the centre of the island. The height of the most elevated land or mountain, according to Marchand, (ubi infra, p. 15,) is 1216 toises. The hills are clothed to the summit with lofty trees, exhibiting a beautiful verdure. The land next the shore on the east side is uncultivated and desolate of inhabitants; but to the westward it is generally cultivated, and houses are scattered along the shore. The domestic animals on this island are hogs, dogs, and fowls. Its principal vegetable productions are yams, sweet potatoes, the sugar cane, and a sweet root called by the natives, tee. Some trees were found about fifteen feet high, with spreading branches, a smooth bark, and a nut resembling a walnut; others about nine feet high, with blossoms of a beautiful pink colour; and a variety with nuts, like our horse chestnut, which are used by the natives as habiliments for candles, and give an excellent light. The island affords a supply of fresh water. In Marchand’s Voyage (vol. ii. p. 80,) we have an account of two English sailors, who had been carried off from an English brig by the natives of this island, and who confirmed the report of Captain Cook concerning the natives of the Sandwich islands, that these islanders are cannibals, and eat their prisoners. The relation, however, is disputed, and it is suggested, that the natives of these islands cut in pieces the bodies of their dead enemies, burn their flesh, and preserve their bones as trophies for perpetuating the memory of their exploits. Thus, it is said, they dealt with the body of the unfortunate captain Cook. In the voyage of Vancouver, who visited this island in 1792, we are informed, that the prostitution of the women is here carried to the most wanton excess. Vol. i. p. 171. N. lat. 27° E. long. 200° 30’. See Sandwich Islands.

ATOTOTL, in Ornithology, a name under which Seba describes
describes the purple creeper, or *Ceratia purpurea* of Gmel.
axis virginiana phoenicea de Aotot dicta. Seis Muf. t. 72. See *Purpurea Certhia*.

ATOGGLA, in Geography, a small town of Portugal, in the province of Lissamuria, seated on an eminent near the sea, opposite to the rocks called Burghs, defended
by a castle, and containing about 1500 inhabitants; two
miles and an half call of Peniche.

ATUN, a large tribe of Arabs that possessed the
island of Suez, and from thence go up between the Red Sea
and the mountains that bound the east part of the valley
of Egypt. See *Hosmadat*.

ATOPYQUE, a deep and large river of America, in
Mexico.

ATR, in *Canto*, a species of *Patella*, described
by Schurt. The shell is black and flared; vertex pale;
bottom with a spatulate brownish spot, and surronded
with a horzioe-shaped band of white. About an inch and a
quarter in length. The country is unknown.

ATRA, a species of *Helix*, about two inches in length,
and confining of seven whors. The shell is tapering,
black, and minutely flared; whors rather convex: apertu-

ATRA, in *Entomology*, a species of *Conops* (*Mysop* Fabr.)
that inhabits Denmark and Germany. The abdomen is cy-
indrical and incurvated; body black. Gmel. The mouth
of this insect is white; antennae black, with a yellowish
band; legs black; palopter thighs yellow.

ATRA, a species of *Phaena* (*Bembyx*), entirely of a
fery-black colour, and without spots. This is *Bembyx
hieraticus* of Fabricius, and *Tinea graminella* of Wien Schmet-
tter. The larva is black and hairy, with a fagunious
coralline line; it secretes itself within a foldic composed
of dried leaves and twigs. The pupa is ferruginous brown.

ATRA, a species of *Cicada* (*Cercopis* Fabr.) of a large
size, that is found in South America. It is black, with a
marginal fagunious stripe on both sides of the wing-cases.
Fabricius &c.

ATRA, a species of *Ponura*, very common in Europe.
It is glose, brown, and shining; antennae long, and of

ATRA, a species of *Pimelia* (*Helops* Fabr.) of a black
colour, with flied wing-cases. Gmel. Fabr. &c. This is
*Pyroccorus (niger)* nitida corpore ovato, thorace convoco,
antennis pedibusque fusce, of Degeeyer. Inhabits Europe.

ATRA, a species of *Buprestis*, that inhabits Germany,
and in some parts resembles *Buprestis viridis*. The wing-
cases are entire, somewhat linear and punctuated; thora-
كس flexed; body black. Fabricius.

ATRA, a species of *Lampyris* (*Lyca* Fabr.) of a deep
black colour; thorax orbicular, and with the wing-cases red;
a impressed black spot on the back. This is a native of Europe.
Muf. Lebk. Linn.

ATRA, a species of *Cantharis*, the body of which is
entirely of black. Fabricius. A native of the north of
Europe.

ATRA, a species of *Necyposalis*, of a black colour with
all the thighs clubbed. Inhabits the south of Europe.
Fabricius. The thigh in one fex simple.

ATRA, a species of *Leptura*, the body of which is to-
tally black. Fabricius. The legs of this kind are some-
times ferruginous. Podas calls it *Leptura elegia*, and Geof-
froy, *Stenocorus tusque nigre*. Inhabits the south of Europe.

ATRA, a species of *Cerifico*, of an oblong form, and
black colour, with rufous antennae. A native of Europe
and supposted to be a variety of *C. chlorops*. Gmel. Fabr.
&c.

**ATRA**

**ATRA**, a species of *Hippos*, the body of which is
entirely deep black. Sch. der Beilt. &c. Gmel. Fabricius
describes it as having fulvous antennae; thorax and wing-
cases spiny; and body black. Geoffroy calls it *Cerifico*
atri spinis horrida. It inhabits the south of Europe
and the north of Asia, and feeds on the roots of grass.

**ATRA**, a species of *Clytia (Ala* Fabr.), found
in Germany. It is glossy or shining black, with the back of
the antennae, and foles of the feet pitch; black. Gmel.
Geoffroy, &c.

**ATRA**, a species of *Coccinella*, of a black colour,
with two yellow spots; margin of the thorax and tail
yellow. Thunberg. The body of this insect is very gillous
and glabrous.

**ATRA**, in *Ornithology*, a species of *Musicia*, called
in the Arctic Zoology the *Dryfly Fly-catcher*. It is of an oliv-
ean colour; breast cinereous; belly pale reddish-yellow;
head, tail, and quill feathers black; margin of the secondary
and exterior webs of the exterior tail feathers white.
Gmelin &c. This is a native of New York, where it ap-
pears in March, and departs in August; feeds on bees.
and lays five small white eggs; legs black.

**ATRA**, a species of *Tanagra* that inhabits Guiana.
The bird is cinereous; face, chin, and throat black in the
male, and brown in the female. Buffon calls it *Canal* or
Cravatte, and *Tanara a cravatte noire de Cayenne*. The
length of this bird is seven inches; the bill and legs black;
base of the upper mandible white.

**ATRA**, a species of *Tringa*, that inhabits the banks of
the Rhine. The head and neck are black; back and wings
brownish intermixed with black; breast and belly cinereous;
rump cinereous, undulated with black and white. Sander.

**ATRA**, a species of *Aedea*, entirely of a black colour,
with a smooth head and face, bare of feathers. Gmel. The
wings are glossed with blue. Bruft. calls it aedea nigre;
Buff. héron noir; and Latham the black heron. It inhab-
bits Silezia.

**ATRA**, in *Ancient Geography*, the capital of the
Carabins of Singaren; who formed a tribe, which possessed
an independent territory of Meopotamia. Trajan besieged this
place in the year 117, but by the resistance of the inha-
bants, and the heat of the season, he was obliged to aban-
don the enterprise. The town was seated on the top of a
high mountain in a dry and desert country, and encmp-
pilled by a strong wall. It retained its reputation under
Sutarius, but was ruined under the reign of the emperors
Jupiter.

**ATRABILARIE Capsula, in Anatomy. See Cap-
Sule.**

**ATRABILIS, Black Bile, in Medicine.** The ancients
(fays Dr. Percival), as appears from Galen, supposed the
bile to be derived either from the dregs of the blood, or
from yellow bile torrefied and highly concocted. A cele-
brated modern anatomist is of opinion that it is blood, which,
having lodged some time in the intestinal canal, has acquired
a blackness and putridity. But is it not (this elegant and
ingenious writer affirms) more probable, that in general it is
no other than gall become acid by stagnation in the vepra
felves, and rendered vifcid by the absorption of its solid
parts? When discharged into the duodenum in this state,
it occasions universal disturbance and disorder till evacuated
by either vomiting or purging. A young gentleman who
laboured under a marasmus produced by intemperance,
and which at first proved fatal, voided several times both
by stool and vomiting a considerable quantity of black,
tenacious, and most offensive bile. The symptoms which
preceded the discharge, and which ceased soon afterwards,
were a quick pulse, head-ach, delirium, hiccup, insatiable thirst, inward heat, and an uncommon fever in his breath. A lady aged thirty, unhappily addicted to habits which have a peculiarly pernicious effect upon the liver, after a contusion of the belly during six days, was seized with a violent and incessant vomiting of black and viscous bile. The influenza fever himostatin, warmed with the texture of Columbo, soon checked her retching, and operating by fluid, prevented the return of her vomiting. The matter discharged in both these cases bore not the least resemblance to purulent blood. Dr. Percival adds, that he has fever. I times observed the febrile symptoms in children, which are ascribed to denutrition, relieved by these pit-by-pit floods; and that he recollects three cases of the disease called acute afflux by Dr. Millar, in which the paroxysms seemed to be critically terminated by a similar evacuation. Whether, in these instances, the black bile was the cause or the effect of the disease, cannot (he observes) with certainty be determined; but the former appears to him to be the more probable opinion. Percival's Essays, Medical, Philosophical, and Experimental, vol. i. p. 344. 4th edit. This view of the subject is very satisfactory: but as an evacuant, peculiarly adapted to this disorder, we would suggest the employment of colome. Black bile was supplied by the ancients to constitute a peculiar temperament, which they termed the strabiliary or melancholic temperament. See Temperiments.

The disease termed Melona, or morbus riger, in which there is a dark-coloured bloody discharge, unaccompanied by griping pains and acute fever, seems to be a species of diarrhoea. (See Melona.) Before we close this article, we would observe, that black or pitchy floods may be occasioned either by discoloured bile, or by the effusion of venous blood into the intestinal can. An experienced practioner will seldom be at a loss to distinguish the difference; but if any doubt arise, recourse must be had to chemical analysis.

ATRACES, in Ancient Geography, a people of Europe, in that part of Greece called Etolia. Their country was watered by the river Atras, whence their name.


Species. 1. A. gummifera, gummy rooted stractylis. "Flowers flexible." From the root which is perennial, five many narrow deeply flufinated leaves, armed with spines on their edges. These lie close to the ground, and between them the flower is situated; it is white at the border, but yellow at the disk. A native of Italy. The root abounds with a gummy matter, which occasioned it to be chewed for the same purposes as mallow. 2. A. humilis, dwarf stractylis, Cavam. Hflp. 40. 1. 54. B. Bartr. rar. 1127.

1. 592. "Leaves tooth-fluted; flower radiated, fringed with an expanding involucre; stem herbaceous." Stems nearly a foot high; leaves indented, spinous at the edges; flowers purple, in heads on the branches; root biennial. A native of France and Spain, blooming in June. Cavannile's description of this plant differs from the above.

3. A. canalaeta, netted atractylis. "Involucres latticed, bellying, linear, toothed; calyxes ovate; flowers feathery." Annual, eight or nine inches high, producing two or three slender branches, each terminated by a head of flowers like those of the thistle, with an involucre composed of several narrow leaves, armed with spines on their sides, and curiously netted over, which keeps off the flies; florets purple. A native of the south of Europe. It was cultivated here in the time of Parkinson.

4. A. lancor; lance-leaved atractylis. "Involucres pineapple, leaves lanceolate, ciliate, smooth." Stem a foot high, flexuose, branching; leaves alternate, acute, fimbrie, erect; flowers on the branches terminal, solitary, subfide. It differs from the third in having smooth leaves, and a leafy stem.

5. A. ovata; ovate-leaved atractylis. "Involucres pineapple, leaves ovate, ciliate, smooth." Stem simple, flexuose, erectly a foot high; leaves alternate, petioled, acute, narrowed, pale underneath; petals with ciliate edges; flowers terminating, solitary. Both these have not natives of Japan.

6. A. opposita. opposit-leaved atractylis. "Leaves opposite." Leaves and calyxes tomentose underneath. Receptacle with hair-like chafts. In the ligulate flowers the authors are effete, and there is neither flower nor stigma. A native of the case of Good Hope. 7. A. purpurata; purple-flowered stractylis. Smith. i.c. med. 6. 15. "Leaves lanceolate, runcinate." Stem round, woolly; leaves crowded, a span in length, acute, irregularly toothed, veined, tomentose underneath; peduncles longer than the leaves, branched, angular, rugose, wooly, covered at top with linear acute leales; flowers large, erect, fimbrie, purple; receptacle naked. Found by Mutis in New Grenada. 8. A. Mexicana; Mexican atractylis. Smith. Icon. med. 66. "Leaves oblong, quite entire." Stem shrubby; branches simple, leafy, without sipes, covered with a downy subflanne; leaves alternate, lanceolate, acute, minutely veined, with dotted veins; beneath very white, tomentose; petals keeled, tomentose, flower terminating, nodding, purple, supported by two or three bracteate-leaved leaves; receptacle with very short chaffs. Found by Mutis in Mexico.

Propagation and Culture. "1, 2, 3, are propagated by seeds, which must be obtained from the countries in which they grow naturally: these should be sown on a border of light earth, in a warm situation, early in April, and when the plants come up, and are fit for transplanting, they should be thinned, and those which are drawn out may be transplanted, leaving the others two feet astride; after which, the only culture they require is, to keep them clear from weeds in summer, and in winter to cover the roots with some old tanner's bark to prevent the frost from penetrating the ground. The other species are yet strangers to European gardens; and whenever they are introduced, will require the proteciton of a green-house or frame." See Martyn's Miller's Diet.

ATRACYLIS. See CARTHAMUS.

ATRA Diet, in Antiquity, denotes a fatal day, whereon the Romans received some memorable defect. "The word literally imports a black day; a denomination taken from the colour, which is the emblem of death, and mourning. Whence the Thracians had a custom of marking all their happy days with white stones, or calculi, and their unhappy days with black ones, which they call, at the close of each day,
day, into an arm. At the person's death, the flowers were taken out, and from a comparison of the numbers of each complexion, a judgment was made of the fertility or infecility of his course of life.

The eae atre, or etre, were afterwards denominated etre, and end. Such, in particular, was the day when the tributes were defeated by the Gauls, at the river Allin, and fled the city; also that on which the battle of Caesar was fought; and several others marked in the Roman calendar, as atre, or omtre.


Species, 1. A. japonica. japonica argentea, Erect, leaves opposite, ternate; leaflets ovate, gauzy. Stem angular, broken, pubescent, villosa, two feet high; leaflets acute, toothed, very thinly villosa; petiole stem-leafing; flowers from the divisions of the stem, few, on elongated one-flowered filiform peduncles; petals more than twenty, purple within, white-tomentose without. Were it not for the number of its petals it would belong to theameron. A native of Japan. 2. A. alpina. Alpine atragene, Jacq. All. 3. 12. 164. Clematis Sibirea, Mill. fig. 1. 284. "Leaves doubly terebrate, ferrata, outer petals four-fold." Stems slender, weak, covered with brown thin bark; leaflets two inches long, of a deep green colour; peduncles naked, three or four inches long; one flowered; calyx yellowish white within. This plant is different from the described several botanists, and Jucquin affirms that the Aurivillia plant is specifically different from the Alpine. A native of the High Alps of Switzerland, &c. 3. A. capensis, Cape atragene. "Leaves terebrate; leaflets gauzy, toothed, outer petals five-fold." Scape simple, fix or seven inches long; involucre in the middle of the scape, composed of swelling, ovate, villose, foliaceous lippes; flowers wedge-shaped, tridid, acute, naked; petals about twenty, white, the fix lower ones broader, villose under, purpureus. A native of the cape of Good Hope. 4. A. tenacifolia, fire-leaved atragene. "Leaves doubly sinuate; pinnae linear, entire." Found at the Cape by Thunberg. 5. A. ceolonea, Ceylonese atragene. "Tendris two-leaved." Caulescent, scandent; leaves opposite, compounded, conjugate, leaflets ovate, entire, or sometimes with a single tooth, three-nerved, on very short footstalks; panicle terminal, composed of a twice trifid peduncle, bearing commonly nine flowers; petals twice the length of the calyx, purpureus. A native of Ceylon.

Propagation and Culture. The second species may be increased by cuttings or layers in the same manner as Clematis. In a strong soil, and trained against a wall, it will rise to the height of six or eight feet. The flowers appear early, and if the flower prove favourable, they make a handsome appearance; but as this plant is apt to put out leaves very early in the spring, it is frequently nipped by the frosts. The other species have not yet been cultivated in England. See Martyn's Miller's Dict.

ATRALIS, in Entomology, a species of Philaena (Genus), of a black color, with two white spots on each wing. Fabr. Doct. Ent. Inf. &c. This is a native of Europe; it is called Philaena baccaria by Mill. Zool. Philaena funebris, Act. nob. and philena guttata, Wett. Schmidt. &c.

A. SAMINENTIA. See Insects.

ATRAMPLEMENTATA, in Entomology, a species of Philaena (Genus) that inhabits Europe. The wings are white, sprinkled with black dots.

ATRAMITE, in Ancient Geography, a name given to the inhabitants of Hadramaut, or Hadramuth, a rich and flourishing country of Arabia Felix. See Hadramaut.

ATRAN, in Geography, a town of Naples, in the Principality Citer, limits between two cliffs, joined together by buildings. Along the valley a road winds up to Rivello and Scala, two episcopal cities, or rather struggling villages, on the mountain tops. It is not far from the city of Amalfi.

ATRAPHAXIS, in Entomology, a species of Cynthocephalus, about the size of C. quadricinctus. It is black, with their red spots; wing-cells tetrathecal, with three black spots; thanks nodes. Fabr. This is ebrincola atraphaxis of Pallas, and inhabits Siberia.


Species, 1. A. spina, prickly-branched atraphaxis. L'Herit. Stirp. Nov. 27. t. 4. "Branches spiny." It rises four or five feet high, leading out many weak lateral branches, armed with spines, and furnished with small spear-shaped smooth leaves, of an ahi-colour. Flowers at the ends of the shoots in clusters, each consisting of two white petals tinged with purple, included in a two-leaved calyx, of a white herbaceous colour. L'Heritier has described this plant very particularly, viid. l. c. It is a native of Armenia, Siberia, and Perlia, flowering in August. Cultivated by Miller in 1759. 2. A. undulata, waved-leaved atraphaxis. Dill. Ethr. 36. t. 32. e. 36. (called argenfeula africana, &c.) "Without Ispines." Stems about a foot long; leaves ovate, obtuse, waved at the edges, alternate, longer than the internodes. Flowers in oblong spikes, at the ends of the stem and branches, furnished with short bractes. Calyx yellow, involucr of the fruit. The flowers are commonly quadrifid, but sometimes they are fix-parted, with eight stamens. Several authors make this to be a species of polygonum, while others would unite the two genera.

Propagation and Culture. "The seeds of these plants not ripening in England, they are propagated by cuttings during any of the summer months. In winter they must be sheltered from hard frosts, which commonly destroy such as are planted in the open air." See Martyn's Miller's Dict.

ATRARIA, in Ichthyology, a species of Perca that inhabits Carolina, and is called by Garden, the black fish. The body is black, and the fins spotted with whiteness. Gmelin. The anterior gall-cover is denticulated, poisse.
A T R

A T R A T A, in Conchology, a species of Patella. This shell is rather convex, narrow, white, lined with red; outer lip spotted with black; umbilicus white; aperture at the vertex oblong, bordered with chaffy, sculptured. This shell is about three-quarters of an inch in length, with a created margin, and the vertical aperture surrounded with a reddish ring within.

A T R A T A, a species of NERITA, found in the Atlantic, American, and South seas. Shell deep, black, glabrous, very thinly fluted above; both lips white; exterior one very fluted, and somewhat toothed within; inner one convex, rugose, and tuberculated. Chemo-

A T R A T A, in Entomology, a species of SCOLA that inhabits America. It is hairy and black; wings ferrous, and black at the tip. Fabricius.

A T R A T A, a species of TIFULA. The wings are glau-

A T R A T A, a species of FORMICA, with four spines on the thorax; head depressed and margined, with two spines on each side. This is FORMICA quadrundis of Dagem, and Euph. of Marcgrave. It inhabits Italy. It is black, and without spots: wings hyaline, with a black marginal spot. Fabr. Gmel.

A T R A T A, a species of MUTILLA, which is found in Africa. It is black; thorax rufous above; abdomen black, with two white bands. Fabricius. This is mutilla atrata, abdomen fab-

A T R A T A, a species of TENTHRED, of a black colour; back with a yellow-green band, and three curves of the same colour. Inhabits England. Forster’s Nov. Ins.

A T R A T A, a species of PHYRYNAX, which inhabits Siberia. It is black; wings whitish, with many spots and two bands of black. Lepceba.

A T R A T A, a species of PHALANA (Gometra). The first wings whitish, and black at the base, with a broad black stripe; second pair brownish, with two white undu-

A T R A T A, a species of CICADA, found in China, and de-

A T R A T A, a species of TURBO, of a blackish colour, with double alternate black and cinereous mili-

A T R A T A, in Conchology, a species of MUREX, of a deep black; whorls transversely fluted with tubercles; pillar with a single plait; tail straight. Born. whorls of the spire ten in number; lip circumscribed.

A T R A T A, in Entomology, a species of TENEBRIO (Scal-

A T R A T A, a species of CURCUS, found at the cape of Good Hope. It is glabrous, shining-black; wing-cases flared.
Atratus, a species of Cryptoccephalus. (Cercoceps Fabr.). It inhabits the Order of Coleoptera, and is pale with wing cases entirely bordered with deep black. Gmel. &c.

Atratus, a species of Carabus (Florus Fabr.) which inhabits Ceylan. The thorax is bicoloured; each side; body black; antennae moderate; with ferrate spines in front. Gmel. &c.

Atratus, an European species of Carabus, of a black colour, with black abdominal thorax; pale wing-cases, varied with black; antennae and legs ferruginous-black. Mut. L. &c.

Atratus, a species of Hemorobius found in Africa. The wings are white; the body black. This is a large insect, and inhabits Africa; the thorax is hairy, and the abdomen cylindrical. Fabricius.

Atratus, a species of Lactabus. It is black, and abdomen ferrugineous, with the four front segments black; legs ferruginous; antennae ferruginous, annulated with brown, and tipped with black. A native of Europe. Mut. L. &c. Linn.

Atratus, a species of Cnemus, of an obovate form (Ollongue Sect.) and entirely of a deep black. Geoffroy.

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Atratus, a species of Echinus that inhabits India. It is hemispherical-oval, and rather depressed, with very short, obtuse, truncated spines; the marginal ones clubbed and depressed. Gmelin. This is tidors violacea aus Klein, and violetta eel-mander of Pelt. Zool. s. p. 30. The form of this kind is rather orbicular, conic, inclining to violet; spaces ten, very finely granulated, with a row of larger tubercles, in the larger ones disposed in a quincunx order, and a double row in the smaller ones; avenues brown, excavated, granulated, with four rows of pores; spines violet, some of them clubbed, some angulated at the tip, and some cylindrical.

Atrebati, or Atrebati, in Ancient Geography, a people of Britain, situated next to the Britons, in part of Berkshire and part of Oxfordshire. According to Camden they inhabited Berkshire; but Baxter says that their country was Oxfordshire. They occupied, as it is said, nearly the whole of the western parts of Berkshire, from the river Loddon on the south-east, the banks of the Thames on the north-west and west, and the hills of East Ilsley, Lamborn, and Albury on the south. The Atrebati were one of those Belgic colonies which had come out of Gaul into Britain, and there retained their ancient name; for they were a tribe of the Belgae, who inhabited the country which is now called Artois. They are mentioned by Caesar among the nations which composed the Belgic confederacy against him; and the quota of troops which they engaged to furnish on that occasion was 15,000. Commius of Arras was a king or chieftain among the Atrebati in Gaul in Caesar's time; Vol. III.

and he seems to have possessed some authority, or at least some influence, over our Atrebati in Britain; for he was reputed by Caesar to persuade them to submission. Hence it is probable that this colony of the Atrebati had not been settled in Britain very long before that time. There were perhaps three of these British tribes which submitted to Caesar; nor do we hear of any remark of the influence which they made against the Romans at their next invasion under Claudius. It is probable, that before this second invasion they had been subdued by some of the neighbouring tribes, perhaps by the powerful nation of the Catuvellauni, which will account for their being so little mentioned in history. Callius Atrebatum, mentioned in Antonine's Itinerary, and called by Ptolemy, Callias, seems to have been the capital of the Atrebati; though our antiquaries differ in their sentiments concerning the situation of this ancient city; some, with Horsey, placing it at Sidleshee in Hampshire, near the confines of Berkshire; Stukeley, at Farnham; and most others, with Camden and Baxter, placing it at Wallingford in Berkshire. It has been doubted, whether the country of the Britons and Atrebati was within the Roman province of Britain Prima, or in that called Flavia Caelestia; but it seems most probable that it was in the laity of these provinces. See Henry's Hist. vol. i. p. 248. vol. ii. p. 413. See Ancilies.

Atrella, in Entomology, a species of Phalana (Time) that inhabits Italy. The wings and body are black and browned; apex of the posterior ones, and the tail telfeaces.

Atresia, from α and τρεις, whence τρεις, to perforate; in Surgery, imperforation, or the state of those persons who want some natural aperture.

Atreati, those persons of either sex, in whom the ovum, or genitals, are imperforate, or close, whether naturally, or occasioned by some accident or disease, as the growth of some bony excrecence, or a membrane which blocks the orifice.

Atri, in Geography, a town of Italy, in the kingdom of Naples and province of Abruzzo Ultra; nine miles east of Teramo. See Atria.

Atri, a village of Egypt, on the right bank of the Damietta branch of the Nile. A little below it runs a large canal, which empties itself into the lake Meroe, towards the easterly part of it. The cottages that compose this village, cover the ruins of the ancient Atriha, which, according to Ammianus Marcellinus, was one of the most considerable towns in Egypt. But no remains of its former extent and grandeur now exist.

Atribunie, a river that runs through the west part of the island of St. Domingo, and empties itself into the sea.

Atricipilla, in Ornithology, a species of Emberiza, of a reddish brown above, beneath cinereous; chin white; crown yellow; fore-head, and stripe through the eyes black. This is emberiza atricipilla of Gmelin, and black crowned bunting of Latham. It inhabits the Sandwich Isles. There is a variety of this bird in which the breast is waved with black; and also another bird corresponding with the first in some respects, but in which the crown is not yellow; this is supposed to be the female.

The black-crowned bunting is seven inches in length; upper part of the plumage reddish brown, and each feather marked longitudinally with a dusky colour; coverts and quills edged with a paler colour; the throat, breast, and belly are ash-colour; the tail marked along the middle with yellowish buff; tail brown; legs brown; claws dusky. Lath.
ATRICAPILLUS, a species of Muscicapa, called by English naturalists the cold-finch and pied fly-catcher. The colour is black; beneath, foot on the front, and another on the wings, white; outer two of the exterior tail-feather white. Kramer, Gmelin, &c. This is motacilla remigibus extimo dimidiatum, ut est albo, of Linnaeus, or an inhabitant of France, erected by Gmelin under the name of Atricapillus, sedulius varia of Aldrovandus, and first variety of Gmelin.

Another, a bird somewhat larger, having the upper parts almost black, with a white throat, and sides almost grey; this is currua alba et nigra, nigra alba of Gmelin, the second variety of that author, and venia columbae of Buffon.

And the third variety is familiarly called by Buffon, and currua folius grises, gula supercilifique atilis of Gmelin; the under parts of this is greyish; the throat and fleck above the eye white; the hind part of the neck deep ash-colour; sides and back pale brown, tinged with green; wings and tail blackish.

ATRICAPILLUS, in Entomology, a species of Turdus, of a brown colour, with a black head; belly and rump rufous; and a black spot on the wing. Gmelin. This is merle à tête noire du capel Bon Esparsance of Buffon. It inhabits the Cape of Good Hope; and is about nine inches in length; the belly is fringed with brown; tail cuneate, the feathers pale at the tips.

ATRICAPILLUS, a species of Caranus, of the winged kind. The thorax is rufous; wing-caules tateaceous and obtuse; head black. Fabricius. Ost. Gmelin describes it as being yellow, with a black head and very obtuse wing-caules.

ATRICAPILLUS, a species of Staphylinus that is found in England. The thorax is rufous; wing-caules fuscous, with a dot at the base and posterior margin white. Fabricius.

ATRICAPILLUS, in Ornithology, a species of Linius that inhabits Surinam, and is called by some the Surinam shrike. The tail is wedge-shaped, and with the crown, neck, shoulders, and wings black; body above moule-colour; beneath of a bluish ash-colour. Merram. Beytr. &c. The length of this bird is five inches; wings short; margins of the wing-coverts and secondary quill-feathers white; all the tail-feathers, except the two middle ones, tipped with white.

ATRICAPILLUS, a species of Psittacus called by Buffon arcu Moluccas varia. It is a native of the Molucca isles, and about fourteen inches in length; colour above blue; chin, throat, and breast red; belly and vent grey; crown black; neck green and red. Gmelin. The wings and upper tail-coverts are blue, lower green, varied with red; tail green above, beneath red, edged with black. Klein calls this psittacus capite nigro, collari viridis, and Buffon grande perucca à bandeau noir.

ATRICAPILLUS, a species of Charadrius, called by Latham the black-crowned plover. Above it is cinereous brown, beneath white; bill and legs red; crown black; en-circled with white; neck and breast cinereous, and terminating in a transverse dusky streak. Inhabit New York, Gmelin. The front is black; bill black at the apex; base of the tail white, blackish near the extremity, tips white.

ATRICAPILLUS, a species of Parus, found in North America, and called the Canada timmouf by Pennant and Latham. The cap and throat are black; body cinereous, and white beneath. Buffon calls this parus atricapillus canadensis, and Buffon mifange à tête noire de Canada. The length of this bird is four inches and a half; it feeds on worms and insects, and bears cold with remarkable perseverance. The upper tail-coverts are whitish; greater wing-coverts brown, edged with grey; quill-feathers brown, with the exterior edges grey, and the inner ones whitish; middle tail-feathers cinereous; lateral ones brown, with grey margin; legs and claws blackish. Gmelin, &c.

ATRICS, or ATRICES, in Surgery, small tubercles about
AETR


Species. 1. A. halimus, tall, shrubby oracle, or Spanish fen-purpure. "Stem shrubby; leaves deciduous, entire. Root perennial, woody, branched. The whole shrub is white; stems from four to fix inches high or more, dividing into woody brittle branches; leaves scattered on long footstalks; flowers small, purplish, at the ends of the branches. It grows in hedges near the sea about Nice, also in Spain, Portugal, Sicily, &c. According to Pauwilion it was cultivated here in 1640. 2. A. purpureascen, dwarf shrubby oracle, or common fen-purpure. Hudf. With. Lightf. Eng. Bot. 4. t. 261. "Stem shrubby; leaves deciduous. A low underbrush; leaves narrow, whitish; branches angular, reching, glaucous; flowers in clustered spikes terminal, yellow. It grows near the sea in salt marshes, flowering in July and August. 3. A. glabra: "Stem underbrushy procumbent; leaves ovate, filiform, quite entire; the lower ones subdeterminate. Stem three or four feet long, with deciherous branches; leaves thickish, of a silvery glaucous colour; flowers yellow at the axils of the upper branches. A native of France and Spain. 4. A. rufus. Villars Dauph. 2. 553. "Stem herbaceous; leaves hoary, serrate, fruit quadrangular, toothed. Stem erect, somewhat angular, white, smooth, branched, a foot and a half high; leaves alternate, suboblong, rhombic-shaped, minutely-toothed, covered with a farrinaceous white powder; flowers in close cletes, axillary; valves of the fruit hoary and finely notched. A native of the south of Europe. Annual. 5. A. Iberica, Iberian oracle. "Stem herbaceous; leaves deltoid angular, calyces of the fruit muciated on the outside. This is of the same size as the A. hortensis. The fruit is tomento- tose at the base, and muciate on the outside; the leaves are silvery beneath, and the flowers white. A native of Siberia. Annual. 6. A. tartarica, Tartarian oracle. Hudf. 443. n. 2. 3. "Stem herbaceous; leaves deltoid, minute-toothed, waved, alternate. According to Linnaeus, this is five or six feet high. Mr. Hudson considers it as a variety of the laciniata produced by cultivation. 7. A. hortensis, garden oracle. Gmel. Sib. 3. 71. Gertm. Fruth. 1. 362. "Stem erect, herbaceous; leaves trigonom. Root annual; stem above three feet high. Leaves thick, pale, and variable in their shape; values of the calyx ovate-cordate, brakced, entire. A native of Tartary, and cultivated by Gerard in 1556. It was formerly cultivated as a culinary herb, being used as fpiage, and it is still eaten by the French. There are some varieties of it which depend wholly upon colour. 8. A. laciniata, pitted fa oracle, Hudf. With. Lightf. Eng. Bot. 3. 162. "Stem herbaceous; leaves lacinate...
Propagation and Culture. 1, 2, 3. may be increased by cutting the plucked in August, and of the summer months, on a fairly border; where, if they be daily watered, they will be in a state to transplant the Michaelmas following. No. 7, must be fown for use in the spring, or at Michaelmas, soon after the seeds are ripe, which is better. These plants require no other care, but to lose them when they are about an inch high; to cut them down where they are too thick, leaving them about four inches alread, and to clear them from weeds. When the plants are about four inches high, it will be proper to hoe them a second time, and if this be well performed in dry weather, the ground will remain clean until the plant is fit for use. Where it is fown on a rich soil, and the plants are allowed a proper distance, the leaves will be very large and in that the excellence of the herb coeds. U. & 3. it be eaten when young, the falks become tough and good for nothing. The feed will ripen in August, when the plants be cut or pulled up and laid on a cloth to dry; after which the feed be beaten out and put in bags to dry. Most of the other feeds, so far from being cultivated in gardens, are to be rooted out from them as rank weeds. Martin's Miller's Diet.

APRILIS. See ATRAPHAXIS, AYXYS, BLITUM, CHENOPODIUM, and GALENIA.

APRILICIS, in Ent molony, a species of SCARABAEUS (Melolontha.) This insect is oblong, violet, pale; future and apex of the wing-cages black; shield of the head reflected. A native of Barbary, and feds on the apricix hafmifolia; in fixture and appearance resembles S. rufcoris.

APRILICIS, a species of CURCULIO that is found upon the shores of Norway. It is long and black; thorax shining, wing-cages tinted d and obtuse. Genie.

APRILICIS, a species of PHALEN (Nozaa.) The first wings are clouded with brown, with a yellow bull's eye in the middle, Fr. Ste. Fabr. &c. The head is naked, reddish, dotted with white, and marked along the back with a brown line. Pupa, naked and brown.

APRILICIS, a species of AMIS that infests the apricix hortensis. The body is glossy black, plaited at the fides; hack's pale; tail obtuse. Fabr. &c.

ATRIROSTRIS, a species of CURCULIO. It is canecous, with the foit arched and black. Inhabits Leipzig. Paskull.

ATRIUM, in Ancient Architecture, one of the interior divisions of the ancient Roman houses. Julius Cæsar tells us, that even in his time many learned perfons confounded together the terms atrium and vestibulum. Cicero tells us, that the vestibulum was not a part of the interior of the house, but only a large corum at the principal entrance, perhaps analogous to the modern loggias of the Italians. Cicero, in a letter to Atticus, seems to express the fame thing, when he fays, that in passing through the fcreened doors, when he was near it, that by this means, he took the face to the vestibulum of Tatosus. "Secchi in vestibulum Cati Domini." From the time of Aulus Gallus, the fame uncertainty of the exact meaning of these words continued, and they became almost synonymous. It muft be flill more difficult at the prezent time, to aflign to the atrium its true fiation and use.

Martial places the colossus of Nero in the atrium, and Sienusinus in the vestibulum; from whence it refults that one of them must have employed one of these terms improperly. Vitravius even at one time employs the word atrium for curulum. Virgil in this veft, "apparet domus vitruus et atria longa patetulant," gives us to understand, that the atrium was an inferior part of buildings; and it appears certain,
certain, that this was a particular place in private houses, palaces, and temples.

From the description which Vitruvius gives us of it, it appears to have been an oblong room, having its breadth divided into three parts by two rows of columns. He gives rules for placing these columns according to the general proportion of the atrium.

The atrium was flanked after the cewadum which was what we commonly call the court, and immediately before the tablinum. It was in the atrium that the Romans placed the statues of their ancestors, and it was also sometimes used as an eating room, though they had also other places defined for the purposes of the table. This is proved by Virgil, who in describing the place where they made their repast, says,

"Cratera magnas flabebunt et visa coronat,
Putripitis teetis vocenque per amuba volatant.
Atria dependent lycini laquearius aurea."

It follows from this, that we must consider the atrium as one of the interior parts of the house, in which it differed from the cella, and that it was covered, which distinguishes it still more from the cewadum or the empluvium.

Some temples had also an atrium: of this number was the temple of Vesta, and that of Liberty. It was in the latter (viva Titus Livius) that they deposited the hoffages of the Tarponites. It appears that it was a covered semi-circular court, if we may judge from the ancient marble plan of Rome, which is preferred in the capital, on which we still read these words "atrium libertinum." 

If we may believe the historians, the use and form of the atrium were borrowed from the Etruscans, and this appellation come from the city of Atria, or Adria, which gives name to the Atrians or Adriaticus fac, and where this sort of porticoes was much used.

Feustas says "atrium proprii est genus edificii dictum atrium, quia id genus edificii primi atri in Etruria sit in flaskum." Varro de ling. Lat. 1. 4. "atrium appellation ab atriciis Tufciis illiac enim exemplum fumtun." 

Atrium, in Ecclesiastical Antiquity, denotes an open place or court, before a church, making part of what was called the narthex, or ante-temple.

The semiovate, the ancient churches, was a large area, or square plat of ground, surrounded with a portico or cloyster, situated between the porch or vestibule of the church, and the body of the church.

Some have mistaken confounded the atrium with the porch or vestibule, from which it was distinct; others with the narthex, of which it was only a part.

The atrium was the mansion of those were not suffered to enter farther to the church. More particularly, it was the place where the first class of penitents flooded, to beg the prayers of the faithful, as they went into the church.

Atrium is also used, in the Canon Law, for the cemetery, or churchyard.

In this sense we find a law, prohibiting buildings to be raised in atrio ecclesiae, except for the clergy; which the glossary explains thus: id exit in eminentia, which includes the space of forty paces round a large church, or thirty round a little church or chapel.

ATROPA, in Botany, (from Atropos, the third fate, who was supposed to cut the thread of life) deadly nightshade. Lin. g. 249. Schreb. 335. Juff. 125. Gaertn. t. 131. Chis, pennatiria monoginoa. Nat. Ord. Lurida. Solanine. Juss. Gen. Char. Cal. perianth one-leaved, five-parted, gibbous; divisions acute, permanent. Cor. one-petalled, bell-shaped; tube very short; border ventricose ovate, longer than the calyx; mouth small, five-crested, spreading; divisions subequal. Stem filaments five, subulate from the base of the corolla, and of the same length with it, converging at the base, above diverging outwards, bowed; anthers thickish, ribbed. Pyll. gemmiformes; style filiform, the length of the flowers, expanded. Stigma laeved, linearly obovate, oblong. Flo. berry globular, fitting on a large calyx, two-joined. Receptacle basal, convex on both sides. Seeds, very many, reniform.


Species. 1. A. Mandragora, mandrake, Woody. Med. Bot. t. 227. "Stembeles, fcapae on-fovered." Root perennial, large, tapering, three or four feet long, externally brown, internally white. From the crown of the root arises a circle of leaves, which are large, ovate, truncate, veined; they fit close to the root, and are of a deep green colour, andedin small; among these are three or four short slender fdeas, each supporting a single flower of an herbaceous white colour; fruit a globular boot berry of a yellowish colour, and about the size of a nutmeg. A native of the south of Europe. It was cultivated here, according to Turner, in 1562. The superstitious and absurd stories related of the mandrake would not now for a moment impress on the more credulous and ignorant. The supposed resemblance of some of the roots to the human form, the danger of taking them out of the ground, as well as their surprising effects, seem to have been the invention of charlatanical knavery and imposture. Boerhaave used the leaves as a cataplasm with success in cases of indurated tumours, and Hoffberg experienced the like effects from the roots in glandular swellings; the latter also found that three grains of the root given internally had a considerable narcotic effect in mitigating arthritic pains. See Woody. t. c. 2. A. belladonna, deadly nightshade, Hud. 93. With 292. Smith Brit. 255. Curt. Lond. 3. 1. 16. Woody. Med. Bot. t. 1. Eng. Bot. 532. "Stem herbaceous; leaves ovate, entire." Root perennial, thick, fath, creeping; stalks herbaceous, annual, erect, firm, three feet high, round, branched, leafy, subpubecent; leaves leaflike, two together, of an unequal size, petiolar, ovate, acute, entire, smooth, and of a dull green colour; peduncles lateral, staminal, orileas, one-flowered, nodding; flowers of a dirty violet colour; calyx rather pubeascent, villous, anthers large, white; berry depressed, furrowed; when ripe of a flaming black colour, and abounding with a purple juice. It grows in waste-ground and gloomy lanes, &c. This plant has been long known as a very strong poison of the narcotic kind; the berries, which are said to be lefs powerfully so than the leaves, have produced many instances of their fatal effects, particularly upon children, who are readily tempted to eat this fruit by its alluring appearance and sweet taste. Whether these berries eaten in different states of maturity renders them more or less deleterious, has not been ascertained; but we are told that in some iatuses, one berry, or even half of one, has produced a fatal effect; while Haller informs us, that he has seen a fellow-student of his eat more than three or four without suffering any inconvenience from them. The symptoms produced by this poison are vertigo, delirium, great thirst, painful deglutition, and retching, followed by fever, frider delirium, and convulsions; the eye-lids are drawn down, the usual dilated and immovable, the face becomes red and tumid, and phaenomena affect the mouth and jaw; the palsy and irritability of the body suffer such great diminution, that large and repeated doses of the strong extract of the berries produce no sensible effect;"
effect; the pulse is small, hard, quick; and fulness tending
vitalium, rhus sardanum, and coma, close the fatal scene.
Vinegar liberally drank has been found most efficacious in
obviating the effects of this poison. Upon opening the bodies
of those poisoned by this plant, inflammation and edematous
of the stomach and intestines have been discovered. A simi-
lar effect was produced in the stomach of a horse, at the
Veterinary College, from a large dose of opium, viz. three
ounces. The leaves of the belladonna were first used exter-
nally to discuss febrile and cancerous tumours, and as an
application to unconditioned ulcers, and their good
effects in this way at length induced physicians to employ
them internally for the same disorders, and we had a con-
 siderable number of well-authenticated facts, which prove
them to have been of important service. Dr. Cullen says,
"I have had a cancer of the lip entirely cured by bellad-
tonna; a febrility in a woman's breast entirely diminished
by the use of it; a sore a little below the eye, which had
put on a cancerous appearance, was much mended by the
internal use of this plant; but the patient having learned
somewhat of the poisonous nature of the medicine, refused
to continue the use of it, upon which the sore again spread,
and was painful; but upon a return to the use of bellad-
tonna, it was again mended to a considerable degree;
when the same fears again returning, the use of it was
again laid aside, and with the same consequence." The root
is much less powerful than the leaves. See Woody, I. e.
and Murray App. Med. 3. A. physaloides, Peruvian deadly
night-shade. "Stem herbaceous; leaves entire-angular; calyx-
es cloathed, acute-angular." Root annual, fibrous;
from spreading, two feet high; leaves alternate, smooth,
oblong; running down the foot-stalk; peduncles tubcularly,
foliary, naked, one-flowered; calyx ovate, deeply five-
parted; leaflets fagittate-ovate; corolla bell-shaped, slightly
five-lobed, blue, with a white eye, having five blue spots;
berry about the size of a cherry, with five sharp angles,
and inclosed in a ventricose bladder. A native of Peru.
Cultivated by Miller. 4. A. falatala. "Stem shrubby;
peduncles foliary; corollas bell-shaped; leaves lobate.
Six feet high, somewhat branched and angular; leaves alter-
ate, usually many from the buds, petioled, entire, naked;
peduncles axillary, one-flowered, fiddle-shaped, the length of
the leaves; flowers pentagon. A native of the coast of Gulf
Mexico. 5. A. arborescens, tree strppa, belladonna frutes-
cens. See. Plm. 48. t. 1. "Stem shrubby; peduncles
crowded; corollas revolute; leaves oblong." A small tree
or shrub. Leaves alternate, in tufts towards the ends of
the branches, lanceolate-ovate, acute, entire, nerved, of
a dark colour; flowers peduncled, heaped, white, fragrant,
notching; peduncles numerous, one-flowered, which;
corollas somewhat bell-shaped, narrow at the bottom, feeding
at top; filaments twice as long as the corolla. This spe-
cies is often tetradromus. A native of South America and
Jamaica. 6. A. frutescens, shrubby strppa. "Stem shrubby
and peduncles crowded; leaves co-ordinate, obtuse." Six
or eight feet high; leaves alternate, roundish; flowers come
out between the leaves on short peduncles, and resemble those
of belladonna, but much smaller, and of a dirty yellow
7. A. herbacea, herbaceous strppa, Mill. Dict. n. 3. "Stem
herbaceous; leaves obtusely, ovate, nerved, with waved edges." Root
perennial; stems channelled, about two feet high, dividing
into two or three branches; leaves four inches long and
three broad, having several transverse prominent ribs on the
under side; flowers white, bell-shaped. The seeds were
sent to Mr. Miller from Campeachy. 8. A. procumbens,
wheel-flowered strppa, Cavan. Hilp. n. 80. t. 72. "Stem
procumbent, herbaceous; leaves twin, unequal, ovate,
smooth; flowers in umbels." Root annual; stem grooved,
much branched, three feet high; leaves sharp-ovate, running
down the petiole, smooth, entire, one-curved, glaucous
beneath; common pedicule, foliary, feebly an inch in
length; rays of the umbel from two to five; corolla her-
baeous, yellow, wheel-shaped, which sufficiently diffi-
guishes it from all its congers. A native of Mexico."

Propagation and Culture. 1. Mandrake is propagated by
seeds, as soon as they are ripe, when they are to be sown
upon a bed of light earth, and occasionally refreshed with
water. In August they must be taken up very carefully
and transplanted into the places where they are to remain,
offering that the soil be light and deep, for the roots run
far down, and will grow to a large size in a few years if
not interrupted by gravel or chalk, or rotted in winter by
salt soil. The plant should also have a warm situation.
The root will remain found above fifty years, and continue
to be as vigorous as a young plant. Deadley nightshade
may be propagated both by its roots and by its seeds; it
requires a shady situation. If the seeds of the third spe-
cies be permitted to scatter, the plants will come up the
following spring, and may then be transplanted into the
borders of the pleasure garden, where they will grow to
a large size. Species 4th, &c. may be propagated by
seeds, which should be sown in a hot-bed in the spring;
and when if be removed, they should be each put into
a separate small pot filled with loamy earth, and shaded
until they take root. The 4th and 5th may be placed with
other hardy exotic plants in a sheltered situation, and in
October they must be removed into the green-hovel. The
5th, 7th, and 8th, must be kept in the dark-hovel. The
7th may be increased by parting the roots. See Martyn's
Miller's Diet.

ATROPATENE, or ATROPASSA, in Ancient Geo-
graphy, a country of Asia, occupying the north-west part of
Media, and lying between mount Taurus and the Caspian
sea. It is said to have taken its name from one Atropatus,
who, being governor of this province in the time of Darius,
the last Perian monarch, opposed Alexander the Great,
and upon the destruction of the Perian monarchy, feized
this part of Media, and transmitted it to his prosperity,
when it was a sovereign to the time of Strabo. (Geog.
lib. xi. p. 523.) It was a cold, barren, and inhospitable
country, and on that account allotted by Shahmanever for
the residence of many captive Israelites, after the conquest
of their kingdom. Its inhabitants, according to Polybius
(l. v. p. 492.), were good soldiers; and we learn from
Strabo, that its kings could bring into the field 40,000
foot and 20,000 horse. The metropolis of Atropatene
was Gaza.

ATROPHY (ἀτροφία from ἀτροφεω, privative, and ἄνθι-
v, growth), in Medicine, a defect of nourishment, and co-existent
atrophication. It differs from plethora, by being unaccom-
panied with cough, and purulent expectoration; and from
tubes, by the absence of hectic fever. This distinction,
however, of systematics writers, between tubes and atrophy
is not altogether so satisfactory as could be wished; since
atrophy in its advanced stage is often attended with a symp-
omatic fever resembling the hectic. In the fourth volume
of his First Lines of the Practice of Physic, Dr. Cullen
candidly acknowledged that he was not satisfied with his
arrangement of the several species of atrophy and tubes.
He expresses a doubt, whether the distinction attempted in
Nefatology, between the two diseases, will properly apply;
being of opinion that there are certain affections of the same
nature, which sometimes appear with, and sometimes without
fever.
A

rachitis is described with chronic tranquility. At sometimes it accompanies remission of scurvy. It is often attended with diabetes; fainting, tabes, woe, is thought. The

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infusion of the red roes, the infusion of catechu, and chocolate; or if the left-named metallic preparations prove too tumultuous, the zincaum vitriolatum. In some of these cases, mild opiates, or the cicia, may also be given with advantage. Convulsions should be prevented by occasional doses of the elecurium fence, or oleum ricini, or magnesia and natrium. (See Tiffot on Osmium.) The humane means will be a qualily suited to most of the other varieties of atrophiainfanorum. When it is occasioned by profuse perspiration the sulphurous acid should be given with the other toxins; and when the urinary evacuation is excessive, the fame remedies as in diabetes; which fee. When this disorder occurs in nurses giving too much milk, the astringent vegetable substances (the Peruvian bark excepted) and metallic salts above mentioned will not be proper; a more liberal use of fermented liquor and animal food should be allowed, and the infant should be warmed. When it proceeds from a diarrhoea, opiates may be given more freely, joined with tallowious powders, and small doses of scopolium. When it is occasioned by the food being rejected from the stomach shortly after it is swallowed, the peculiar condition of that organ, on which the vomiting depends, must be ascertained and remedied accordingly. In such cases, pitchers of milk and animal jellies should be administered once or twice every day, until the disposition to inverted action is removed.

A. famelicorum. This occurs in infants at the breast, not being supplied with a sufficiency of milk. It is known by the daily emaciation of the infant, constant cries, and wakefulness, its eagerness to suck, and its tranquility and disposition to sleep after being put to the breast. It happens when the mother's or nurse's milk is either deficient in quantity, or poor and watery in its quality. It may be remedied in part by putting the mother upon a generous diet, and supplying the infant with nourishment by the spoon; but the most effectual method is to refer to a nurse capable of affording a healthier and more abundant stream of milk.

A. debillum. To this species belong the nervous atrophy, and the emaciation which accompanies old age. It depends upon a debility of the organs of digestion and nutrition. In the first instance, it is sometimes the consequence of close application to business or study, and excessive anxiety, grief, a longing after one's native country or a beloved object, with other depressing passions. In these cases, a removal from the scene of study or business, and from the source of anxiety, regular exercise and proper recreations, will form the basis of the cure. At the same time, bitters, chocolate, and opiates, should not be omitted. (Morton de Atrophia, see Phthisia nervosa.) When the disorder is the consequence of old age, much relief cannot be expected. In that case, little more can be done than to render the diet as nutritious as possible.

A. cacochymica. When the emaciation in this species is connected with a febrifugous aemony, the remedies proper for correcting the same must be employed; such as tubaoid fruits, fresh milk liquor, &c. all salted meats being strictly avoided. When it is connected with a phthisical aemony, the cure should be attempted by mercury, opium, and the guaiacum and farfacarphus decoctions, with the warm bath. When it occurs in a ricketty constitution, the same treatment as in rachitis will be proper. (See Rickets.) If this species (the A. cacochymica) is accompanied with febrifugous or phthisical fevers, it should be referred to those.

A. summata. This happens when the concordant powers are impaired or destroyed by vegetable or mineral poisons. Among the vegetable poisons which prove the cause of atrophy, may be mentioned the abuse of green tea in women, and the chewing of tobacco in men. In like manner the opium-eaters in the Levant and other parts of the east are affected with atrophy. Another poison extracted from vegetable substances undergoing fermentation, which produces the same effect, is alcohol, or brandy, rum, &c. Among the mineral poisons which have been observed to cause this disease, may be mentioned lead and arsenic. The remedies in this species of atrophy must be varied according to the kind of poison by which it was induced. (See Poisons.) In the Nosological System of Dr. Cullen, this species of emaciation is ranked under tubes; but as it is not accompanied with either glandular obstruction, or with purulence or ulceration, we have conceived it to belong to the present genus, and have accordingly introduced it here.
The last species we have to notice is the A. a compressa flavus thorace. This takes place when the thoracic duct is so compressed by a tumor or other mechanical cause; that the transmigration of the chyle through it is either partially or wholly interrupted. In the latter case it is irretrievable. Fortunately this species of atrophy is of very rare occurrence. See Morton on Phthisie; and Hoffman de Atropa, Suppl. II. 1. Aulio de Pals, His Practise of Phliie, vol. iv.

**ATROPICA**, in Entomology, a species of Mantis described by Pallas. It is a native of the island of Java; on the thorax are four spines; wing-cases short and mucronate at the base.

**ATROPOS**, a species of Sphinx, with yellow posterior wings fuscated with brown, and yellow abdomen with black rings. Varieties of this species differing in size, colour, and some peculiarities of the marks on the anterior wings, are found in Egypt, I dia, the Cape of Good Hope, America, and Europe. It is the largest of the European insects of the lepidopterous tribe, and is certainly a beautiful creature. In England this kind is rare, and is called the death's head hawk-moth, from certain characteristic and very singular marks on the thorax, by which the figure of a human skull is strongly depicted. These insects for this reason have generally been regarded as an ominous prelude of some approaching calamity by the penansy in most countries where they have appeared by chance; and Linnaeus has himself named it after one of the three fates of the heathen mythology. The larva feeds on the jasmin, potatoe, and elder; is solitary, yellow, with oblique, blue, green, and black lateral frills, and a red-ted tail; pupa reddish. Vide Donov, Brit. inf. 9. t. 289. Linnaeus in Amoen. Acad. names this insect capot mortuos: and Geoffroy in Hist. des Insectes, le phisins à tête de mort.

**ATROPOS**, is also a species of Musca, about half an inch in length, that inhabits Austria. It is rather downy; thorax with three black spots; abdomen black, with interrupted yellow bands, and margin of the segments of the same colour. Schrank Eyll.

**ATROPOS**, in Mythology, one of the Parce or Fates, whose office was to cut the thread of life.

**ATROPOS**, in Zoology, a species of Coluber, described by Linnaeus in Muf. Ad. Fr. & Gmel. Syt. Nat. as having 131 abdominal plates, and 69 subcaudal scales. It is a native of America, and deemed an extremely poisonous serpent; the colour hoary grey, with a quadruple series of brown ocellated spots, each with a white or red margin. The head is heart-shaped, gibbous, with four and sometimes more black spots; and the scales are lanceolate. Gmel. It is cobra atrope of Laur. Amph.

Dr. Shaw observes that this species is of a thick and short form, scarcely exceeding fifteen or sixteen inches in length; the head is large and vipersine, marked with four or five large dusky spots, and covered with small scales; the remainder of the animal of a pale brown, marked all along the upper part by four rows of very large, alternate, round, black spots bordered with white; the abdomen all-colour, and tail very short, measuring about a ninth part of its whole length; the scales on all the upper parts are of a slightly flattened form, and carinated. Gen. Zool. v. 3. p. 2. 404.

**ATRO-VIOLESCENS**, in Entomology, a species of Chrysonara, once taken in the month of September, in the county of Norfolk. It is ovate, violaceous-black; wing-cases frigated; legs pitchy-black. Morsh. Ent. Brit.

**ATROVIRENS**, in Zoology, a species of Coluber, described by the count de Cepede under the title of "la coeleuvre verte et jaune;" and by Dr. Shaw, under that of coluber atrovirens. C. atroviereus, flavo maculates, abdomen flavo, lateribus nigro punctata. Black-green snakes, speckled with yellow; the abdomen yellow, with a row of black spots down each side. French snakes.

"This seems," says Dr. Shaw, "to be the species figured by Albrudanus, under the name of anguis Zefulafii eigen, and which appears to have been so little attended to by modern naturalists, as to have been generally confounded with the ringed snake (C. atroxi), till it was again brought to notice by Norbl. Daubenton, and afterwards by the count de Cepede, who has accurately described it, and who informs us that it is very frequent in some of the provinces of France, being found in woods and moist sandy places; in its general form and appearance it resembles the ringed snake or natrix, but differs in colour, being of an extremely dark or blackish green, so as to appear black on a cursory view, the sides being marked by numerous rays of yellow spots of different forms, some oblong and some square, and which form somewhat more decided or difficulty marked stripes towards the head; the eyes and edges of the mouth are bordered with yellow scales; the abdomen is also yellow, each segment being marked on each side by a black speck. This snake is an animal of a perfectly harmless nature, and like the ringed snake, is capable of being tamed to a considerate degree." On the approach of winter, it retires, like the latter, into subterraneous retreats, and pauses that silence in a state of torpidity, from which it recovers in the spring, when it calls its skins, and appears in its highest beauty.

**ATRAX**, in Zoology, a kind of Coluber, which according to Linnaeus is particularly characterized by having 169 abdominal plates, and 69 subcaudal scales. Annae. Acad. This species is of a native of Asia, and is about a foot and a half in length; the colour hoary; scales carinated; beneath marked with dark brown, transverse, alternate spots; head depressed, compressed, angular, and covered with minute scales. Gmelin makes "clapas indica" of Laur. Amph. a variety of this species. Dr. Shaw describes it in his Gen. Zool. as being the "grey brown snake," with transverse line whitish stripes, and dusky abdomen, with white transverse variegations; and names it the *saxe* snake. This author also notices one error of Linnaeus respecting this species that deserves particular remark. "In the Museum Adolphi Friderici, p. 33," says he, "this species is, by a mistake, incribed anguina, while the figure on plate 22 of that work, represents the body marked by several dilatant, narrow, transverse whitish bands reaching to the abdomen, which is spotted with small, round, white specks; the dusky transverse spots appearing only beneath the tail; the general colour of the abdomen, however, in this snake is rather deep brown or blackish, beautifully variegated or marbled by numerous narrow transverse bands, accompanied here and there with small spots; the tail is remarkably short and slender. In the Syntome Naturalis a mistaken reference appears to be made to a figure in Seba representing a very different species. The C. atrax is a poisonous snake, and is a native of the island of Ceylon."

**ATSHARES**, in Geography, a tribe of the Mandshurees, who inhabited the banks of the middle Amur, in Siberia, before it was taken possession of by the Russians. They then subsisted in a state of independence; but they were afterwards removed, by order of the Chinese government, from the Amur farther towards China.

**ATTACAMA**, in Geography, one of the fourteen juridictions belonging to the archbishopric of Plata, in the audience of Charcas, in South America. It is the western boundary of the audience, extending to the South sea; and
and the principal town, called also Attacama, is not less than 120 leagues from Plata. Its jurisdiction is of a considerable extent, and a great part of it very fruitful; but interspersed with some deserts, particularly towards the south, where it divides the kingdoms of Peru and Chili. On the coast in this province there is annually a very large fishery of Tello, a fish common in the South Sea, with which a very great trade is carried on with the adjacent provinces, this being the chief food in Lent and other days of abstinence. There is a great defect of the same name, and a chain of mountains, which separate Peru, on the north, from the province of Quito. The cold in these mountains is sometimes so extremely severe, that those who pass it are occasionally frozen to death. S. lat. 22° W. long. 5° 20′.

ATTACANA, in Ancient Geography, s town of Asia, in greater Armenia. Procopiv.

ATTACCO, in Myth., is a kind of short subject or point, not restricted to all the laws of regular fuses. Sam wise, it is a section of the principal theme itself, treated rather as an imitation than a subject of regular fuses, and may be answered in any interval, at pleasure.

Example.

ATTACHIAMENTA BONORUM, in Law, a distress taken upon goods or chattels, where a man is sued for personal estate or debt, by the legal attachators or bailiffs, as security to answer an action.

ATTACHIAMENTA DE SPINIS ET BOSCO, is a privilege granted to the officers of a forest to take to their own use thorns, bruits, and wind-falls, within their own precincts.

ATTACHING, or ATTACHMENT, denotes the apprehending a person or thing, either by a precept or writ. The word is formed of the French attachers, to fasten or tie; and that from the corrupt Latin attaches, of attesse, to associate to; or rather, as others think, from the Celtic tach, a nail; and tach a, to nail; or the Saxon tacean, to take.

Lambard makes this difference between an arrest and an attachment; that an arrest proceeds out of an inferior court by precept only, and an attachment out of a higher court, either by precept or writ; and that a precept to arrest hath the formal words, duci facias, &c. and a writ of attachment these, "precipimus tibi quod attachias talem, & habeas eum coram nobis.

By this it appears, that he who arrests carries the party arrested to another higher person, to be disposed of forthwith; whereas he that attaches keeps the party attached, and presents him in court at the day assigned in the attachment.

There is this further difference that an arrest lies only upon the body of a man; and an attachment sometimes on his goods too; for a man may be attached by an hundred fuses.

Moreover, attachment is a process from a court of record, awarded by the justices at their discretion, on a bare segglion, or on their own knowledge; and is properly grantable in cases of contempt, against which all courts of record, but more especiafly those of Westminster-hall, and above all the court of B. R. may proceed in a summary manner.

The contempt that are thus punished, are either direct, which openly inflicts or refit the powers of the court, or the persons of the judges who preside there; or else are consequential, which, without such gross insolvency or direct oppression, plainly tend to create an universal disregard of their authority. The principal instances of either sort that have been usually punishable by attachments, are of the following kinds: 1. Those committed by inferior judges and magistrates by acting unjustly, oppressively, or irregularly, in administering those portions of justice which are entrusted
ATT

...trusted to their distribution; or by disobeying the king's writs issuing out of the superior courts, by proceeding in a case after it is put a file to or removed by writ of prohibition, certiorari, error, supersedeas, or the like. 2. Those committed by sheriffs, bailiffs, gaolers, and other officers of the court, by abusing the process of the law, or deceiving the parties, by any acts of oppression, extortion, collusive behaviour, or culpable neglect of duty. 3. Those committed by attorneys and solicitors, who are also officers of the respective courts, by gross instances of fraud and corruption, injustice to their clients, or other dishonest practice. 4. Those committed by jurors in collateral matters relating to the discharge of their office; such as making default when summoned, refusing to be sworn, or to give any verdict, eating or drinking without the leave of the court, and especially at the cost of either party; and other irregularities of a similar kind; but not in the mere exercise of their judicial capacities, as by giving a false or erroneous verdict. 5. Those committed by witnesses; by making default when summoned, refusing to be sworn or examined, or prevaricating in their evidence when sworn. 6. Those committed by parties to any suit or proceeding before the court; as by disobedience to any rule or order made in the progress of a cause; by non-payment of costs awarded by the court upon a motion; or by non-ob servance of awards duly made by arbitrators and umpires, after having entered into a rule for submitting to such determination. 7. Those committed by any other person under the degree of a peer; and even by peers themselves, when enormous and accompanied with violence, such as forcible refusals, and the like; or when they import a disobedience to the king's great prerogative writs of prohibition, habeas corpus, and the like.

Some of these contempts may arise in the face of the court; as by rude and contumelious behaviour; by obfucnity, perseverance, and preparation; by breaking the peace, or any wilful disturbance whatsoever; others, in the absence of the party; as by disobeying, or treating with disrespect, the king's writ, or the rules or process of the court; by perverting such writ to the purposes of private malice, extortion, or injustice; by speaking or writing contemptuously of the court, or judges acting in their judicial capacity; by printing false accounts (or even true ones, without proper permission) of causes then depending in judgment; and by any thing, in short, that demonstrates a gross want of that regard and respect, which, when once courts are deprived of, degrade and destroy their authority among the people. The process of attachment for these and similar contempts must necessarily be as ancient as the laws themselves; for laws, without a competent authority to secure their administrations from disobedience and contempt, would be vain and nugatory. This has accordingly been exercised as early as the annals of our law extend.

If the contempt be committed in the face of the court, the offender may be instantly apprehended and imprisoned, at the discretion of the judges, without any further proof or examination. But in matters at a distance, and of which the court cannot have so perfect a knowledge, unless by the confession of the party, or the testimony of others, if the judges upon affidavit fee sufficient ground to suspect that a contempt has been committed, they either make a rule on the suspected party to shew cause why an attachment should not issue against him; or in very flagrant instances of contempt, the attachment issues in the first instance; as it also does, if no sufficient cause be shewn to discharge, and therefore the court confirms and makes absolute the original rule. This process of attachment is merely intended to bring the party into court; and when there, he must either stand committed, or put in bail, in order to answer upon oath to such interrogatories as shall be administered to him, for the better information of the court with respect to the circumstances of the contempt. These interrogatories are in the nature of a charge or accusation, and must by the course of the court be exhibited within the first four days; and if any of the interrogatories is improper the defendant may refuse to answer it, and move the court to have it stricken out. If the party can clear himself upon oath, he is discharged; but, if perjur'd, may be proceeded for the perjury. If he confesses the contempt, the court will proceed to correct him by fine or imprisonment, or both, and sometimes by a corporal or infamous punishment. If the contempt be of such a nature, that when the fact is once acknowledged, the court can receive no farther information by interrogatories than it is already poss'd of (as in the case of a refusal), the defendant may be admitted to make such simple acknowledgement, and receive his judgment, without answering to any interrogatories; but if he wilfully and obstinately refuses to answer, or answers in an evasive manner, he is then clearly guilty of a high and repeated contempt, to be punished at the discretion of the court. Blackstone's Com. vol. iv.

The terrors of attachment in case of disobedience on the part of unwilling witnesses, as well as the compulsory processes for obtaining their attendance, are of excellent use in the thorough investigation of truth: and upon the same principle, in the Athenian courts, the witnesses who were summoned to attend the trial, had their choice of three things, either to swear to the truth of the fact in question, to deny or abuse it, or else to pay a fine of a thousand drachmas.

**Attachment**, *Writ of*, called also *Pons*, is a writ issuing out of the court of Common Pleas, and grounded on the non-appearance of the defendant at the return of the original writ; which commands the sheriff to attach him, by taking gage, that is, certain of his goods, which he shall forfeit, if he doth not appear; or by making him find sure pledges or sureties who shall be amerced in case of his non-appearance. This is the first and immediate process, without any previous summons, upon actions of trespass *vi et armis*, or for other injuries, which, though not forcible, are yet trespasses against the peace, as deceit and conspiracy; where the evidence of the wrong requires a more speedy remedy, and therefore the original writ commands the defendant to be at once attached, without any precedent warning. See Process.

**Attachment out of Chancery**, is a writ in the nature of a *copias*, directed to the sheriff, and commanding him to attach, or take up the defendant, and bring him into court. It is had of course, upon an affidavit made that the defendant was served with a *fulfana*, and appears not; or it issueth upon not performing some order or decree.

After the return of this attachment by the sheriff, *good non ef inmellus in balion far*; another attachment, with proclamations, if issues: which, besides the ordinary form of attachment, directs the sheriff that he cause proclamations to be made, throughout the county, to summon the defendant, upon his allegiance personally to appear and answer; and if this be also returned with *sef erit inmellis*, and he still standeth in contempt, a committal of rebellion is awarded against him. See Commission of Rev. Alien.

**Attachment, Foreign**, is an attachment of goods or money found within a liberty or city, to satisfy some creditor within such city or liberty.

Under the eulom of London, if a plaint be exhibited in the mayor's or the sheriff's court (the proceeding in the former being the most advantageous) against A, and the process be returned
A

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or would influence the court, if the plaintiff in the original action shall not disprove it within a year and a day; now if the plaintiff in the action below doth not set forth such conditional judgment given by the court, it is wrong, because he hath not set being his case within the culmum. Vide 2 Law. 875.

A sum of money was to be paid to Michaelmas, and it was attached before that day; adjudged, that a foreign attachment cannot reach a debt before it due; therefore, though the judgment on the attachment was after Michaelmas, yet the money being attached before it was due, it is for that reason void. Cro. Eliz. 184. For further matter, see Com. Dig. tit. Attachment.

Money due to an execution or administrator, as such, cannot be attached. It would give a simple contract creditor priority over judgments. Fisher v. Lane and others, 3 Will. 297. Nor trust money in the hands of the garnissees.

Debtor and creditor being both citizens of London, the debt was delivered several goods to the EXETER carrier then in London to carry and deliver them to Exeter, and the creditor attached them in the hands of the carrier for the debt due to him from his debtor; adjudged, that the action should be discharged, because the carrier is privileged in his person and goods, and not only in the goods which are his own, but in those of other men, of which he is in possession, for he is answerable for them. 1 Leon. 189. See Jacob's Law Dict. by Tomlins, art. Attachment.

Attachment of the Forrest, or Woodsmote, is one of the four courts held in the forest. (See Courts of Forrest, &c.) The court of attachments seems so called because the verderors of the forest have therein no other authority, but to receive the attachments of offenders against vert and venison taken by the foresters, to enrol them, and to certify them under their seals, to the court of justice-rect, or sweinmote; for this court can only inquire of, but not convict offenders.

This attachment is by three means; by goods and chattels; by body, pledges, and mainprize; or by body only. Offenders may be attached by their bodies, if taken with the mainprize (or mainouvre, a main), that is, in the very act of killing venison, or stealing wood, or preparing to do, or by fresh and immediate pursuit after the act is done; otherwise, they must be attached by their goods. This court is held once in every forty days throughout the year; whence it is also denominated forty days court.

Attachment of Privilege is, by virtue of a man's privilege, to call another to that court whoso he himself belongs, and in respect whereof he is privileged to answer some action: or, it is a power to apprehend a man in a place privileged. Corporation courts have sometimes power by charter to issue attachments, and some courts-baron grant attachments of debt. Kitch. 79.

ATTACK, an attempt upon any person or thing; or the act of beginning a combat or dispute.

Attack, in the Military Art, signifies an engagement having for its object the forcing of an entrenched post, or dilagrading an attacking army from its lines, when in a situation calculated to impede the progress of an invading army.

War is naturally an offensive operation. In the earlier ages we find it carried on by a series of engagements uniformly on the principle of attack, and unconnected with any of those skilful manœuvres which the ready genius of mankind has since carried into execution for their mutual destruction.

The ultimate object of a battle confined in plundering, in the case of successe, a small tract of the enemy's country, and
ATTACOTTI, in Ancient History, a savage people of Great Britain, mentioned by Aminius Marcellius (l. 27, c. 8) and St. Jeron (tom. ii. p. 751), as well as in the Notitia Imperii, whose situation is not precisely ascertained by antiquaries. Some have supposed that they inhabited Wales, and allege, that their name was derived from the British words "at a coast, or coed," signifying amongst woods. But it is probable, that they were seated somewhere further north.
north than any part of Wales; for Ambrianus Marcellinus
represents them as allies and confederates of the Scots and
Picts, and therefore they were probably their neighbours.
Their enemies, and afterwards the soldiers, of Valentian,
are accused, by an eye-witness, of delighting in the taste of
human flesh. When they hunted the woods for prey, it is
said by Erasmi (ubi supra), that they attacked the shepherd,
rather than his flock; and that they cunningly selected the
most delicate and brawny parts of male and females,
(puerorum nato et familiae papillas, which they prepared
for their horned part.)

ATTAGEN, ATTAGAS, in Ornithology, names given by
Burk and Buff to the red or moor-goose, or red goose, in
Gmelin's arrangement the fourth variety of Uni alega y
Linn. & Cimh. Buff also calls them Attas of Gmelin
university Pennsylvania.

ATTAINER, in Law, is that man or woman which is
accused by a man who has committed felony, treason, or
other crime, and who is capitally convicted for the same.
This, by the common law, is the immediate inferrable
consequence of the sentence of death that is pronounced.
The law, in this case, casts a note of infamy upon the cri-

minal, puts him out of its protection, and takes no further
care of him than barely to see him executed. He is then
called attainted, attitatus, smacked or blackened. He is no
longer of any credit or reputation; he cannot be a wit-ness
in any court; neither is he capable of performing the
functions of another man: for, by an anticipation of his
punishment, he is already dead in law. This is after
judgment; for there is a great difference between a man
convicted, and attainted; though they are fre-
quently, through inaccuracy, confounded together. After
judgment only, a man is liable to none of these disabilities:
for, in the conformation of law, there is still a possibility of
his innocence. Sometimes may be offered in arrest of judg-
ment; the indictment may be erroneous, which will render
his guilt uncertain, and thereupon the present conviction may
be quashed; he may obtain a pardon, or be allowed the
benefit of clergy; both which suppose some latent sparks of
merit, which plead in extenuation of his fault. But
when judgment is once pronounced, both law and fact con-
spire to prove him completely guilty; and there is not the
remotest possibility of any thing to be said in his favour.
Upon judgment, therefore, of death, and not before, the
attainted of a criminal commences; or upon such cir-
stances as are equivalent to judgment of death; as judg-
ment of outlawry on a capital crime, pronounced for
feasong or fleeing from justice, which tacitly confesses
the guilt. And, therefore, upon judgment of outlawry,
or of death, for treason or felony, a man shall be said to be
attainted.

A man is attainted by appearance or by process. “At-
tained” on appearance is by confession, or verdict, &c.,
by confession, when the prisoner, upon his indictment, being
asked whether guilty or not guilty, answered himself guilty,
without putting himself upon his country; and formerly
confession was allowed before the coroner in inquest,
upon which the offender was to aby the realm, and this
was called “attained” by abi juris. “Attained” by verdict,
is when the prisoner at the bar pleadeth not guilty,
and is found guilty by the verdict of the jury of life and
death. “Attained” by process, otherwise called “atten-
dant” by default or by outlawry, is when a party flies, and is
not found, and he hath been five times publicly called
or proclaimed in the county, and, at last, upon his default,
is pronounced or returned outlawed. Staunf. Pl. Co. 44.
122. 182. Perons may also be attainted by act of parlia-
ment. Accordingly acts of attainder have been passed in
several reigns, on the discovery of plots and rebellions, from
the reign of Charles II., when an act was made for the
attainder of several persons guilty of the murder of
King Charles I. to this time. Among thes, the most
remarkable is that for attainting John Bye for
conspiring against King William; this act having been made
for attainting and convicting him of high treason on the
oath of one witness, just after a law had been passed, that
no person should be tried or attainted of high treason, where
corruption of blood is incurred, but by the oath of two
lawful witnesses, unless the party confess and make, &c.,
Stat. 7 and 8 W. III. c. 3. However, in John Bye was
indicted of treason, on the oath of two witnesses, though
only one appeared against him on his trial; and it was al-
lledged, that though the jury had agreed with and prevailed on one
of the witnesses to withdraw.

The consequences of “attainted” are forfeiture, and cor-
ruption of blood; which latter cannot be regularly taken
out but by act of parliament. See these articles.

“Attained” may be reverted or falsified by writ of error,
or by plea; in the former case it must be by the
King's leave, &c.; and in the latter it may be by denying the
treason, pleading a pardon by act of parliament, &c.
3 Inf. 232.

By a king's taking the crown upon him, all attainders of
his person are “ipso facto” purged, without any reversion.
1 Inf. 26. Finch L. 82. Wood. 17. This was the de-
claration of parliament, made in favour of Henry VII.

ATTAINER, Bill of, is a bill brought into parliament
for attainting, condemning, and executing a person for high
treason. See ATTAINER.

ATTAIN,attoin, in Law, a writ which lies to
inquire, whether a jury of twelve men gave a false verdict,
and this must be brought in the lifetime of him for whom the
verdict was given, and of two at least of the jurors who gave
it. This lay, at the common law, only upon writs of aflict;
and seems to have been coeval with that institution by
King Henry II. at the instance of his chief justice Glanvil;
being probably meant as a check upon the vast power then reposed
in the recognizors of aflict, of finding a verdict according to
their own personal knowledge, without the examination of
witnesses. And even here it extended no further than to
such instances, where the aflict was joined upon the very
point of aflict (the heirship, deditinn, &c.), and not on my
collateral matter, as villages, barony, or any other dis-
puted fact. (See Annexa in juramento, &c.) It seems that
no attaint lay against the inquest or jury that determined such
collateral issue; nor did such a process obtain after the trial
by inquest or jury, in the old Norman or feudal actions
prosecuted by a writ of entry; nor did any attaint be
in trespas, debt, or other action personal, by the old common
law; because these were always determined by common
inquests or juries. At length the statute of Writs. 1
(3 Edw. I. c. 38.) allowed an attaint to be sued upon in-
quells, as well as aflicts, which were taken upon any plea
of land or of freehold. But this was at the king's dis-
cretion, and so it is understood by the author of Pleta, a
writer contemporary with the statute; though Sir Edward
Coke (2 Inst. 130. 237.) seems to hold a different opinion.
Other subsequent statutes, 1 Edw. III. III. 4. 5 Edw. III.
4. 7. 28 Edw. III. 5. 8.) introduced the same remedy in all
pleas of trespas; and the statute 34 Edw. III. c. 7. extended
it to all pleas whatsoever, personal as well as real; except-
ing only the writ of right, in such cases where the
mile or aflict is joined on the mere right, and not on any collateral
question.
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question. For though the attaint seems to have been generally allowed in the reign of Henry II., at the first introduction of the grand assize (which at that time might consist of only twelve jurors, in cases they were all unanimous), yet sufficient authorities have favored that attaint be not a false verdict given at the mere will of the party accused, or by the common law; or by statute, because that is destructive of the grand assize, opposed to the party himself, and a most confounding of five or six jurors. Bract. 25. 2 Mat. 27. Britt. 245. 2 Inst. 256. 7. Co. Abr. Attain. 45. 1 Roll. Abr. 280.

The jury are the only persons who may try this false verdict must be twenty-four, and are called the grand jury; for the law will not that the oath of the jury of twelve men should be attainted or fat aide by an equal number, nor by less indeed than double the former. Bract. 1. 4. tr. c. 5. § 5. 1. Hl. 1. 5. c. 22. § 3. If the matter in dispute be of forty pounds value in persons, or of forty shillings a year in lands and tenements, then by Stat. 15 Hen. VII. c. 5. each grand juror must have freehold to the annual value of twenty pounds. And he that brings the attaint can give no other evidence to the grand jury than what was originally given to the petit. But those against whom it is brought are allowed, in absence of the first verdict, to produce new matter; because the petit jury may have formed their verdict upon evidence of their own knowledge, which never appeared in court. If the grand jury found the verdict a false one, the judgment by the common law was, that the jurors should lose their "liberum legem," and become for ever infamous; should forfeit their goods and the profits of their lands; should themselves be imprisoned, and their wives and children thrown out of doors; should have their hoes razed, their trees extirpated, and their meadows ploughed; and that the plaintiff should be restored to all he lost by reason of the unjust verdict. But as the severity of the punishment had its usual effect in preventing the law from being executed, therefore by the statute 11 Hen. VII. c. 24. revived by 25 Hen. VIII. c. 3. and made perpetual by 15 Eliz. c. 25. an attaint is allowed to be brought after the death of the party, and a more moderate punishment was inflicted upon attainted jurors; viz. perpetual infamy; and if the cause of action were above forty pounds value, a forfeiture of twenty pounds a-piece by the jurors; or if under 40l. then five pounds a-piece; to be divided between the king and the party injured. So that a man may now bring an attaint either upon the statute or at common law, at his election (3 Inst. 164); and in both of these may revoke the former judgment. But the practice of filing aside verdicts upon motion, and granting new trials, has so superceded the use of both forts of attaints, that few instances of attaint occur in our books later than the sixteenth century. Cro. Eliz. 359. Cro. Jac. 92. By the old Gothic consititution, indeed, no certificate of a judge was allowed, in matters of evidence, to counterview the oath of the jury; but their verdict, however erroneous, was absolutely final and conclusive. Yet there was a proceeding, from whence our attaint may be derived. If upon a lawful trial before a superior tribunal, the jury were found to have given a false verdict, they were fined, and rendered infamous for the future. Stierhoun de jurid. Nat. l. 1. c. 4. Blackstone's Comm. vol. ii. p. 302, &c.

ATTAINED, ATTAIN'T, or ATTINCTUS, in Law.

See Attainder.

ATTAK, in Geography, the largest of the islands commonly denominated the Aleutian or Aleutian islands. It seems to have a larger extent of surface than Behring's island, and has an oblong form, lying more w. and e. In these islands no volcanic traces have been discovered, and here are no land animals but ice-foxes and rock-foxes, more frequently blue than white. The fea-otters come hither but singly; whereas fox-foxes, sea-bears, manadis, and some other bears frequent these shores in herds. See Aleutian Islands.

ATTALLIA, in Ancient Geography, a town of Asia, in Phrygia, on the coast of the sea, which then formed a gulf of the same name, now called the gulf of Satara. Strabo (1. xiv. p. 439.) says that it was built by Attalus Philadelphus, king of Pergamus, who founded a colony there, and that it was the chief residence of the priest. St. Paul proceeded from Perga to this town. Acts xiv. 25.

—Alb. a town of Asia, in Lydia.

ATTALIC Z VESTES, in Antiquity. Garments made of a kind of cloth of gold.

They took the denomination from Attalus, surnamed Philadelpbus, a wealthy king of Pergamus, who was the first, according to Pliny, who procured gold to be woven into cloth. Hill. Nat. lib. iii. cap. 48.

ATTALIS, in Ancient Geography, the name of a tribe of Attica.

ATTALUS, in Biography, the name of several kings of Pergamus.—Attalus I. succeeded his cousin Eumenes I. in the year 234 B.C. Having expelled the Gauls who had settled in his country, he assumed the title of king, and extended his conquests of the Atlantic provinces as far as Mount Taurus. But in the foregoing, in which he was surrounded by the united forces of his grandfather Attalus and Seleucus, he availed himself of the favour afforded him by the Gauls settled in Thrace, and recovered his dominions of which he had been disappointed. He then purified his conquests in Asia, till his career was stopped by the refusal of the Gauls to advance any farther. Upon this he returned to the Hellespont, and allowed his allies to settle there in a very fertile and extensive region. For the security of the territories he had acquired, he formed an alliance with the Romans, whom he vigorously assisted in their two wars against Philip of Macedon. In conjunction with the Athenians he invaded Macedonia, and recalled Philip from his enterprises against Athens; and on this account the Athenians gave his name to one of their tribes. At Thebes in Boeotia, whilst he was haranguing the people, and urging them to take arms against Philip, he was seized with an apoplexy; and being conveyed to Pergamus, he soon after died, in the 72d year of his age, and 43d of his reign. He is regarded as a generous and amiable prince, a liberal encourager of literature, and also a writer. Of his veneration for Homer the following singular infallibility is mentioned by Suidas and Valerianus Maximus; viz. his causing the grammarians Daphnidas to be thrown from a rock, for speaking disrespectfully of this celebrated bard.—Attalus II. was the second son of Attalus I. and called Philadelphus, from his fidelity and affection to his brother Eumenes, who was king of Pergamus before him. Upon a false rumour of the death of Eumenes, he hastily assumed the regal insignia, and married his brother's wife; but on his brother's safe return, he manifested every token of satisfaction and allegiance, and gave an alms as one of his guards. Eumenes kindly embraced him, and in a whilper cautioned him "not again to be in such haste to marry his wife, till he was sure of his death." Attalus was actively attached to the Romans in their war against Perseus; and made successive visits to Rome for the purpose of exculpating his brother from the charge of indifference to their interest. At his death, Eumenes bequeathed both his kingdom and his wife to Attalus; and appointed him guardian of his infant son, which truth he faithfully executed. At
Attalus commenced his reign in the year 159 B.C. and after a reign of 21 years, distinguished principally by his successes in followling Ariarathes VI. to the throne of Cappadocia, and by his conduct with Ptolemy king of Bithynia, which terminated after alternate defeats and successes in the determination and annihilation of this prince, he died in his 82d year. He was a patron of literature, acknowledged as the founder of two cities in Asia, viz. Attalus and Philadelphia, and esteemed much by the Romans, by whom he was considered as one of their most faithful allies.—Attalus III. was the son of Eumenes II. and succeeded his uncle in the year 133 B.C. His disposition was cruel and fuperciscious, and led him to sacrifice most of his own family, and several persons of distinction in his court, with their wives and children. From his real or affected love for his mother Stratonia, he was denominated Philometor. After filling his capital and kingdom with deplorable diffrecs, he retired into solitude, and leqquiered from all social intercourse, devoted himself to the culture of a garden, in which he planted a variety of poisonous herbs and thickets. He occasionally sent packets, mixed with poisons, to those who were the objects of his gloomy fulnecion. This conduct indicates infanticide; but it has been ascribed by Varro and Columella to a fondness for horticulture, and the study of medicinal simples; and Attalus has been numbered among those who wrote on these subjects. By the heat and toil which he experienced in the chemical employment of cating a plant of his mother, he was thrown into a fever, which terminated his life and reign in the year 133 B.C. The Roman people were by his testament left the heirs of his goods, which they interpreted to mean his dominions and subjects. Their claim to this rich inheritance was contested, but at length established. The wealth of Attalus seems to have been a proverbial expression, and is frequently alluded to by the Roman poets. Gen. Diog. See Pergamum.

Attalus, a Christian martyr, was a native of Pergamus in Phrygia, and fell a sacrifice to persecution at Lyons, in the 177th year of the emperor Marcus Antoninus, and the 177th year of our Lord. In an epistle of the churches of Vienne and Lyons, addressed to the churches of Asia and Phrygia, containing a relation of the sufferings of their martyrs, Attalus is denominated “the pillar and support of the churches there,” and a zealous champion for the truth. He was led round the amphitheatre with a board carried before him, on which was inscribed, “This is Attalus the Christian:” whilst the people were incessant inexpressing their great indignation against him. For the gratification of the people he was delivered to the wild beasts, and after having been run through with a sword, he was set in an iron chair and burned to death. The conduct of Attalus, as well as that of his fellow-sufferers, manifested a fortitude that was invincible. Eusebius, l. v. Prep. c. 1. Lardner’s works, vol. vii. p. 225, &c.

Attalyda, in Ancient Geography, a town of Asia, in Lydia.

Attaminitus, in Entomology, a species of Scarabæus, with the thorax black and glabrous; head tuberculated; wing-cases tachaeous, with five black spots on each. Marham’s Ent. Brit. Panzer names this little insect S. inquinatus, Ent. Germ.

Attar of Roset. See Ottar.

Attarsoak, in Zoology, a name assigned by Cramer (Gréb. p. 163.) to the species of Phoca, groenlandica, or harp seal of Pennant. See Groenlandica.

Atteladois, in Entomology, a species of Carabus that inhabits Coromandel, and is about the size of the European species leuchothalamus. It is apterus and black, with a narrow thorax; the posterior part of the head attenuated; wing-cases furred and truncated. Fabricius.

Atteladois, a species of Cirriulio that inhabits Brazil. The shells are rough, variegated with brown and gray; legs variegated; and thighs elavate. It is thus specifically defined by Fabricius: ‘ corrutry chryfomela unihabulentis’ black and wing-cases with a single tubercle.

Atteladois, a species of Rhinocer at that inhabits the pine. It is downy; antennæ and legs tachaeous. A native of Sweden. Gmel. &c.

Atteladois, a species of Formica of a black colour; two spines on the thorax; legs ferruginous; posterior part of the head attenuated. Fabricius. Habits Brazil.

Atteladois, a species of Cimex (Reduvius Sect.), found in New Holland. It is tachaeous, varied with black; anterior part of the thorax tachaeous, with two black teeth. Fabricius. The femur is pale, with a black dorsal line; a black band in the middle of the thorax; anterior margin of the wing-cases black; wings black; body tachaeous beneath; thighs annulated with black.

Attelabus, a genus of Coleopterous insects in the Linnaean syltem, that is distinguished by having the head inclined and pointed behind; antennae moniliform, and thickset near the end. Linn. &c.

Of this genus, Gmelin enumerates thirty-four species, including the Fabrician cler, and fpondyloides described in Spec. Inf.—Fabricius in his Ent. Syfl. describes thirty-three species of the attelabi exclusively; his character of the genus is, feelers filiform; jaws bifid; lip horny, concealing the feelers; antennæ moniliform, and situated on the back. This genus Linnaeus observes is very obscure, the insects arranged under it differing much from one another in their external appearance. But this obscurity a later writer remarks, “proceeds rather from Linnaeus not having known a sufficient number of insects proper to be arranged under it; and his placing with these, the species included in the Clerus genus by Geoffroy, in which the general characters they affign to his attelabli are not found, than to any defect in the characters themselves.” Seecoli distinguishes the attelabi by the following character; hinder part of the head gradually diminishing in size; eyes prominent; thorax somewhat broader than the diameter of the head, and of a cylindrical form. Among these are included some of the Linnaean chryfomela, whose bodies are oblong and narrower than the thorax. The clerus of Geoffroy and Schefierler is partly taken from the Linnaean attelabi, and partly from the derneelest of that author; the characters they affign to are, antennæ club-formed, and placed on the head; the knob composed of three joints; no proboscis; thorax almost cylindrical, and without margin; foles of the feet fponggy.

The body of the insects in the genus attelabus is commonly of an ovate form; the head projecting, ovate, and narrow behind, where it unites with the thorax; the eyes are globule and situated in front; the antennæ short and approximate, moniliform, and composed of eleven joints, of which that at the base is large, and the three at the extremity form an oval of a somewhat lengthened shape; thorax and femur are both redunated; wing-cases as long as the abdomen, and rather convex; legs short and the feet of four joints. The insects of this genus approach very nearly to les brachicères, les bresters, les rhinocéraes, les macrocéphales, and les bruches of modern French naturalists, but are sufficiently distinguished by their antennæ.
The larvae of the adelabri, according to some writers, are furnished with fix feet; are very fat, of a whitish colour, and have an amuleted body. The head is protected by a hard finely covering, and the mouth furnished with two very strong jaws, with which it does great mischief. It attacks the leaves, the flowers, the fruits, and even the stalks and roots of different plants; but most of the species penetrate into the plant, and sufficiet ently on the parenchyms or spongy parts within. Preparatory to the transformation to the pupa state, some species spin a silken web, and others form a little ball of a very solid kind, in which they remain during the second state. The perfect insects inhabit the same places as the larva, but are deemed less injurious to them.

Gmelin, as before observed, describes thirty-four species of this genus: these are coriyl, avellana, bicolor, denigratus, clyrothorpus, bipululatus, gemmatus, indicus, tecnomoides, furaminus, pennyalvus, melanurus, angulatus, ruicollis, pubefcens, betula, mutillarius, dubius, laevis, formicarius, fphagus, fenticatus, quadrinaculatus, unisfaciatus, ecb-punctatus, tricolor, bifaciacius, fpylus, annulus, aparatus, cyanus, erasiformis, cerambochis, horta, etc., which see respectively.

Obj. A few of the figures in the third entomological plate of this work having been inadvertently misplaced, the insect described g. 15. atticulans will be found to belong to another genus, and that marked g. 13. bruchus being one of the Linnaean atticulans, may serve to illustrate this genus, till another figure can be given.

ATTENBEA, in Ancient Geography, an island in the Mediterranean sea, on the coast of Lycaia. Ptolemy calls it Attilubia, and places it on the coast of Pamphilia. Pliny.

ATTELAN.E. See ATTELLAN.E.

ATTENA, in ancient Geography, a town of Ethiopia, below Egypt. Pliny.

ATTENBY, in Geography, a town of Sweden, in the island of Oeland.

ATTENDANT, or ATTENDENT, in a general sense. See Assistant, Retinue, and Satellite.

ATTENDANT, in Anatomy, Attendent, in Laze, signifies that one owes duty, or service to another, or depends in some manner upon him.

Where the wife is endowed of lands by guardian, the shall be attendant on the guardian, and on the heir at his full age.

ATTENDORN, in Geography, a town of Germany, in the archiepiscopal of Cologne, and duchy of Welfphalia, seated on the river Bigge, and seven leagues south of Arenberg.

ATTENHOVE, a town of Brabant, one league north-east of Larden.

ATTENTION, Attention, compounded of ad, to, and tendo, I stretch, a due application of the ear, or the mind, to any thing said or done, in order to acquire a knowledge of it.

Attention of mind, is not properly an act of the understanding, but rather of the will, by which it calls the understandings from the consideration of other objects, and directs it to the thing in hand. Nevertheless, our attention is not always voluntary: an interesting object seizes, and fixes it beyond all power of control.

It is by the attention that is given to any object of sense or intellect, that we form a distinct notion of it, or discover its nature, its attributes, or its relations: and go great indeed is the effect of attention, that, without it, it is impossible to acquire or retain a distinct notion of any object of thought.

To this purpose it is said, that for Isaac Newton, when he was complimented upon the force of genius which had made such improvements in mathematics and natural philosophy, made this reply, no less judicious than modest: "that, if he had made any improvements in those sciences, it was owing more to patient attention, than to any other talent." As it is very helpful to memory, if not essential to it, that the perception of the idea which we wish to remember should remain in the mind for a certain space of time, and should be contemplated by itself exclusively of every thing else, we can be at no loss to account for the affiance which the memory derives from attention, which confiats partly, if not entirely, in the effort of the mind, to retain the idea or the perception, and to exclude the other objects that solicit its notice. Hence it happens that in solitude, or the fillness of the night, when the attention is undiverted and undistracted by surrounding objects, the impression made by any one object is stronger and deeper: and the memory becomes more retentive. When one faculty of the mind is intensely engaged about any object, the other faculties are laid, as it were, fast asleep; hence a man needs not what is before his eyes, when his mind is occupied about other things. In the tumult of a battle, a man may be shot through the body without knowing any thing of the matter, till he discovers it by the lobs of blood or of strength. The off acute lactation of pain may be deadened if the attention be vigorously directed to another object. The anecdote relating to the attention of Archimedes at the siege of Syracuse is well known. (See Archimedes.) When there is no particular object that draws away our attention, there is a delusion of thought in man, and in some more than in others, which makes it very difficult to give that fixed attention to important objects which reason requires. A habit of attention may be acquired by practice; and the study of the mathematical sciences has a peculiar aptitude to direct and fix it. Attention is one of those operations of the mind, which, according to Dr. Reid's distribution (Essays, p. 78), belong to the class of those that are voluntary.

Attention, in respect of hearing, is the stretching or stretching of the membrana tympani, so as to make it more susceptible of sounds, and better prepared to catch even a feeble agitation of the air. Or it is the adjusting the tension of that membrane to the degree of loudness or loudness of the found to which we are attentive.

"Sounds," says the celebrated Bacon in his Natural History, "are melodyed by the intention of the sense, where the common sense is collected most to the particular sense of hearing, and the sight suffused. Therefore sounds are sweeter, as well as greater, in the night than in the day; and I suppose they are sweeter to blind men than to others; and it is manifest, that between sleeping and waking, when all the senses are blind and suffused; music is far sweeter than when one is fully wakened."

ATTENUANTS, in Medicine. This term is applied to those medicines which are suppos'd to poofess the power of restraining the concreted parts of a fluid to the same rate of fluidity which they pollesed before concretion. It is nearly synonymous with refoleant. A very reasonable doubt has been entertained, whether there is properly any such attenuating power reposing in any medicine, independent either of mere dilution, or else of the stimulant property. The idea, however, of the operation of attenuants is the following:—many of the older physicians, and after them the Boerhaavians, supposed obstruction in the circulating sytem to be produced by the red blood, or a thinner impervious humour joined with it, flagitating in their proper veffels, or wedged into other veffels of a small diameter than
than the fungous by an _error loci_. This, they supposed, would produce a greater motion and heat, owing to the adherence of the saliva, which would incline the humours to a state of perspiration. Of these concretion some are soluble by water alone, such as the salines, fetid, and mucous; but others require the dissolving power of certain medicines; and hence in the former case, _billets_ alone are sufficient to remove the obstruction, but in the latter recours must be had to the _attenuants_. Concretions supposed to be produced by an inflammatory fluidity of the blood, and oily, fetid, and calculus concretions, were considered as yielding to the internal use of various salts, such as fay gum, fumammoniac, and fixed alkali, also loaves, dejections of the acid and alkaline vegetables, and bile (which is a kind of natural loof), all of which were considered as equally attenuating and the reader will hence perceive how closely the experiments of the laboratory were applied in the living animal. Another species of attenuating or resolving remedies was the whole class of mercurial medicines, which are known to produce the most violent flow of saliva and thin fetid humours from the body, the consequence as was imagined of the power pulsed by this mineral to resolve and break down acid matter impacted in the glands and minister vesicles.

The term attenuant is not now much employed in its original sense; the alleged abuse of obstructions being entirely disputed, as well as the supposed solvent power of these medicines upon the concreted humours, whilst remaining in the vessels of the body.

**ATTENUATA** in _Entomology_, a species of _Leptura_ that inhabits Europe, and is both defined and figured by several authors. The wing-cases are attenuated and fleshy, with four black bands; legs toothless.

**Attenuata**, a species of _Boreastis_ that inhabits Rio Janiero. The wing-cases taper towards the end, terminate in two teeth, and are fringed; body brassy-green; beneath coppery. Fabricius.

**Attenuata**, a species of _Vespa_ with a serruous abdomen, and black petiole, with yellow band. This kind inhabits America. Fabricius, _c._ Off. The antennae are serruous, tipped with black; head black, with the lip yellow.

**ATTENUATION**, compounded of _attenua_ and _tenere_, _tenus_, the act of _attenuating_; that is, of making any fluid thinner and less confluent than it was before.

Attenuation is defined more generally by Chaviré, the dividing or separating of the minute parts of any body, which before, by their mutual _nexus_ or impenetrability, formed a more continuous mass. Accordingly, among alchemists, we sometimes find the word used for pulverization, or the act of reducing a body into an impenetrable powder, by grinding, pounding, or the like.

**ATTENUATUS**, in _Entomology_, a species of _Carabus_ (Gynerus attenuatum Fabr. Append.) This insect is yellowish, black, wing-cases rather coppery, with three rows of raised dots; thorax narrow; head very narrow. Panz.

**Attenuatus**, in _Natural History_, a species of _Echimonymchus_, described by Müller. Zool. Dan. It is globular, with an equal smooth yellow body; and neck filiform. Sometimes found in the interstices of the flounder. This is one of the _longicolls_ of Pallus.

**Attenuatus, pedunculus**, in _Botany_, denotes a footstalk that grows smaller towards the flower.

**ATTENY**, in _Geography_, a town of India, in the kingdom of Deccan, beautifullysituate in a forest of palm-trees, not far from the sea, about twenty two leagues north of Shapoor.

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**ATTERTBURY, Francis**, in _Biography_, a prelate of eminence in the political and literary world, was born, in 1662, at Milton Keynes near Newport-Pagnell, in Buckinghamshire, where his father, Dr. Lewis Attterbury, was rector. Having pulled through a course of grammar learning at Welminister school, he was elected, in 1684, a student of Christ-church college in Oxford. Here he acquired reputation as a classical scholar, and exhibited specimen of his political talents in a Latin version of Mr. Dryden's "Abelard and Aechotophel;" an epigram on "A lady's fan," addressed to Miss Ogborne, who afterwards was his wife; and a translation of "Two Odes of Horace," viz. Od. 9. 1. and Od. 3. 1. iv. These are published in his "Epistolary correspondence." He took his degree of bachelor of arts in 1689, and that of master in 1687, and at this period he first appeared as a controversial writer, by vindicating the reformation, in a piece intituled, "An Answer to severe confederations on the spirit of Martin Luther, and the original of the Reformation." Whilist he continued at college, he is thought to have taken a part in the famous dispute between Mr. Bentley and the Hon. Mr. Charles Boyle (afterwards earl of Orrery), concerning the genuineness of "Phalaris's Epistles," although his name did not appear on the occasion. The time of his taking orders is not precisely ascertained; but it may be inferred from circumstances that it was either at the close of the year 1690, or in the beginning of 1691. He seems to have been tired of a college life, and thinking himself formed, as he expresses himself, for "another scene, and another sort of conversation," he determined, whenever any favourable opportunity occurred, to leave Oxford. Disappointed in his application for the rectory of Milton, which was the place of his birth, he came to London in 1693, and was appointed one of the chaplains in ordinary to King William and Queen Mary, preacher at Bridewell, and lecturer at St. Bride's. His compositions for the pulpit were distinguished by the brevity of sentence and warmth of language, and accordingly they soon commanded attention. One of them, "On the power of clarity to cover obscurity," excited the notice and admiration of Hoadly; and another, intituled "The former incapable of true wisdom," was more acrimoniously censured. In the year 1700 he commenced a controversy with Archbishop Wake, concerning "the rights, powers, and privileges of convocation," which lasted four years, and in the prosecution of which he appeared as an able and ardent advocate for high ecclesiastical authority, and the independence of the church on the state. The learning, ingenuity, and zeal manifested on this occasion, procured from him the thanks of the lower house of convocation, and the degree of doctor in divinity from the university of Oxford. At the commencement of the year 1705, he was installed archdeacon of Toynbee; and in the progress of it he was engaged with some other learned divines, in revising an intended edition of the Greek testament, with Greek scholia, collected chiefly from the fathers, by Mr. Archdeacon Gregory. The accesion of Queen Anne, in 1702, was to him a favourable event; and it was soon followed by his appointment as one of her majesty's chaplains in ordinary; and in 1704, he was advanced to the deanship of Carlisle. In 1706, he preached a funeral sermon on 1 Cor. xv. 19, which occasioned a dispute with Hoadly concerning "the advantages of virtue with regard to the present life." In the following year he was appointed one of the canons residentiary of the cathedral at Exeter; and in 1709, his distinguished talents in the pulpit introduced him into the honourable office of preacher at the Rolls-chapel. In this year he was engaged in a controversy with Hoadly concerning "Pallia obedience;" and in the following
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ing year he assailed Sacheverell in his famous trial, who re-

commended him by a legacy of 500l., and in performing the

office of prosecutor to the lower house of conversation. In

1711 he was appointed by the conversation one of the com-

mittee for comparing Mr. Whiston's doctrines with those of

the church of England; and he was principally concerned in

drawing up "A representation of the present state of

religion," which, though too exceptionable in its principles,

and too virulent in its spirit to be presented to the queen,

was nevertheless printed and privately dispersed. In 1712,

Dr. Atterbury was made dean of Christ-church; and in

1713 he attacked, by the recommendation of the earl of

Oxford, the height of his promotion, that of the bishopric

of Rocheller, and deanery of Wembly. It is said, that

he aspired to the primacy; but the death of the queen, in

1714, disconcerted all his projects, and disappointed all his

hopes of higher advancement. The accession of George I.

was an event which he had reason to deplore. The

personal dislike of the king, of which he had mortifying evi-
dence, was retaliated on his part by disaffection to the estab-
lished government. In the first year of this reign, during

the rebellion in Scotland, he, and one other bishop at his in-
ligation refused to sign the "Declaration" of the king; and

his name occurs in the most violent protests against the

measures of government. Not content with a constitutional

opposition, he engaged in a correspondence with the pre-
tender's party, in order to bring about a revolution in favour

of the abdicated family; and in August 1722, he was ap-
prehended on this account, and committed to the Tower.

Whilst he was under examination, previous to his commit-

tment, he is said to have adopted our Saviour's answer to

the Jewish council; "If I tell you, you will not believe me;

and if I also ask you, you will not answer me, nor let

me go." In the month of March of the following year, a

bill was brought into the house of commons for "inflicting

certain pains and penalties on Francis bishop of Rocheller;

"and having passed the commons, it was sent up to the lords

for their concurrence. In this house it was strongly op-
posed, and the bishop, in his defence, made an able and

eloquent speech, closing, after a solemn profession of his

innocency, an appeal to the searcher of hearts, with this

memorable declaration: "If your lordships shall pro-
ceed to pass this bill against me, I shall disprove myself

quietly, and tacitly submit to what you do; God's will be
done; naked came I out of my mother's womb, and naked shall

I return; and whether be

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I

be the

name

of the Lord!" At length, however, after a long and

very warm debate, the bill passed into a law, and the bishop

was condemned to the deprivation of all his offices and

benefices, and to perpetual exile. The justice of this

sentence, though much mitigated at and immediately after

the time when it was passed, has been since generally al-

lowed. Of his attachment to the pretender, the following

striking instance is related by the author of the Memoirs

of Lord Chesterfield, from Dr. Birch's MS. papers. "Lord

Harcourt leaving the old ministry, provoked Atterbury's

abusive tongue. He, in return, declared, that, on the

queen's death, the bishop came to him and to lord Boling-

brooke, and said, nothing remained but immediately to pro-

claim king James. He further offered if they would give

him a guard, to put on his lawn sleeves, and head the pro-

cession." Of his disaffection to the existing government,

many convincing evidences occur; and particularly his con-
duct towards Mr. Gibbin, a worthy clergyman, and curate

of Gravesend, whom he suspended for a loving the title of

his church to the chaplain of the Dutch troops, who were

called over in 1715 to suppress the rebellion. Atterbury,

in consequence of his sentence, left the country in June,

1723, accompanied by his daughter, Mrs. Morrice, to whom

he was affectionately attached, and landed at Calais. From

thence he went to Brussels; but being obliged to leave that

place, he removed to Paris, where he resided till his death,

forsaking the rigours of exile by study, and conversation

and correspondence with learned men. It appears, how-

ever, he wrote letters published at Edinburgh in 1728, of

unquestionable authenticity, that he was actively engaged

in 1725, in forestalling discontents in the highlands of Scot-

land, with a view of encouraging another rebellion. In

1729 he lost his daughter, and this afflictive event, which

he bore with resignation, is nevertheless thought to have

hastened his own dissolution, which happened at Paris, in

February 1731. His remains were brought over to Eng-

land, and privately interred in Westminster-Abbey. We

cannot forbear inferring, in this place, Mr. Pope's fine

epithet on the bishop, written in the form of a dialogue

between his daughter, supposing he expiring in her arms,

immediately after her arrival in France to see him, and him-


1746. As to the justice of the complaint, which it pays
to his political sentiments, the reader must judge.

Dialogue.

She. "Yes, we have lived,—one pang, and then we part!—

May heaven, dear father! now have all thy heart. Yet, ah! how much we loved, remember still,

Till you are dutt like me.—"

He. "Dear shade! I will:

Then mix this dutt with thine,—O spotless ghost!

O more than fortune, friends, or country lost!

Is there on earth, one care, one with beside?

Yes, SAVV my COUNTRY, HEAV'n, he said, and

died."

Bishop Atterbury had four children, two sons and two

daugthers. His son Ossian alone survived him.

Some time before his death the bishop published a vindica-

tion of himself, bishop Smolridge, and dr. Aldrich, from

a charge brought against them by Mr. Oldmixon, of having

altered and interpolated the copy of lord Clarendon's, "Hi-

of the Rebellion." His sermons are extant in four volumes 8vo.; those contained in the two first were published by

himself, and dedicated to his great patron, sir Jonathan

Trelawney, bishop of Winchelsea; those in the two last were published after his death by dr. Thomas Moore, his

lordship's chaplain. His epistolary correspondence with

Mr. Pope is extant in the collection of that poet's "Let-
ters." Mr. Nichols has lately published in three volumes,

8vo. "The Epistolary Correspondence, Visitation, Charges,

Speeches, and Miscellanea of the right reverend Francis

Atterbury, D.D. lord bishop of Rocheller," with historical

notes; the greater part of these volumes is entirely new.

From the General Dictionary (vol. ii. 445.) we learn, that

Dr. Atterbury is said to have translated "Virgil's Georgics"

in English; and to have written an " Harmonia Evangelica."

In an elegant dissertation on the fictitious person of Japyx,

or Japis in the Æneid, he attempted to prove that Virgil

meant by this person to allude to Antoninus Mufa, an emi-

nent physician and polite scholar at Rome, in the reign of

Augustus; but the attempt does no honour to his critical

erudition, and has been deemed futile by judicious com-

mentators. His translations of two odes of Horace, are re-

puted by a competent judge to have received more than their
due share of applause.

As to this prelate's character, however the moral and poli-

tical part of it may have been differently appreciated by

opposite
opposite parties, it is universally agreed, that he was a man of great learning and uncommon abilities; a fine writer, and a most excellent preacher. With respect to Atterbury's public and political character, he was marked with that turbulent ambition and contentious violence which animated the Becketts and Lands of former times, and which was ill defended by the affected mildness and moderation of his epistolary writings. "The turbulent and imperious temper of this haughty prelate," says Dr. Wharton (Eliay on the Writings and Genius of Pope, vol. ii. p. 432, 433.), "was long felt and remembered in the college over which he presided. It was with difficulty queen Anne was persuaded to make him a bishop; which she did at last on the repeated importunities of lord Harcourt. After her decease, Atterbury occasionally urged his friends to proclaim the Pretender; and, on their refusal, upbraided them with their timidity, with many oaths; for he was accustomed to swear on any strong provocation. From an anecdote related by lord Chesterfield to Dr. Maty, and recorded in "Mary's Memoirs" of that nobleman (p. 279.), it has been inferred, that Dr. Atterbury had been long known among his friends, to be a sceptic, or an unbeliever, with regard to revelation. The anecdote is as follows. "I went to Mr. Pope one morning at Twickenham, and found a large folio bible with gilt clasps lying before him upon his table; and, as I knew his way of thinking upon that book, I asked him jeocelty, if he was going to write an answer to it? It is a preface, said he, or rather a legacy, from my old friend the bishop of Rochester. I went to take my leave of him yesterday in the Tower, where I saw this bible upon his table. After the first compliments, the bishop said to me, my friend Pope, considering your infirmities, and my age and exile, it is not likely that we should ever meet again, and therefore I give you this legacy to remember me by it.—Does your lordship abide by it yourself?—I do. If you do my lord, it is but lately. May I beg to know, what new light or arguments have prevailed with you now, to entertain an opinion so contrary to that which you entertained of that book all the former part of your life?—The bishop replied, we have not time to talk of these things; but take home the book; I will abide by it; and I recommend to you to do so too, and so God bless you!" This single flimsy, however, not only uncorroborated, but contradicted by other facts, is not sufficient to warrant the charge of scepticism against this prelate. Whatever were his faults, he does not appear to have disbelieved or even doubted the truth of Christianity. His actions and writings exhibit the fiery zealot and bigot rather than the infidel; though it must be acknowledged, that these characters may be united in the same person. His sermons on the miraculous propagation of the gospel, and on a standing revelation, being the butt means of conviction, besides other discourses, furnish important and pleasing evidences of his attachment to the Christian religion. It cannot also be considered strange, that he generally treats unbelievers with contempt, as an ignorant, superficial, and conceited set of men; which he would scarcely have done if he had been of the same sentiments. For though a man may conceal, or deny, or even pervert the opinions which he himself holds, it is not very likely that he should appear to despise the retainers of them. Besides, there is an arduous of affectionate censure in Mr. Pope's two last letters to Dr. Atterbury (Pope's Works, vol. v. p. 351—355.), written to him when he was in the Tower, which that eminent poet, who valued himself upon his moral character, could not well have expressed to the bishop, if he had known that he had acted the base and hypocritical part of publicly professing and defending that religion which he privately disapproved. Not to add, that he actually derived much of his connection in adversity from his religious principles. His correspondence with Dr. Wall and bishop Potter, preserved in Nicholas's publication, fully proves his belief in, and his zeal for, the honour of the Christian revelation; and the testimony, derived from his private correspondence and from the uniform tenor of his life and writings, might, surely, with impartial and candid judges, to outweigh the evidence deduced from a single flour, however well authenticated. In his letters to Mr. Pope, and to his other correspondents, bishop Atterbury appears in a very pleasing light, both as a writer and a man. In safe and elegance, these letters are superior to those of Mr. Pope, which are more fluently. If we were to form our judgment of him, as a man, from these letters, we should incline to think that it was his life with to spend his life in a learned and elegant focal intercourse with a few private friends; and yet numerous facts sufficiently show, that nothing could be more distant from his real disposition and character, and that he was actuated in early life, and in the progress of his year, by a restless and turbulent ambition. His panegyrist, bishop Smalridge, in the speech which he made, upon presenting him to the upper house of convocation, as Proctor, represents him as "Vir in nullo literarum generis holpes, in pleniquo artibus et flavis diu et feliciter exercitus, in maxime perfectis literarum disciplinis perfectissimus: i.e. "one, who is well acquainted with all parts of literature, long and successfully exercised in most arts and studies, and most accomplished in the four sciences which admit of the greatest perfection." Although it is allowed, that he was sometimes too severe upon his adversary, and dealt rather too much in satire and invective, yet this is imputed by his panegyrist more to the natural fervour of his wit, than to any bitterness of temper, or prepossession. As a composer of sermons and a preacher, he excelled his co-temporaries, and in this respect few English authors have attained to so high a rank. Of his character, as a preacher, the following encomium is bestowed upon him by the author of the "Tatler" (N. 66) who, having observed that the English clergy too much neglect the art of speaking, makes a particular exception with regard to this prelate. "Atterbury," says he, "has so particular a regard to his congregation, that he commits to his memory what he has to say to them; and has so soft and graceful a behaviour, that it must attract your attention. His oration, it is to be confessed, is no small recommendation, but he is to be highly commended for not losing that advantage, and adding to the propriety of speech (which might put the criticism of Log gia), an action, which would have been approved by Demosthenes. He has a peculiar force in his way, and has many of his amicities, who could not be intelligent hearers of his discourses, were there not explanation as well as grace in his action. This voice of his is used with the most exact and honest-skil. He never attempts your passions, till he has convinced your reason. All the objections, which you can to him, are laid open and disordered, before he usus the least vehemence in his sermons; but when he thinks he has your head, he very soon wins your heart, and never pretends to steal the beauty of holies, till he has convinced you of the truth of it." Dr. Blair (Lectures on Rhetoric, &c. vol. ii. p. 127-155.), says of this prelate, that he is deservedly accounted one of our most eloquent writers of sermons. "At the same time," he adds, "he is more distinguished for elegance and purity of expression, than for profundity of thought: his style, though sometimes careless, is, upon the whole, neat and chaste; and more beautiful than that of most writers of famous.
fermons. In his sentiments, he is not only rational, but pious and devotional, which is a great excellency." Dr. Walton (ubi supra, p. 435.), thinks, that Atterbury was, on the whole, rather a man of ability, than a genius; and that he writes more with elegance and correctness, than with any force of thinking or reasoning. Biog. Brit. Gen. Dis.

Atterbury, Lewis, the elder brother of the bishop, was born at Caldecott, in the parish of Newport-Pagnell in 1656, and after finishing his grammatical education under Dr. Bushby at Westminster school, removed to Christ church college, Oxford, in 1674. In 1695, he was elected preacher to the chapel at Highgate, in the neighbourhood of London; and in 1707, he was presented by the queen to the rectory of Shepperton, in Middlesex. In 1719, he was collated to the rectory of Hornsey, in Middlesex, in which parish the chapel of Highgate is situated. Upon application to his brother for the archdeaconry of Rochester, he was refused; probably more from a mean opinion of his talents, than from delicacy. However, he sustained the character of an useful parish priest, annexing the profession of physic, which he studied for the benefit of his poor parishioners, to the clerical character; and he acquired the reputation of a plain, solid, useful preacher. At the age of seventy he had a stroke of the palsy, and died at Bath the next year. He published several sermons, which formed two volumes, and other pieces; and since his death, two volumes of his sermons have been published, in consequence of his sedimentary directions, by Mr. E. Yardley, archdeacon of Cardigan. Dr. Atterbury was intimately acquainted with archbishop Tillotson, formed his style of preaching on his model, and published a defence of him against the attack of an Irish priest. Biog. Brit.

Atterklaa, in Geography, a town of Germany, in the archduchy of Austria, six miles north-west of Künzendorf.

Atterming, in our Old Writers, is used for a time or term granted for payment of debt, according to Blount.

Attern, in Geography, a town of Hindooistan, in the country of Agra, thirty-eight miles S.S.E. of Agra, and thirty-nine north-east of Guzur.

Attestation, compounded of a, to, and phae, witness, the giving testimony or evidence of the truth of any thing; especially in writing.

Attestation of Deeds, See Deed.

Attestation of Devices. See Device.

Atthis, in Ornithology, a species of Gracula, called by Hufialquift curvus Aegyptius; and by Latham, the Egyptian grackle. The colour of this bird is greenish; belly ferrerugious; legs fanguineous. Gmelin. It inhabits Egypt, as the synonymous names imply; and is believed to live on centipedes, scorpions, and other insects, the remains of such having been found in the stomach.

It is abt. the size of a duck; bill dull black, reddish at the base, eye blood, head rather flattened at the top; upper parts of the plumage deep green, spotted with blue-green on the crown, hinder part of the neck, and the shoulders; neck and back of the same deep green, but not spotted. On each side of the neck and back is a longitudinal broad line, the fore-part of which is ferrerugious, the rest of a whitish lucid blue; throat white; tail nearly even at the end, a d of a deep blue colour; claws blackish. Lath. Gen. Syn.

Among the ancients, the name of thisis was given to some bird at present not very accurately known. By Aldrovandus, and other naturalists, the same name has been also aligned to birds altogether different from the present species.

Attia, in Geography, a town of Persia, ten leagues south of Kish.

Attic, something relating to Attica, or the city of Athens. In matters of Philology, we use, Attic falt, falar Attic, meaning a delicate, poignent kind of wit and humour, peculiar to the Athenian writers. Attic wit, was a witnesse incapable of corruption; so an Attic Muse was an excellent one, &c.

Attic Dial-lett, in Grammar, one of the four Grecian dials, which was used in Athens and the adjoining country. Those who have chiefly distinguished themselves in this dial-lett, are Thucydides, Aristophanes, Plato, Iocrates, Xenophon, and Demosthenes. Its general properties are, that it affects contractions of syllables in the same word, and also the joining of words; it often changes ζ into ζ, ζ, as ζισιν: for ειπεις, οτιν, ζανον, to ζανον, to confide, and ζανον, for ζανον, to do: it calls away: αι and ηι, ας and ξινα, to ηπεις, and καις for καις, most; it changes ζ into ζι, as ρείς for ριν, a temple; it joins δι to the end of words, giving it a circumflex accent, as ειπεις, ειπεις, and it annexes to the end of adverbs, as αι, ηι. Besides, there is no instance of an Attic among the existing antiquities of Athens. In Italy it is met with in the triumphal arches, and in the forum of Nerva.

It has been much employed by the moderns, and particularly by the Italian architects. But the rules which they give for its proportions are various, some making it in height equal to one half, and others to one third of the principal order. It is usually decorated with pilasters, and frequently with balfo-relieves, in the spaces between; or there are windows in these spaces. The pilasters are sometimes plain, and sometimes have a fank pannel, or other ornaments. They have no diminution, nor have they any peculiar base or capital, the mouldings at the top and bottom of the Attic continuing round the pilasters. In the arch of Constantine at Rome there are statues placed over the columns of the principal order, immediately before the pilasters of the Attic; and this has frequently been imitated in modern buildings.

Attic Story is also frequently applied to the upper story of a house, constructed in a roof, when there is no order of architecture employed in its decoration.

Attic Order. This term has been by some authors used to denote the pilasters that are employed to decorate an Attic story. Pliny, after enumerating the other orders, says, "Perter his form very; vocantur Attic coloniae quattuor angulos pari laterum intervallum." But how these square columns were formed is very uncertain, since we have no remains of columns which are known to have been of the kind here described; and Vitruvius makes no mention of them. The Attic of the forum of Nerva corresponds most with Pliny's description, there being projections that come forward from the attic over the detached columns, faced with square pilasters, whose sides are nearly equal in width to their fronts. It seems improper, however, to call this an order of architecture, as it has no peculiar parts essentially
Attic or Atticuric Bases, Vitruvius, lib. iv, cap. 3, saying of the bases of columns, says, "This done, the bases are fixed in their places, and are so proportioned that, including their plinth, they have in height half the thickness of the column; and in projection, which the Greeks call ἔνσωσις, they should have one quarter of the thickness of the column; so that their breadth and length will be one and a half the thickness of the column. Their height, if they are to be in the Attic mode, is so divided, that the upper part is one third of the thickness of the column, and the remainder is left for the plinth. The plinth being excluded, the remaining part is divided into four parts, and the upper torus has one of them; the remaining three parts are equally halfed, and one half makes the lower torus, and the other the fust, which the Greeks call νυσσός, with its squares."

This kind of base is frequently found in the ancient examples of the Ionic and Corinthian orders, both Greek and Roman, but the proportion of its parts varies in almost every different example. We sometimes also meet with triflary columns between the torus and fillets, and all its moldings are in Roman architecture, frequently covered with ornaments. This base is extremely beautiful, and has been much employed by modern architects, who have, though very improperly, applied it also to the Doric order, or rather to the order which has long been called Doric by the moderns. See Doric Order.

For an example of the Attic base we refer the reader to Plate XVI. of Architecture.

Attic or Atticuric Door. Vitruvius, lib. iv, cap. 6, says, in speaking of doors, that "they are of three kinds, Doric, Ionic, and Attic." And he afterwards proceeds to describe the manner of forming the Attic door, connecting with this remarkable passage, "These rules, which are practiced in the composition of Doric, Ionic, and Corinthian temples, I have explained as well as I have been able, according to the approved methods;" intimating then by that, he has applied the term Attic only as relating to the Corinthian order.

Attic Year. See Year.

ATTICA, in Ancient Geography, one of the eight districts into which Achaia was divided, argyently called Αττης, Αττική, and Ατη. Plin. i. iv. 7. Paufan. in Attic, c. 11. Mel. l. ii. c. 3. This country is a kind of peninsula of a triangular form, bounded on the north by Bectia and the gulph of Enipus, on the west by Megaris, on the south by the Saronic gulf; and on the exit by part of the Εγερέας; and extending from north-west to south-east about eighty in les with decreasing breadth, but at an average about fifty miles, so that its area is considerably less than that of Yorkshire. This little country, every where intersected with rocks and mountains, is by nature extremely barren. The fertility of the soil requiring arduous industry to produce the common necessaries of life, rendered the territory much less inviting to plundering or conquering invaders than the fruitful lands in other parts of Greece. Hence Thucydides observes, in his Introduction to his History, that a much greater portion of its inhabitants was aboriginal than those of neighbouring divisions. The physical deficiencies of Attica tended to invigorate the intellectual and moral energies of the people; and a political establishment happily adapted to the circumstances and characters of the citizens, enriched and improved the genius and spirit from which it sprang. A region less extensive and naturally productive than North Wales, was transcendent in the arts of war and of peace, and repelled the chosen myrads of the most potent monarch. Insitired by freedom, this little body made the gigantic effort of the Falk, tremble on his throne, and left monuments of military achievements, springing from liberty and patriotism, and guided by wisdom, which have only been surpassed by the tranquil and peaceful efforts of its genius in the various departments of the arts, literature and philosophy.

Though in the early periods of their history, they were little subject to foreign invasions that fought to dispossess them of their habitations, their maritime exposure opened the way to emigrations of sea-faring adventurers who fought establishments, not by exterminating and enflaming the natives, but by conciliating them through an interchange of benefits. The first navigators recorded in history to have visited the Autochthonous, or aboriginal poecillophoros of Attica, came from the mother country of creation and science. Cecrops, an Egyptian (B. C. 1530), laid a colony of his countrymen into Greece. (See Strabo, lib. iix.) The colony of Cercopes derived its origin from the city of Sais, in Egypt. The adventurers who composed it had quitte the banks of the Nile, to withdraw themselves from the tyranny of an inexorable conqueror; and after a tedious voyage, reached the shores of Attica, at all times inhabited by a people whom the fierce nations of Greece had disdained to bring under the yoke. Their fertile fields offered no plunder, nor could their weaknefes inspire any dread. Habituited to the enjoyments of peace, free without knowing the value of independence, rude rather than barbarous, they must have united themselves without difficulty to strangers instructed by misfortune. In a short time, the Egyptians and the inhabitants of Attica, formed but one people; the former, however, alluding over the latter that ascendency which sooner or later invariably attends superiority of knowledge; and Cecrops, placed at the head of the united people, conceived the noble design of beflowing happiness on his adopted country.

The ancient popes of these lands yearly gave a regular succession of the wild fruits of the oak, and relied on nature for a reproduction which secured their annual subsistence. Cecrops first engaged the wandering hunters or shepherds of Attica to unite in villages of husbandmen. Cere, wine, and oil, rewarded their useful labours; and these productions, being acquired by common toil, were regarded, with the ground itself, as a common property. The idea of an exclusive and permanent right to all the uses of a piece of land, whether belonging to communities or to individuals, is one of the most interesting legs in the progress of society. In Attica, this invaluable right was immediately followed by such institutions as tended to secure its enjoyment, and to check the injustice of man, who is seldom willing to acquire by fair labour what he can ravish by sudden violence. The salutary influence of religion was employed on this important occasion. With agricultural property religious rites were introduced, and Cecrops instituted sacrifices to the attributes of wisdom and of power under the names and sensible representations of Minerva and Jupiter. He is also by some historians said to have taught his subjects the art of navigation; to have instituted the aereopagus, and to the initiation of civil rights to have added the punishment of crimes. Aware of the advantages which might be derived from union of effort, Cecrops proposed to facilitate it by contiguity of residence; he induced his subjects to collect and secure themselves within a wall, and laid the foundation of Athens. He placed this new city on a hill in the middle of a large plain, and built the citadel on the rock in which the hill terminated; this prince reigned fifty years. For an abstract of the history of this country, and other particulars relating to it, see Athenians, and Athens.
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The chief city of Attica, next to Athens, was Eleusis. Rhamnus was famous for the temple of Amphiaras and the statue of Nemesis. The principal river was Asopus; as to the Hymus, Eridanus, and Cephalis, they were rather brooks than rivers; but Attica, having a number of havens, was left in want of rivers. The tribes of this kingdom, according to Thucydides (i.ii.) occasioned by its frugality and commerce, are said to have amounted to 1200 Attic talents a year; hence it was enabled to maintain a powerful army and navy, and thus to extend its possessions.

The coin of Attica was commonly flanked with the figure of an ox, and this circumstance gave occasion to the phrase frequent among the Greeks, of a thing being worth 10 or 100 oxen; and hence also arose the common proverb "havem habet in lingua," when a man was thought bribed to speak contrary to his own sentiments. But the wealth, strength, and population of Attica, were principally displayed in the number of tribes, amounting to thirteen, into which it was divided, and the great number of cities and towns belonging to each tribe.

ATTICUS, Heroes Thieres Claudius, in Biography, was defended of a noble family, which traced their pedigree as high as Cimon and Miltiades, and born at Marathon in the territory of Athens. His father, Julius Atticus, was reduced to a low condition by the proclivity of his father; but by the accidental discovery of a treasure in his house, he was unexpectedly raised to the position of affluence. Dreading the event of this discovery he communicated it to the emperor Nerva, who empowered him to use it at his pleasure; and on a second representation, that it was too large for a private person, the emperor renewed his licence, adding that if it was too large for use, he might abuse it, if he pleased, for it was his own. Atticus having increased his wealth by marriage, lived at Athens with very singular magnificence, giving to the people frequent largesses, and offering to the gods very splendid sacrifices. Whilst he had the command of the free cities in Asia, in the time of Adrian, he perceived that the city of Troas wanted water, and he obtained of this emperor a grant of three millions of drachmas, in order to defray the expense of procuring the necessary supply; but the charge of executing his project for this purpose amounted to seven millions of drachmas instead of three, and the additional expense he defrayed out of his own fortune. The great wealth of Atticus enabled him to make very liberal provision for the education of his sons, Herodes; and accordingly he employed Scopelian, one of the most eminent orators of the age, as his instructor, and rewarded him liberally for his services. Herodes polished disingrafted talents, which he cultivated with diligence; and his attention was principally directed to the study of rhetoric. In this science, as it was then practised, he made great proficiency; and such were the ardour of his pursuit, and his ambition of gaining applause, that when he was deputed at an early age to address a speech to the emperor Adrian, who was then in Pannonia, the young orator is said to have failed in the attempt, and to have been almost urged by shame and despair to throw himself into the Danube. The misfortune, however, served only as an incitement to future diligence. Having finished his attendance in the schools of rhetoric, Herodes returned to his own country, and delivered public lectures, which were popular and much frequented by the sophists, philosophers, and rhetoricians of the age, who were munificently rewarded for their attendance and applause. The liberality of Herodes was, however, somewhat imposed upon and abused. Attius Gallius, who was himself a disciple of Herodes, mentions one instance to this purpose. A man with a cloak, long hair, and the beard down to his waist, presented himself to the orator, and supplicated him. Being interrogated who he was, the pretended philosopher indignantly replied, that he was a philosopher, and expressed surprise at the question. "I see," replied Herodes, "the cloak and the beard, but I do not see the philosopher." One of the company interpoded, and observed, that this person was an impudent beggar, who spent his time in the tavern, and inflicted those who refused to relieve him. "Well then," said Herodes, "let us give us mens, though not as to a man;" taunting him with Jon taquem hurum.

The fame of Herodes having extended through Greece, and even to Rome, he was appointed by the emperor Titus Antoninus the preceptor of eloquence to his two sons Marcus Aurelius and Lucius Verus; and being there introduced into the way of promotion, he was created consul in the year 143. About this time he was appointed prefect of the free cities of Attica, and to regulate and conduct the Panathenian games, at which he was crowned. On this occasion he erected the stadium, 600 feet in length, and formed of white marble, a most sumptuous work, of which some remains are still visible. He also constructed a magnificent theatre at Athens, called Regillum, in honour of his wife Regilla; he also repaired and beautified the oecum of Perges; and decorated many other places in Greece and Asia with useful and ornamental works. He likewise confectioned rich offerings in the temples at Athens, Delphos, Olympia, Pisa, and other places. To this liberal and even profuse expenditure of his wealth it is owing, that his name has not sunk into oblivion; as the productions of his eloquence, some of which excelled in the time of Philoctatus and Suidas, have been all lost. Notwithstanding these displays of his public spirit, and the benefits he bestowed on his country, his influence excited jealousy; and two brothers, named Quintullia, who commanded in Greece, feized occasion for transmitting complaints against him to the emperor Aemus. Herodes presented himself before the emperor, but instead of employing his eloquence for the purpose of conciliation, he rudely reproached him with a predetermination to ruin him. An officer, who fled by, exclaimed, that this insolence merited death. "A man of my age," said Herodes, "does not fear death." The mild emperor contented himself with punishing the freedmen of Herodes; who himself retired to Attica; and attempting by a letter to Aurelius to regain his kindness, the emperor returned a friendly answer. Herodes was again mortified by a charge of having been accursified to the death of his wife, preferred against him before the senate by his brother, who had been confined; but he was acquitted. In token of his sorrow for her loss, he erected to her memory a statue, bearing an inscription, still legible. The corpse of his life was spent at Marathon, where he died at the age of 76; and his countrymen honoured him with a public funeral at Athens. Guery's Hist. Emp. vol. vii. p. 230, &c. Mem. de l'Acad. des Inscript. vol. xxx. Gen. Biog.

ATTICUS, Titus Pomponius, a Roman knight, lived in the latter period of the Roman republic, and acquired great celebrity from the splendour of his private character. He inherited from his father, and from his uncle Q. Cicilius, who adopted him, great wealth; and availed himself of his liberal education to such a degree, that he was exhibited as a pattern to his schoolfellows, among whom were the younger Marcus and Cicero. When he attained maturity, the republic was disturbed by the factions of Cinna
and Sylla; but endowed with a peculiar finery of manners, which made him uniformly averse from civil contentious, he retired to Athens with a great part of his property, and there devoted himself to study, and particularly to Grecian literature, in which he excelled his contemporaries of his own country. At Athens he became popular by his conciliatory disposition and conduct, by the liberal distribution of his money, and by his charity to the poor and difreased. The Athenians wished to confer on him the honour of a citizen, which he declined; and though during his abode with them, he would not suffer them to erect statues to him, they twified their respect in this way immediately on his departure, an event which occasioned a general mourning through the city. The surname of Atticus, which he acquired from his attachment to this city, and his familiarity with its language and manners, became his usual appellation during his life, and continued to distinguish him in after ages. At a distance from the scene of political contention, he interred himself in the welfare of his friends; and at the risk of displeasing the triumphant party, he served a friend in difficulties, for he allotted young Marius, when declared a public enemy, by supplying him with money to escape from his enemies. He even occasionally made journeys to Rome to support his friends in contested elections, and embraced every opportunity that occurred of serving those who needed his assistance. To Cicero he was particularly attached, partly from affinity, as his father Pomponia was married to Quintus Cicero, but chiefly from similarity of disposi- tion; and he supplied him with money in the time of his exile; and also intimate with Hortensius, the rhetorical rival of Cicero, he exerted himself in preserving a good understanding between them. When Rome was in a tranquil state, it was the place in which Atticus chose to reside; but he never engaged in public business. He availed himself of none of the opportunities that occurred of increasing his fortune; whilst he was honoured with a nomination to public offices, he disdained the emoluments accruing from them. He never engaged in a law-suit, nor was ever concerned in an accusation as the principal, or second. He never bid for estates at public auctions, or in any way partook of the spoils of the unfortunate. When the war broke out between Caesar and Pompey, Atticus was sixty years old; and his age was a plea of which he availed himself for not taking part with either; and by his subsequent conduct he offended neither the one nor the other. After the death of Caesar, whose favour he had conciliated, he successfully opposed the establishment of a private treasure for the use of the party which had taken him off, though he was upon very intimate terms with Brutus. Nevertheless, when Brutus and Cassius were obliged to leave Italy, he supplied Brutus with a large sum of money. He afterwards exerted himself to the utmost of his power in favour of Antony and his family. Upon the return of Antony from his retreat, and when every friend of the republican party was exposed to great danger, Atticus withdrew into a place of refuge; and though Antony was urged to destroy him, he remembered his obligations to his benefactor, afforded him by a letter written with his own hand of his safety, and appointed a guard for his protection. In this season of dif- tresses, Atticus succoured the fallen party, and supplied the necessaries of those who, under proscription, had fled to Epirus, out of his own estates; and he showed no lefs respect to Servilia the mother of Brutus, after the death of this patriot, than he had done during his prosperity. His family afterwards became allied to the imperial family by the marriage of his daughter with M. Agrippa, the friend and favourite of Otho, who formed with Atticus an intimate acquaintance, and communicated to him all his movements and designs. While Antony lived, an intimate correspondence was carried on between him and Atticus. Thus from the fall to the fall, he maintained the character of "the general friend of all parties, in all fortunes." The conduct by which this character was acquired and maintained, has not escaped censure; and Atticus has been charged with a neutrality and indifferency, with regard to public concerns, which was dishonourable and criminal. To his Epicurean principles, which he imbibed at Athens under Phaedrus and Zenon the Sidonians, some have ascribed the peculiarities of his temper, and the resolution by which he seems to have been actuated, that amidst the fluctuation and vicissitudes of political events he would maintain a com- posed and tranquil mind. But others have attributed his discriminating character to natural disposition and early habits, more than to any speculative principles. In domestic life, as well as in the more extended circle of social intercourse, he possessed a degree of self-command, which, all circumstances considered, appears to have been very extraordinary and singular. The temper of his uncle Cassius was intolerably peremptory, and yet Atticus humoured it in such a manner that he retained his favour to the last, and inherited the greatest part of his very large fortune. With his mother, who died at the age of 95, when he was 67 years old, and with his sister, who was nearly of the same age with himself, he lived with a harmony so uninterrupted, that he never had occasion to be reconciled to the former, nor ever had any quarrel with the latter. By his own propriety and his uncle's magnificence, he was master of a large fortune, which he expended with liberality. His mode of living corresponded to his influence, and to his taste and habits, as a man of literature and philosophy. His domestics were fickle, but not numerous; several of them had been born and brought up in his own family; and many of them were in one way or other, as readers or copyists, employed to the purposes of literature. His table was elegant, but not costly. Reading was always an accomplishment of the supper; and he had no guests to whom such an entertainment was not acceptable. In his enjoyments he was moderate; in his studies, which formed a great part of his occupation, he was particularly attached to inquiries relative to the antiquities of his country; its laws, treaties, customs, and the genealogies of its illustrious families. On these subjects he wrote several treaties, which were held in high estimation. His poetical talents were employed in concise descriptions of the characters and actions of illustrious men, which were placed under their histories. He wrote in Greek a history of the confinulate of his friend Cicero. Of the writings of Atticus, none remain; but we have a large number of the letters of Cicero, addressed to him, and written from the year of his consulship almost to the time of his death. These letters are confidential, and contain a variety of curious particulars; both political and literary. Atticus having attained to the age of 77, with little interruption of health, was feized with a disorder of the intestines, which terminated in a painful and incurable ulcer. Apprized of the danger of his case, he communicated to his son-in-law Agrippa, and other friends, his resolution of putting a period to a life that was no longer valuable to himself and others. Unmoved by their remonstrances, he determined to abstain from food; and though his terror left him and his pain abated, after an abstinence of two days, he perished in his purpose, and on the fifth day, death closed the scene, in the year of Rom. 21, B. C. 33. Corn. Noct. 3, Dict. Attici. Gen. Dict. Corn. Blog.

Atticus, a Platonic philosopher, lived under the emperor M. Aurelius, and took pains in ascertaining the precise difference
once between the doctrines of Plato and those of Aristotle. Eusebius has preferred several fragments of his works, in which he argues against Aristotle, concerning the ultimate end of man; providence, the origin of things, the immortality of the soul, and other topics. Plutarch, of the Eclectic school, held the writings of Atticus in high estimation, and recommended them as very useful for obtaining an accurate knowledge of the Platonic system. Atticus pronounced it impossible for those who had imbibed the Peripatetic notions, to elevate their minds to a capacity of understanding a relishing the sublime conceptions of Plato. Euseb. Chron. sub. Aurel. A. 175. Prep. I. xv. c. 4 &c. Fab. Bib. Grec. v. ii. p. 54.

Atticus, a patriarch of Constantinople in the fifth century, was a native of Sebastia in Armenia, and having received his education among the Macedonian monks, became first presbyter, and afterwards, v.r.s. in 426, patriarch of the church of Constantinople. But having seized this see while John Chrysofom of Attic was living, he was excommunicated by pope Innocent I. and the western bishops. However, on the death of Chrysodom he was again reëlected, on condition of relinquishing his name in the diptychs, or list of the archbishops of Constantinople, whose names were recited at the altar, as having died in the communion of the church. Atticus is extolled for his learning, prudence, and piety; for the gentleness of his temper and manners; for his zeal against the Nestorians; and for his charity to the poor, without discrimination of religious party and profession. He died in the year 437. While he was presbyter, he committed his sermons to memory; but when he became a bishop he preached extempore. Of his writings there are extant "A Letter to Cyril of Alexandria," on the restoration of the name of Chrysodam in the diptychs, apud Niceph. Hist. Eccl. I. xiv. c. 26. 1 ; "A Letter to Callinicus, presbyter of the church at Nice," accompanying 500 crowns lent to the poor of that city (Socrat. I. vii. c. 25. 1 ; and another in Niceph. hist. supra addressed to the deputies of the church of Alexandria, concerning the means of reëstablishing peace to the church. He also wrote a book, "On Faith and Virginity," dedicated to the daughters of Augustus, and cited by Cyril in his book to the emperors. Socrat. H. E. I. vii. c. 27. Sozom. H. E. I. viii. c. 27. Cave, H. L. vol. i. p. 54.

Attidium, or Attigio, in Ancient Geography, a city of Umbria, situated between Sentinum, Camerium, and Matelica, near the source of the river Aesis. Pliny calls the inhabitants Attidatiata. Several ancient inscriptions have been found in the vicinity of Attigio.

Attigny, in Geography, a town of France, and seat of a tribunal, in the department of Ardenne, and chief place of a canton is the district of Vouziers; two leagues northwest of Vouziers, and six tenths of Mezières. The place contains 950, and the canton 6136; inhabitants; the territory includes 165 kilometres and 17 commune.

Attilla, in Biography and History, king of the Huns, and by the modern Hungarians denominated "The Scourge of God," was the son of Muzulak, and reduced his defeat from the ancient Huns, who had formerly contended with the monarchs of China. Indeed the modern Hungarians have traced his genealogy upwards, in the thirty-fifth degree, to Ham, the son of Noah. At the death of Rugas, A. D. 433, his two nephews, Attila and Bleda, succeeded to the throne of their ancestors. Having concluded an humiliating peace with the emperor Theodosius II., they extended their arms towards the north with so much success, as to reduce all the nations between the Danube and the Danube under their dominion. Under pretence of an offence given them by the Romans, they made an irruption into the eastern empire, took several towns on the banks of the Danube by storm, defeated several imperial armies, and laid waste the whole adjacent country with fire and sword. Theodosius, thinking him self in security at Constantinople, retired into Acha, and was glad to purchase an inglorious peace. At this time the two nephews of Rugas flared the government of the Huns; but Attila, whole ambition admitted of no partnership in power, caused Bleda to resign both his sceptre and his title, and acquired the sole sovereignty of the nation and its dependent territories. The extent of his empire affords the only evidence of the number and importance of his victories. If a line of separation were drawn between the civilized and the savage climates of the globe; between the inhabitants of cities, who cultivated the earth, and the hunters and shepherds who dwell in tents; Attila might aspire to the title of an immense and sole monarch of the Barbarians. He alone, among the conquerors of ancient and modern times, united the two mighty kingdoms of Germany and Scythia, in their most ample latitude; Thuringia, extending to the Danube, was in the number of his provinces; he interposed with the authority of a powerful neighbour, in the domestic affairs of the Franks; and one of his lieutenants, his benefactors, and almost exterminated, the Burgundians of the Rhine. He subdued the islands of the ocean, the kingdoms of Scandinavia, encompassed and divided by the waters of the Baltic; towards the east, his dominion extended over the Scythian deserts to the banks of the Volga; and he sent ambassadors to negotiate an equal alliance with the empire of China. He also reckoned among his subjects the numerous and warlike tribes of the Gepidae and Obtrogos. The crowd of Volga kings, the leaders of so many martial tribes, who feared under the standard of Attila, were ranged in the fulminating order of guards and domesticity, round the periphery of their matter. They watched his nod; they trembled at his frown; and, at the first signal of his will, they executed, without murmuring or hesitation, his biam and absolute command. In time of peace, the dependent princes, with their national troops, attended the royal camp in regular succession; but when Attila collected his military force, he was able to bring into the field an army of five, or, according to another account, of 700,000 Barbarians? The portrait of Attila, says Jornandes, a Gothic historian, exhibits the genuine deformity of a modern Calmuck; with a large head, a fourthly complexion, small deep-set eyes, a flat nose, a few hairs in the place of a beard, broad shoulders and a short square body, of nervous strength, though of a disproportioned form. He was a bountiful and generous man, who from expressed qualities of a superior; and by fiercely raking his eyes, he seemed to enjoy the terror which he inspired. Nevertheless, this savage hero was not inacessible to pity; his filial enemies might indulge in the assurance of pardon and peace; and Attila was regarded by his subjects as a just and indulgent master. His delight was war, and he indulged his passion for it to the destruction of myriads. Approached by the influence of superstition over ignorant and savage minds, he availed himself of it, as a collateral and useful instrument for the accomplishment of his purposes. According he pretended to have discovered, by means of a shepherd, the famous sword of the Scythian Mars; and being in possession of this, he asserted his divine and indestructible claim to the dominion of the earth. As the favourite of Mars, whom he propitiated by bloody rites and sacrifices, Attila soon acquired a ferocious character, which rendered his conquests less easy and more effectual. In the end, he was defeated in battle by the Barbarian princes confederated, in the language of devotion, or of battery, that they could not presume to give, with
ATTILUS, king of the Visigoths, in Languedoc. With this view he assembled, in 451, an inconsiderable body of northern Barbarians, and without opposition crossed the Rhine. In his progress through Gaul, he defeated the country, pillaged and burnt several cities, and at length laid siege to Orleans. Here he was overtaken by the armies of Theodoric, and of the empire, under count Erigus, who obliged him to retire. After the bloody battle of Chabons, he marched without molestation to the confines of Thuringia, where he crossed the Rhine, and continued his progress to Pannonia. At the commencement of the following year, Attila, having recruited his forces, passed the Alps, entered Italy, and invaded Aquileia, which he utterly destroyed. He then ravaged Lombardy, sacked and reduced to ashes many of their towns; and thus, by means of the fugitives who fled from the terror of his name, was unintermittently instrumental in laying the foundation of the Venetian republic. Valentinian, incapable of resistance, fled from Ravenna to Rome, and sent a deputation to Attila, at the head of which was Leo, bishop of Rome, for the purpose of appeasing his wrath, and proposing terms of accommodation. Attila consented to leave Italy, on the payment of a very large sum, as the dowry of the princess Honorina, and an annual tribute. But this was only a temporary truce; as he threatened to return the next year, if Honorina and her dowry were not punctually transmitted to him. Attila, however, did not long survive his return into his own country. Having added to the number of his wives a beautiful young virgin, whose name was Hedica, he celebrated his marriage with great pomp and festivities at his wooden palace beyond the Danube; and, oppressed with wine and feasts, he retired at a late hour to the nuptial bed. In the night a blood-stained burst, and as he lay in a supine posture, he was suffocated by a torrent of blood. His attendants found the tumbling bride fitting by the side of the bed, hiding her face with a veil, and lamenting the death of the king, as well as her own danger. His body was exposed in the midst of the plain, under a sullen pavilion; and “the chosen squadrons of the Huns, wheeling round in measured evolutions, chanting a funeral song to the memory of a hero glorious in his life, invincible in his death, the father of his people, the scourge of his enemies, and the terror of the world. According to their national custom, the Barbarians cut off a part of their hair, gashed their faces with unfeeling wounds, and bewailed their valiant leader as he defied, not with the tears of women, but with the blood of warriors. The remains of Attila were inclosed within three coffins, of gold, of silver, and of iron, and privately buried in the night; the spoils of nations were thrown into the grave; the captives who had opened the ground were inhumanly massacred; and the Huns, who had indulged such excessive grief, feasted with dilute and intemperate mirth about the recent sepulchre of their king.” The death of Attila is commonly dated in the year 453; but some in 454. With him the empire of the Huns terminated; for, after his death, his numerous sons either destroyed one another by their mutual contelli, or were dispossessed by those bold chieftains who aspired to the rank of kings. Anc. Ur. Hist. vol. xvii. p. 147—159.


ATTILE, ATTILUM, in Antiquity, denotes the rigging or furniture of a ship. Plut. i. c. 25.

ATTILUS, in Ichthyology, a term synonymous with adella, adano, and adalus Auctorum; and applied by Pliny and Rondeletius to the variety B of the Linncean Acipenser fluvi, or commonurgeon.

ATTINGA AMERICANA, in Ornithology, a name by which
ATTIRE, in Botany, is used by some to denote the third part or division of the flower of a plant; the other two being the perianth and the siliqua.

The term is of two kinds, uniflorum and florid. The uniflorum attires consist of two parts; chives or flaminia, and feminites or anices, one upon each flamen.

The florid attire is usually called the throns, as in the flowers of many gold, taffy, &c. These throns are called suata, which consist of two, but most times of three pieces. And the outer part of the suit is the floret, whose body is divided at the top like a cowflit flower, into five parts, or distinct leaves.

ATTIRE, in Heraldry, signifies a single horn of a flag. ATTIRE, in Hunting, denotes the head and horns of a deer. The attire of a flag, if perfect, consists of bar, peals, beam, gutters, anle, fur-anle, royal, fur-royal, and croches:—of a buck of the bar, beam, brow-anle, adder, palm, and spellers.

ATTIRE, in Heraldry, a term used in speaking of the horns of a flag, hart, or buck.

ATTIUM, in Ancient Geography, a promontory on the western coast of the island of Cusica; now called Punta di Acriato.

ATTLEBOROUGH, in Geography, a township of America, in Bristol county, Massachusetts, eighty-two miles south from Boston, and nine north from Providence.

ATTLEBURY, a town in England, in Norfolk, distant N.E. from London ninety-four miles.

ATTMELLA. See Acemella.

ATTNANG, in Geography, a town of Germany, in the archbishopry of Salzburg, one mile W.S.W. of Schwazwaldt.

ATTOCK, a city and fortress of Hindoostan, on the eastern bank of the Indus, built by Akbar in 1581, to command the passes that lead from Cabul to Lahore. This pass is so confined, either by the nature of the banks, or of the channel of the river, or both, that the passage from the landing place leads through the very tortuosity itself. The ancient Tadjik, where Alexander crossed the Indus, stood on or near to the site of Attok. N. lat. 33° 6'. E. long. 71° 15'. That part of the river Indus, called also Tishah and Sindah, that separates the province of Lahore from Paibaw or, is denominated the Attok, probably from the city founded on its banks. At Attok, the river Cabul, after receiving the rivers of Sevaud, Bijore, &c., joins the Indus, and very considerably increases it. For though the Indus is sometimes fordable above Attok, and Mr. Forster actually ford it at twenty miles above this place, July 20th, 1775; we never hear of its having been forded below that point.

Two Attok downs towards Mouland, or to the confluence of the Rajah waters, this river (says Major Kennell) has obtained the name of Attok; but spoken of generally, it is called Sind.

ATTOLLENS, compounded of the Latin ad, to, and taile, taffe, in Anatomy, a name common to several muscles, whose office or action is to raise the parts they belong to.

The attendant muscles are otherwise called levatores and elevatoris.
of Westminster-hall; and are in all points officers of the respective courts in which they are admitted; and as they have many privileges on account of their attendance there, so they are peculiarly subject to the confines and animadversion of the judges. No man can practice as an attorney in any of those courts, but such as is admitted and sworn an attorney of that particular court; an attorney of the king's bench cannot practice in the court of common pleas; nor vice versa. 'To practice in the court of chancery, it is also necessary to be admitted a solicitor thereto; and by the 22 Geo. II. c. 26, no person shall act as an attorney at the court of quarter sessions, but such as has been regularly admitted in some superior court of record. With respect to the several courts, there are attorneys at large, and attorneys special belonging to this or that court only. An attorney may be a solicitor in other courts by a special retention; one may be an attorney on record, and another do the business; and there are also attorneys who manage the business out of the courts. So early as the statute 4 Hen. IV. c. 18, it was enacted that attorneys should be examined by the judges, and none admitted but such as were virtuous, learned, and fear to do their duty. And many subsequent statutes have laid them under further regulations. By 3 Jac. I. c. 7, attorneys, &c. shall not be allowed any fees laid out for counsel, or otherwise, unless they have tickets thereof signed by them that receive such fees, and they shall give in true bills to their clients of all the charges of suits under their hands, before the courts shall be charged with the payment thereof. If they delay their client's suit for gain, or demand more than their due fees or disbursements, the client shall recover costs and treble damages; and they shall for ever after be disabled to be attorneys. None shall be admitted attorneys in courts of record, but such as have been brought up in the said courts, or are well skilled, and honest; and no attorney shall suffer any other to follow a suit in his name, on pain of forfeiting 20 l. to be divided between the king and the party aggrieved. By 12 Geo. I. c. 29, if any person who hath been convicted of forgery, perjury, subornation of perjury, or common barratry, shall practice as an attorney or solicitor in any suit or action in any court, the judge where such action shall be brought hath power to transport the offender for seven years, by such ways and under such penalties as felon. The act 2 Geo. II. c. 23, orders that all attorneys shall be sworn, admitted, and enrolled, before they sue out writs in the courts of Westminster; and they are required to have served a clerkship of five years, and to be examined, sworn, and admitted in one court, and attorneys shall not have more than two clerks at one time, except the prothonotaries in the common pleas, and the secondary in the king's bench, and the several prothonotaries in the counties palatine and great seashores in Wales, each of whom may have three. Attorneys, upon being sworn and admitted, shall pay a stamp-duty, by several acts of 166. When the attorney's bills are taxed, he is to pay the costs of taxation, if the bill be reduced a fifth part. A penalty of 50 l. and disability to practice, are the consequences of acting contrary to this statute. By flat. 6 Geo. II. c. 27, attorneys of the courts at Westminster may practice in inferior courts. By 12 Geo. II. c. 13, attorneys, &c. that act in any county-court, without admission according to the statute 2 Geo. II. c. 23, shall forfeit 20 l. and no attorney who is a prisoner, shall sue out any writ, or prosecute suits; if he doth, the proceedings, &c. shall be void, and such attorney, &c. shall be struck off the roll. By 22 Geo. II. c. 46, per sons bound clerks to attorneys or solicitors are to enail affidavits to be made and filed of the execution of the articles, names, and places of abode of attorney or solicitor, and clerk; and none to be admitted till the affidavits be produced and read in court. Clerks are actually to serve during their whole time, and make affidavits thereof. Persons admitted forwa clerks in chancery, or serving a clerkship to such, may be admitted solicitors. By 23 Geo. II. c. 29, any person duly admitted a solicitor, may be admitted an attorney without any fee for the oath, or any stamp; and by the 2 Geo. II. c. 23, 20. attorneys may be admitted solicitors. By 25 Geo. III. c. 30, every admitted attorney, solicitor, notary, procurator, or proctor, shall annually take out a stamped certificate, with a five pound stamp within the bills of mortality, and three pound elsewhere, from the court in which they practice, on penalty of 50 l. and incapacity of practicing. By 33 Geo. III. c. 12, every person who shall become bound to serve as a clerk in ord. to his admission as a solicitor or attorney in any of the courts at Westminster, shall be charged an additional stamp-duty of 100 l. And in any of the courts of great sessions in Wales, or in any of the counties of Chester, Lancaster, or Durham, or in any court of record in England holding pleas, where the debt or damage shall amount to 40 s. and not in any of the said courts at Westminster, a stamp-duty of 50 l. And by the several stamp acts, if the consideration money given with such clerk or apprentices be under 10 l., a stamp duty of 3 s. If above 10 l. be given by 37 Geo. II. c. 3, 106. mor. The indentures shall be enrolled, and affidavit shall be made within six weeks. Persons who have paid the duty of 100 l. in any of the courts at Westminster, may be admitted in any of the other courts without payment of any further duty. New contracts with other makers are subject to no further duty. The privileges belonging to attorneys are as follow: an attorney, in respect of his attendance at the courts, cannot be precluded for a felony; but he is not privileged from serving in the militia, or finding a substitute: an attorney shall not be made liable, nor be elected into any other office against his will; as to the office of overseer of the poor, or churchwarden, or any office within a borough. Attorneys have the privilege to sue and be sued only in the courts at Westminster, where they practice; they are not obliged to put in special bail, when defendants; but when they are plaintiffs, they may inflict upon special bail in all bailable causes. 1 Vent. 259. Wood's Ind. 450. But an attorney of one court may, in that court, hold an attorney of another court to bail. Payment to the attorney is payment to the principal. Doug. 623. 1 Black. R. 8. An attorney has a lien in the money recovered by his client, for his bill of costs; if the money come to his hands, he may retain to the amount of his bill. He may flip it in transfus, if he can lay hold of it; if he apply to the court, they will prevent its being paid over until his demand is satisfied. If the attorney give notice to the defendant not to pay till his bill be discharged, a payment by the defendant after such notice would be in his own wrong, and like paying a debt which has been alligned after notice. Doug. 238.

Attorneys are liable to be punished in a summary way, either by attachment, or having their names struck out of the roll, for ill practice, attended with fraud and corruption, and committed against the obvious rules of justice and common honesty; but the court will not easily be prevailed upon to proceed in this manner, if it appears that the matter complained of was rather owing to neglect or accident than design, or if the party injured has other remedy by act of parliament, or action at law. 12 Mod. 251, 518. 449. 583. 657. 4. Mod. 567. If an attorney, defendant in an action, does not appear in due time, the plaintiff may sign a "for seven," which enables him to strike the defendant
Attorneys are sometimes struck off the roll on their own application, for the purpose of being called to the bar, &c.; and in this case they must be disbarred by their peers, before they are re-admitted attorneys. Doug. 144. An attorney convicted of felony is struck off the roll. Comp. 829. Attorneys are also liable to be punished for false and unfair dealings towards their clients in the way of business, as for protracting suits by little shifts and devices, and putting the parties to unnecessary expense, in order to raise their bills; or demanding fees for business that was never done; or for refusing to deliver up their clients' writings with which they had been intrusted in the way of business, or money which has been recovered and received by them to their clients' use, and for other such like gross and palpable abuse.

Attorney-General, is a great officer under the king, made by letters patent. It is his province to exhibit informations, and to prosecute for the crown, in matters criminal; and to file bills in the Eschequer, for any thing concerning the king in inheritance or profits; and others may bring bills against the king's attorney. His proper place in court, upon any special matters of a criminal nature, in which his attendance is required, is under the judges, on the left hand of the clerk of the crown; but this is only upon solemn and extraordinary occasions; for usually he does not sit there, but within the bar in the face of the court.

Attorney, Letter of. See Letter.

Attorney, Warrant of. See Warrant.

ATTENTION, or ATTORNMENT, a transferring of duty and service to another lord; or an acknowledgment which a tenant makes of homage and service to a new lord.

By the nature of the feudal connection, it was not thought reasonable nor allowed, that a feudatory should transfer his lord's gift to another, and substitute a new tenant to do the service in his own stead, without the consent of the lord; and, as the feudal obligation was considered as reciprocal, the lord also could not alienate his feignory without the consent of his tenant, which consent of his was called an "attornment." This doctrine of attornment was afterwards extended to all leases for life or years. For if one bought an estate with any lease for life or years standing out thereon, and the lessee or tenant refused to attorn to the purchaser, and to become his tenant, the grant or contract was in most cases void, or at least incomplete (Lit. 5, 551.) which was an additional cog upon alienations. But after the statute "quia cepitors terrarum" (18 Ed. I. fl. 1.), was passed, by which subinfeudation was prohibited, it became necessary that when the reversion or remainder-man after an estate for years, for life or in tail, granted his reversion or remainder, the particular tenant should attorn to the grantee. The necessity of attornment was, in some measure, avoided by the statute of uges (27 Hen. VIII. c. 10), as by that statute, the possession was immediately executed to the uge; and by the statute of "Harte" (34 & 35 Hen. VIII. c. 5), by which the legal estate is immediately vested in the device.

Attornments, however, still continued to be necessary in many cases; but both their necessity and efficacy are now almost wholly taken away; for by Stat. 4 & 5 Ann. c. 16, it is enacted, that all grants and conveyances of manors, lands, rents, and reversions, &c. by fine or otherwise, shall be good, without the attornment of the tenants; but notice must be given of the grant to the tenant, before which he shall not be prejudiced by the payment of any rent to the grantor, or for breach of the condition for non-payment. And by Stat. 11 Geo. II. c. 19, attornments of lands, &c. made by tenants to strangers claiming title to the estate of their landlords shall be null and void, and their landlord's possession not affected thereby; though this shall not extend to vacate any attornment made pursuant to a judgment at law, or with consent of the landlord; or to a mortgagee on foreclosed mortgage. Till these statutes were passed, the doctrine of attornment was one of the most copious and abstruse points of the law. But these acts having made attornment both unnecessary and inoperative, the learning upon it may be deemed almost entirely useless. 1 Tint. 529. Jacob's Law Dict. by Tomlin, Hist. Attornw.

ATTOWAI, in Geography. See ATROO.

ATTRACTION, in Natural Philosophy, a general term used to denote the power or principle, by which all bodies mutually tend towards each other, without regarding the cause or kind of action that may be the means of producing this effect.

The existence of a principle of this kind is so clearly manifested by many of the most common phenomena of nature, which fall under our daily inspection, that it must have been known in very early times; but the information we have hitherto obtained of the progress made by the ancients in physical investigations, is too vague and obscure to afford any proof of their ever having applied the action or influence of this power to the purposes of science. The philosopher Anaxagoras, who flourished about 500 years before the Christian era, is reported, by Diogenes Laertius, to have attributed to the celestial bodies a tendency towards the earth, which he considered as the centre of their motions; and the doctrines of Democritus and Epicurus are founded upon the same principle, as appears from their elegant interpreter Lucretius, who thence derives the confluence of the universe being without bounds. But though some bold and original characters had embraced these opinions, it is no less certain, from the testimonies of other writers, that they were far from being generally received in the ancient world.

The first, among the moderns, who appears to have had just notions of this doctrine was, Nicholas Copernicus, the celebrated reforer of the old Pythagorean syllem of the universe; who in his work "De Revolution. Orb. Celoet." (lib. i. c. 9), expressed himself thus: "I consider gravity as nothing more than a certain natural apperture (applicatio) that the Creator has impress'd upon all the parts of matter, in order to their uniting and coalescing into a globular form for their better preservation; and it is probable that the same power is also inherent in the sun, moon, and planets, that those bodies may constantly retain that round figure in which we behold them." He also considered the sun as the chief governing power of all the rest, as may be inferred from some of the late words of Tycho Brahe, who receiving the approach of death, called for the celebrated Kepler (then a young man, and his assistant in his observatory at Prague), and after charg'ng him with completing the Astronomical Tables which he had left unfinished, thus addressed him: "My friend, although what I acribe to a voluntary, and as it were, an obsequious motion of the planets round
the sun, you attribute to an attractive energy of that body, yet I mult esteem, that, in the publication of my observations, you would explain all the celestial motions by my hypothesis, rather than by that of Copernicus, which I know you would otherwise incline to follow." (Life of Tycho Brahe.)

Kepler, however, in his own works, constantly maintains the doctrine of attraction, and even carries it farther than Copernicus had ever done. Thus, he calls gravity "a corporeal and mutual affection between similar bodies, in order to their motion." He also remarks, with Copernicus, against the Peripatetics, that "the heavenly bodies do not tend to the centre of the universe, but to the centre of these larger round bodies, of which they make a part; so that if the earth were not spherical, things would not fall from all points towards its centre. If a stone, for instance, were to be placed at a distance from another stone, in any part of the universe, without the sphere of action of a third body like two magnets, they would come together in some intermediate point; each advancing, in space, in the inverse proportion of their quantities of matter. Hence, if the moon and the earth were not kept together by some power, in their respective orbits, they would move towards each other; the moon falling over fifty-three parts of the way while the earth passed over one, supposing their densities equal." (Afron. Nov. in Introd.)

From the same principle, Kepler also accounted for the general motion of the tides; viz., by the attraction of the moon, and expressly calls it virtus trahoriae quae in luna eff; adding, that if the earth did not exert an attractive power over its own waters, they would rise and submerge to the moon. We also find him suspecting that certain irregularities in the motion of the moon are owing to the combination of the earth and sun upon this body. (Ibid.)

These and other reflections concerning the universality of attraction, he accompanies with an ingenious anticipation of a law of nature, from conjecture only, but which was afterwards verified by experiment. The schools had taught that some bodies were by their nature heavy, and so fell to the ground; and that others were naturally light, and for that reason ascended. But Kepler pronounced, that no bodies whatever are absolutely light, but only relatively so; and consequently that all matter is subject to the law of gravitation. So far the genius of Kepler was fortunate in tracing out the great principle which governed the planet, from flying off from the sun; but his sagacity failed him, when he endeavoured to chew by what means they were kept from falling into that immense body, and what power perpetuated their motion in their orbits: a general investigation of the laws of motion was yet wanting; the discovery of which, as well as many other things, being referred, as he himself prophesied at the end of his work, "for the succeeding age, when the Author of nature would be pleased to reveal these mysteries."

The first person in this country, who embraced the doctrine of attraction, was Dr. Gilbert, a native of Colchester, and a physician at London, in a work published in the year 1620, intitled, "De Magnete Magnetisque Corporibus," which contains a number of curious things; but he did not properly distinguish between attraction and magnetism. The next after him was lord Bacon, who, though not a convert to the Copernican system, yet acknowledged the attractive power in matter (Nov. Organ. lib. ii. chap. 36. 45. & 48.) and in the dawn of philosophy, in which he lived, he constantly recommends an inquiry into the physical causes and reasons of things, observing, "that he who shall duly attend to the appetences and general affections of matter (which both in the earth and heavens are exceedingly powerful, and indeed pervade the universe) will receive, from what he sees falling on the earth, clear information concerning the nature of the celestial bodies; and, contrariwise, from motions which he shall discover in the heavens, will learn many particulars relating to the things below, which now he concealed from us." (De Dig. & Augm. Selon. lib. ii. c. 4.)

In France, also, we find Fermat and Roberval, mathematicians of great eminence, maintaining the same opinion. The latter, in particular, made it the fundamental principle of his system of physical astronomy, which he published in 1654, under the title of "Arill. Sane de Mundi Systema:" In this work, Roberval attributed to all the parts of matter of which the universe is composed, the property of having a tendency towards each other: observing, that this is the reason why they arrange themselves in spherical figures, not by virtue of a centre, but by their mutual attractions, and so that one may be placed in an equilibrium with another. Galileo, in Italy, had likewise conceived this idea; but with far less precision and extension than we find it in his contemporaries Bacon and Kepler.

But no one, before Newton, had entertained such just and clear notions of the doctrine of universal gravitation, or had approached so near to the making a general application of it to the laws of nature, as the celebrated Dr. Hooke. The philosophers before mentioned had feized some one branch, and from another; but Hooke, in his work, called "An Attempt to prove the Motion of the Earth," 1674. 410., appears to have embraced it in nearly the whole of its generality. He there observes, that the hypothesis upon which he explains the system of the world, is, in many respects, different from all others; and which is founded upon the three following principles: 1. That all the celestial bodies have not only an attraction or gravitation towards their proper centres, but that they mutually attract each other within their sphere of activity. 2. That all bodies which have a simple and direct motion, continue to move in a right line, if some force, which operates without ceasing, does not constrain them to describe a circle, an ellipse, or some other more complicated curve. 3. That attraction is so much the more powerful, as the attracting bodies are nearer to each other.

He also made several experiments with a view to strengthen the preceding conjectures. For this purpose, he suspended a weight, and then, after it had been made to oscillate, he impressed upon it a small lateral motion, and remarked, that the bullet described an ellipse, or a curve of that form, round the vertical line. He then attached to the firing of the first bullet, another, which carried a smaller one; and after having given to the latter a circular motion round the vertical line, he put the other in motion, as in the former experiment; when it was found, that neither one nor the other described an ellipse, but moved round a point at a mean distance between them, which appeared to be their centre of gravity. (Life of Dr. Hooke, prefixed to his posthumous works.)

This was certainly very ingenious; but Hooke did not consider that the centre of force refides in one of the foci of the ellipse, and not in its centre; and though the observation was suggested to him, and he was even excited by the promise of a very considerable reward, to determine the law of attraction, which would occasion a body to describe an ellipse round another quiescent body, placed in one of its foci, he was unable to accomplish the undertaking. The problem, which belongs to the higher geometry, was too difficult for that time; this admirable discovery, which does the highest honour to the human mind, being referred for
the genius of Newton; and though Hooke claimed a share of the glory of this discovery, it was without the smallest foundation; as his conjectures were far short of the proofs which were required in the sublime demonstration by which the former established this law of the universe.

Such was the progress of the sytem of universal gravitation, when this extraordinary man first appeared; who, according to Pemberton (View of Sir Isaac Newton's Philosophy, 1725, 4to.), first began about the year 1665, to suspect the existence of this principle, and to attempt to apply it to the celestial motions. Having retired into the country to avoid the plague, which about this time prevailed in London and its vicinity, his meditations turned upon the nature of gravity; and one of his first reflections appears to have been, that this power, which, by its continual action, occasions the fall of bodies towards the surface of the earth, to whatever height they are taken, might possibly extend much farther than was commonly imagined; as, for instance, to the distance of the moon or full Jupiter. And if so, he began to consider that it might be this force which retained the moon in her orbit, by counterbalancing the centripetal force which arises from her revolution round the earth. It also occurred to him at the same time, that though this power appears to suffer no diminution at any heights to which we can ascend, these being comparatively extremely small, yet it was highly probable, that, at very great distances from the earth, it might be considerably weakened.

In following therefore this conjecture, he was farther led to conceive, that if the attraction of the earth was the cause of retaining the moon in her orbit, the planets, in like manner, must be retained in their orbits by the attractive forces of the sun; and as the squares of the times of the revolutions of the planets had been found by Kepler to be proportional to the cubes of their mean distances from the sun, it followed that the diminution of their centrifugal forces, and of course that of gravity, would be reciprocally as the squares of their distances from that body. Hence, from the experiments which had been already made on the deflection of heavy bodies at small elevations, he determined the height from which the moon, if left freely to herself, would decline towards the earth in a short interval of time: this is well known to be the vered line of the arc that she describes in that time; and which, by means of the lunar parallax, may be determined in parts of the earth's radius; so that to compare the diminution of gravity with the observations, nothing more was necessary than to know the magnitude of this line.

But Newton, having at that time only an incorrect measure of the terrestrial meridian, obtained a result considerably different from that which he expected; whence, imagining that some unknown forces might be connected with the gravity of the moon, he abandoned his first ideas. Some years afterwards, however, his attention was again called to the subject by a letter of Dr. Hooke; and as Picard, about this time, had measured a degree of the earth in France with great exactness, he employed this measure in his calculations instead of the one he had before made use of, and found, by that means, that the moon is retained in her orbit by the sole power of gravity, supposed to be reciprocally proportional to the squares of the distances.

According to this law, he also found that the line described by bodies in their descent is an ellipse, of which the centre of the earth occupies one of the foci; and considering, afterwards, that the orbits of the planets are, in like manner, ellipses, having the centre of the sun in one of their foci, he had the satisfaction to perceive, that the solution which he had undertaken, only from curiosity, was applicable to some of the most sublime objects of nature. These discoveries gave birth to his celebrated work entitled, "Philosophiae Naturalis Principia Mathematica," which appeared in 1677; and is justly considered as one of the greatest monuments that his ever been erected by human genius to the honour of science.

In generalizing these researches, this profound geometer afterwards showed, that a projectile may describe any conic section whatever, by virtue of a force directed towards its focus, and acting in proportion to the reciprocal squares of the distances. He also developed the various properties of motion in these kinds of curves, and determined the necessary conditions, so that the section should be a circle, an ellipse, a parabola, or an hyperbola, which depend only upon the velocity and primitive position of the body; allaging in such case, the conic section which the body would describe. He also applied these relations to the motion of the satellites and comets, shewing that the former move round their primaries, and the latter round the sun, according to the same law; and he pointed out the means of determining, by observation, the elements of these ellipses.

In considering that the satellites move round the planets in nearly the same manner as if their planets were quiescent, Newton perceived that they must all equally gravitate towards the sun. The equality of action and reaction did not allow him to doubt that the sun gravitates towards the planets, as well as these towards their satellites; and that the earth is attracted by all the bodies that are attracted towards her. He afterwards extended, by analogy, this property to all the parts of which bodies are composed, and established it as a principle, that every molecule of matter attracts every other body in proportion to its mass and reciprocity as the square of the distance from the body attracted.

Having arrived at this principle, Newton soon saw that all the great phenomena of the system of the world might be easily derived from it. In considering the force of gravity at the surface of the celestial bodies as the refutante of the attractions of all their molecules, he arrived at these remarkable conclusions: that the attractive force of a body, or spherical stratum, on a point placed without it, is the same as if the whole of its ma$s was united in the centre; and that a point placed within the body, or more generally in any stratum terminated by two similar ellipsoidal surfaces, similarly situated, is equally attracted in all parts. He also proved that the rotation of the earth upon its axis must occasion a flattening of it about its poles, which was afterwards verified by an actual measurement; and he determined the law of the variation of the degrees, in different latitudes, upon the supposition that the matter of the earth was homogeneous. He likewise saw, that the actions of the sun and moon upon the terrestrial spheroid, must produce a movement of rotation of its axis, as well as occasion a retrocession of the equinoxes, and the various oscillations of the waters of the ocean which are called the tides. In short, he also assured himself, that the inequalities of the motion of the moon arise from the combined actions of the sun and earth upon this satellite.

But, with the exception of what concerns the elliptical motions of the planets and comets, and the attractions of spheroidal bodies, these discoveries were not wholly completed by Newton. His theory of the figures of the planets is limited by the supposition of their homogeneity; and his solution of the problem of the precession of the equinoxes, although extremely ingenious, and nearly agreeing with the results obtained from observations, is defective in several respects; as among the great number of perturbations of the celestial motions, several small ones, and particularly
that which arises from the evocation of the moon, escaped his researches. He has perfectly established the principle which he had discovered; but left the complete development of its consequences and advantages to the geometers that should succeed him.

The profound analysis, of which this great man was also the inventor, had not, at this time, been sufficiently perfected, to enable him to give complete solutions to all the difficult problems which arise in considering the theory of the system of the world; so that he was sometimes obliged to give only imperfect sketches or approximations, and leave them to be verified by a more rigorous calculation. But, notwithstanding these inevitable defects, the importance and generality of his discoveries, and the great number of his original and profound views, which have given rise to the most brilliant mathematical theories of the present age, will always afford to this performance the pre-eminence above every other similar production of the human mind.

Having thus given a concise history of the discovery of this extensive principle, and its application to the laws of motion, it is proper to observe, that though Newton makes use of the word attraction in common with the school philosophers, yet he very judiciously distinguishes between the ideas. The ancient attraction was supposed to be a kind of quality, inherent in certain bodies themselves, and arising from their particular or specific forms; but the Newtonian attraction is a more indefinite principle, denoting no particular kind or manner of action, nor the physical causes of such action, but only tendency in the general, a conatus ascendentis, to whatever cause, physical or metaphysical, such effects are owing, whether to a power inherent in the bodies themselves, or to the impulse of an external agent.

He accordingly shows in his Philosop. Nat. Prin. Math. that he uses the words attraction, impulsion, and propension to the centre, indifferently; and cautions the reader not to imagine, that by attraction he expresses the modus of the action, or the efficient cause thereof, as if there were any proper powers in the centres, which in reality are only mathematical points; or as if centres could attract. Lib. i. p. 5.

In like manner he considers centripetal powers as attractions, though physically speaking, it were more just to call them impulsi. Lib. p. 148. He also adds, that what he calls attraction may possibly be effected by impulse, though not a common or corporeal impulse, but after some other manner unknown to us. Optics, p. 322.

Attraction indeed, if considered as a quality arising from the specific forms of bodies, ought, together with sympathy, antipathy, and the whole tribe of occult qualities, to be exploded. But when we have set these aside, there will remain innumerable phenomena of nature, and particularly the gravity or weight of bodies, or their tendency to a centre, which argue a principle of action seemingly distinct from impulse, or where at least there is no sensible impulsion concerned. It is also well known, that this action differs, in some respects, from all impulsion we know of, the latter being always found to act in proportion to the surface of bodies; whereas gravity acts according to their solid contents; and consequently must arise from some cause that penetrates or pervades their whole substances. This unknown principle, which can be considered to only with respect to its cause (for its phenomena and effects are most obvious), with all the species and modifications of it, is what we call attraction, which is a general name under which all mutual tendencies, where no physical impulsion appears, and which cannot therefore be accounted for from any known laws of nature, may be ranged; and here arise several particular kinds of attractions, as gravity, magnetism, electricity, &c. which are so many different laws; and only agreeing in this, that we do not see any physical causes of them; but that as to our senses, they may really arise from some power or efficacy in such bodies, by which they are enabled to act, even upon distant bodies, though our reason absolutely disallows of any such action.

Attraction may be divided with respect to the law it observes, into two kinds: 1. That which extends to sensible distances; such are the attractions of gravity found in all bodies; and the attraction of magnetism and electricity found in some particular bodies; the several laws and phenomena of which see under their respective articles. 1

Among these, the attraction of gravity, which is also called the centripetal force, is one of the greatest and most universal principles in nature; we see and feel it operate on bodies near the earth, and find by observation, that the same power also obtains in the moon, and in both the primary and secondary planets, as well as in the comets; and that this is the power by which they are all retained in their orbits, &c. and hence, as gravity is found in all the bodies which come under our observation, it is easily inferred, by one of the settled rules of philosophizing, that it obtains in all others; and as it is found to be as the quantity of matter in each body, it must be in every particle thereof; and hence, every particle in nature is proved to attract every other particle, &c. See the demonstration of this laid down at large under the articles Centrifugal, Centripetal, Comet, Moon, Newtonian Philosophy, Planet, Satellite, Sun, &c.

From this attraction arises all the motion, and consequently all the mutation, in the universe; by this, heavy bodies descend and light ones ascend, projectiles are directed, vapours and exhalations arise, and rains, &c. fall. Also from the same cause rivers glide, the air preys, the ocean swells, &c. In effect, the motions arising from this principle, make the subject of that extensive branch of mathematics called Mechanics, or Statics, with the parts or appendages thereof Hydrostatics, Pneumatics. See Mathematics, Philosophy, &c.

2. That which extends only to small distances. — Such is found to obtain in the minute particles whereof all bodies are compounded, which attract each other at or extremely near the point of contact, with a force much inferior to that of gravity; but which at any distance from it decreases much faster than the power of gravity. This power is known by the name of the Attraction of Cohesion, as being that by which the atoms or sensible particles of bodies are united with larger and more sensible figures, See Cohesion.

The latter kind of attraction owns Newton for its discoverer, as the former does for its improver. The laws of motion, percussion, &c. in sensible bodies under various circumstances, as falling, projected, &c. ascertained by the latter philosophers, do not reach to those more remote intelline motions of the competent particles of the same bodies, on which the changes of their texture, colour, properties, &c. depend; so that our philosophy, if it were founded wholly on the principle of gravitation, and carried no farther than that would lead us, would necessarily be very deficient.

But besides the common laws of sensible masses, the minute parts which they are compounded of are found subject to some others which have been only of late taken notice of, and are yet very imperfectly known. Newton, to whose happy penetration we owe the hint, contents himself with establishing that there are such motions in the minima naturae, and that they flow from certain powers or forces...
not reducible to any of those in the great world.—By virtue of these powers he means, *that the small particles act on each other even at a distance, and that many of the phenomena of nature are the result of this action. Sensible bodies, as we have already observed, act on each other several ways; and as we thus perceive the tenor and course of nature, it appears highly probable that there may be other powers of the like kind, nature being always uniform and consistent with herself.—Those just mentioned, reaching to small distances, have been generally observed; but there may be others, which reach to such small distances as have hitherto escaped observation; and this, it is probable, may be the case with electricity, even without being excited by friction.

He then proceeds to confirm the reality of these suppositions from a great number of phenomena and experiments, which plainly argue such powers and actions between the particles of bodies, e. g. of salts and water, oil of vitriol and water, aqua fortis and iron, spirit of vitriol and salt-petre, and many other chemical substanthes. He also shows that these powers are mutually strong between different bodies; e. g. stronger between the particles of salt of tartar and those of aqua fortis, than those of silver; and between aqua fortis and lapis calaminaris, than iron; between iron and copper, than silver, or mercury, &c. So spirit of vitriol acts on water, but more on iron or copper, &c. The other experiments which countenance the existence of such principles of attraction in the particles of matter are innumerable, many of which may be found enumerated under the articles Affinity, Acid, Matter, Menstrum, Salt, &c.

These actions, by virtue of which the particles of the bodies above mentioned tend towards each other, are called by the general indefinite name attraction, which is equally applicable to all actions by which distant bodies tend towards each other, whether by impulse, or by any other more latent power; and hence we can account for an infinity of phenomena which would otherwise be inexplicable from the principle of gravity: such as cohesion, diffusion, conglutination, crystallization, the ascent of fluids in capillary tubes, animal secretion, fluidity, fixity, fermentation, &c.; which fee under their proper names.

"Thus" (adds our incomparable author) "will nature be found conformable to herself, and very simple, performing all the great motions of the heavenly bodies by the attraction of gravity which intercedes those bodies, and almost all the small ones of their parts, by some other attractive power diffused through their particles. Without such principles, there never would have been any motion in the world; and without the continuance thereof, motion would soon perish; there being otherwise a great decrease or diminution thereof which is only supplied by these active principles."

* Optics, p. 573.*

For these reasons it is certainly unjust to declare against a principle which furnishes so beautiful a view, for no other reason but because we cannot conceive how one body should act on another at a distance. It is certain that philosophy allows of no action but what is by immediate contact or impulse (for how can a body exert any active power where it does not exist? to suppofe this of anything, even of the Supreme Being himself, would perhaps imply a contradiction); yet we fee effects without seeing any such impulse; and where there are effects, we can easily infer there are causes, whether we fee them or not. We may consider such effects, therefore, without entering into the consideration of the causes, as indeed it seems the business of a philofopher to do; for to exclude a number of phenomena which we fee, would be to leave a great chain in the history of nature: and to argue about thofe which we do not fee, would be to build castles in the air. Here it follows, that the phenomena of attraction are matter of physical consideration, and as fuch entituled to a place in the fyllem of physics; but that the causes of them will only become so when they become fufible, i.e. when they appear to be the effect of some other higher causes (for a caufe is no otherwife feen than as itfelf is an effect, fo that the firft caufe must, from the nature of things, be invifible); we are, therefore, at liberty to suppusc the caufes of attraction what we please, without any injury to the effects. The illufrious Newton himself feems, indeed, a little irrefolute as to the caufes, inclining sometimes to attribute gravity to the action of an immaterial caufe, Optics, p. 343, &c.; and sometimes to that of a material one, Ibid. p. 352.

In his philofophy, the research into caufes is the laft thing, and never comes under consideration till the laws and phenomena of the effects be settled; it being to these phenomena that the caufe is to be accommodated. The caufe even of any of the greatest and most fufible actions is not adequately known; how impulse or perception itself, for in-stance, produces its effect, that is, how motion is communi-cated by one body to another, confounds the deepphilofophers; yet impulse received not only into philofophy, but into mechanics; and accordingly the laws and phenomena of its effects make the chief part of common mechanics.

The other species of attraction, therefore, in which no impulse is remarkable, when their phenomena are sufficiently ascertained, have the same title to be promoted from physical to mathematical consideration; and this without any previous inquiry into their caufes, which our conceptions may not be proportioned to; let them be occult, as all caufes strictly fpeaking are, so that their effects, which alone immediately concern us, be but apparent. See Caufes.

Our illufrious countryman, therefore, far from adulterating philosophy with any thing foreign or metaphysical, as many have reproach'd him with doing, has the glory of having thrown every thing of this kind out of his fyllem, and of having opened a new fource of the most sublime me-chanics yet known; it is hence, therefore, that we must expect to learn the manner of the changes, productions, generations, corruptions, &c. of natural things; with all that fene of wonders which is open'd to us by the operations of chemistry.

The caufe of attraction was long accounted for, by supposing that there exifted a certain unknown substance which impelled all bodies towards each other; an hypothefis to which philofophers had recourse, from an opinion which had constantly been admitted as a ftrill principle, "that no body can act where it is not;" as if it were more difficult to conceive why a change is produced in a body by another which is placed at a greater distance, than why it is produced by one which is fituated at a fmall distance; it being not only as improbable to explain the phenomena of attraction by impul-fion as it is to conceive how bodies should be urged towards each other by the action of an external fubftance, as how they should be urged towards each other by a power inherent in themselves. The fact is, that we can neither comprehend the one nor the other; nor can any reafon be assigned why the Creafor might not as eafily beftow upon matter the power of acting upon matter at a distance, as the power of being acted upon and changed by matter in actual contact.

But we have no reafon besides for supposing that bodies are ever in any cafe actually in contact. For all bodies are diminished in bulk by cold, that is to fay, their particles are
are brought nearer each other, which would be impossible, unless they had been at some distance before the application of the pull. Almost all bodies are diminished in bulk by precession, and consequently their particles are brought nearer each other; and the diminution of bulk is always proportional to the precession. Newton has also shown that it requires a force of many thousands to bring two gladioli within the eighth part of an inch of each other; that a much greater force is necessary to diminish that distance, and that no precession whatever is capable of diminishing it beyond a certain point. Consequendy there is a force which impede the actual contact of bodies, which increases inversely as some power or function of the distance, and which no power whatever is capable of overcoming. Bosovich has likewise demonstrated, that a body in motion communicates part of its motion to another body before it actually reaches it. Hence we may conclude, that, as far as we know, there is no such thing as actual contact in nature; and that bodies of course always act upon each other at a distance. Even impulsion, therefore, or preface, is an instance of bodies acting on each other without being in contact, and consequently this is no better an explanation of attraction, than the supposition that it is an inherent power. We must therefore be satisfied with considering attraction as an unknown power, by which all bodies are drawn towards each other, and which acts constantly and uniformly in all places and spaces, for always to diminish the distance between them, unless when they are prevented from approaching each other by some force equally powerful. But why it diminishes as the distance increases, it is impossible to say; although the fact is certain, and is almost incompatible with the supposition of impulsion being the cause of attraction. The truth is, that we must not be too precipitate in drawing conclusions, but must wait, with patience, till future discoveries shall enable us to advance farther; satisfying ourselves, in the mean time, in arranging the laws of nature which have been ascertained, without attempting to develop the causes upon which they depend.

Attraction, in Chemistry. See AFFINITY.

Attraction, Centre of. See CENTRE.

Attraction of Mountains. According to the Newtonian theory of attraction, this principle pervades the mionutell particles of matter, and the combined action of all the parts of the earth forms the attraction of the whole. For the same reason, therefore, that a heavy body tends downwards in a perpendicular to the earth's surface, considered as smooth and even, it will be attracted towards the centre of a neighbouring mountain, by a force proportional to the quantity of matter contained in it; and the effect of this attraction, or the accelerative force produced by it, must depend on the nearness or distance of the mountain from the gravitating body, because this force increases as the squares of the distances decrease. Upon these principles it is obvious, that the plumb-line of a quadrant, or of any other astronomical instrument, must be deflected from its proper situation, by a small quantity, towards the mountain, and the apparent altitudes and zenith distances of the stars, taken with the instrument, be altered accordingly: e.g. if the zenith distance of a star on the meridian were observed at two stations under the same meridian, one on the fourth side of a mountain, the other on the north; and the plumb-line of the instrument were attracted out of its vertical position by the mountain, the star must appear too much to the north, by the observation at the southern station, and too much to the south by that at the northern station; and consequently the difference of the latitudes of the two stations resulting from these observations, would be greater than it really is. If then the true difference of their latitudes be determined by measuring the distance between the two stations on the ground, the result of the difference, found by the observations of the star above, that found by this measurement, must have been produced by the attraction of the mountain; and the half of it will be the effect of such attraction on the plumb-line at each observation, provided that the mountain attracts equally on both sides.

The first hint for determining the quantity of this attraction was suggested by Newton, in his Tract of the Seflen of the World; and the first experiment for the purpose was conducted by M. Bouguer, and M. de la Condamine, in the year 1736. Whilst they were employed in measuring three degrees of the meridian, near Quito in Peru, they endeavoured to ascertain the cause of the attraction of Cachapoal, a mountain in that neighbourhood, which, by a rough computation, they supposed to be equal to about the thousandth part of the attraction of the whole earth. By observing the altitudes of fixed stars at two stations, one on the south side of the mountain, and the other on the north, they found the quantity of 77" in favour of the attraction of the mountain by a mean of their observations; whereas the plumb-line, according to the theory, should have declined from the true vertical line 1° 43'. However, though the general result is favourable to the Newtonian doctrine, the experiment was performed under so many disadvantages, as not to afford the satisfaction which was to be wished; and M. Bouguer terminates his account of his observations, with expressing his hopes, that the experiment might be repeated under more favourable circumstances, either in France or in England. Bouguer, Figure de la Terre.

Nothing was afterwards done, till Mr. (now Dr.) Maskelyne, the present astronomer royal, made a proposal to the Royal Society for this purpose, in the year 1773; and in 1774, he was deputed to make the trial, accompanied with proper assistants, and furnished with the most accurate instruments. He made choice of the mountain Schehallien, in Scotland, for the scene of his operations, the direction of which is nearly from east to west, its mean height above the surrounding valley about 2000 feet, and its highest part above the level of the sea 3550 feet. Two stations for observations were selected, one on the north, and the other on the south side of the mountain. Every circumstance that could contribute to the accuracy of the experiment was regarded; and from the observation of ten stars near the zenith, Mr. Maskelyne found the apparent difference of the altitudes of the two stations to be 54". And from a measurement by triangles, formed from two bases on different sides of the mountain, he found the difference of their parallels to be 4364 feet, which, in the latitude of Schehallian, viz. 56° 40', answers to an arch of the meridian of 43", which is less by 11° 6' than that found by the fector. Its half, therefore, or 5° 8" is the mean effect of the attraction of the mountain. From this experiment, conducted with great attention and accuracy, and tending to the establishment of the Newtonian theory, Mr. Maskelyne infers, that the mountain Schehallien exerts a sensible attraction; and, therefore, that every mountain, and every particle of the earth, is endowed with the same property, in proportion to its quantity of matter. The line of the variation of this force, in the inverse ratio of the squares of the distances, is likewise confirmed by it; for if the force of the attraction of the hill had been only to that of the earth as the matter in the hill to that of the earth, and had not been greatly increased by the near approach to its centre, the attraction must have been wholly insensible. He infers also, that the mean density of the earth is at least double of that at the surface; and consequently, that the density of the internal parts of the earth is much greater than that of the nearer place.
the surface; also that the whole quantity of matter in the earth will be at least twice as great as if all were composed of matter of the same density with that at the surface; and therefore that the hypothesis of those naturalists, who suppose the earth to be only a great hollow shell of matter, is groundless. And finally, that the sensible deflections in the plumb-lines of astronomical instruments, by the density of the superficial parts of the earth, must cause apparent inequalities in the manifuration of degrees in the meridian. He candidly acknowledges, however, that a single experiment is not sufficient to ascertain a matter of such importance, and recommends other experiments of a similar kind to be repeated in various places, and attended with different circumstances; since Schuhellen may differ in its internal constitution from other mountains, as there is no appearance of its ever having been a volcano, which is the case of many others. Phil. Trans. vol. liv. part 2. N° 48 and 29.

ATTREBATH, in Ancient Geography. See ATTRBATH.

ATTRIBUTE, from attribus, in a general sense, that which agrees to some person or thing; or a quality which determines something to be after a certain manner. Among logicians, it denotes the predicate of any subject, or whatever may be affirmed or denied concerning it. But more strictly speaking, an attribute is the name with an essential mode, or it is that which belongs to the nature or essence of the subjects in which it is. Thus, understanding is an attribute of mind; figure, an attribute of body, &c.

Of the several attributes belonging to any subsance, that which presents itself first, and which the mind conceives as the foundation of all the rest, is called its essential attribute. Thus, extension is by form, and solidity by others, made the essential attribute of body or matter. The other attributes are called accidental ones, i.e. gr. roundness in wood, or learning in a man. Mr. Locke endeavours to prove, that thinking, which the Cartesian make the essential attribute of the mind, is only an accidental one.

Mr. Harris (Hermes, p. 29.) considering all things whatsoever that exist either as the energies or affections of some other thing, or as not being the energies or affections of something else, refers the former to the denomination of attributes, and the latter to that of subsances. Thus, to think is the attribute of a man; to be white, of a fawn; to fly of an eagle, &c. If they exist not after this manner, then they are called subsances.

Spinoza makes the soul and the body to be of the same subsance, with this only difference, that the soul is to be conceived under the attribute of thought, and the body under that of extension.

ATTRIBUTES, in Theol. g., denote the several qualities and perfections which we conceive in God, and which constitute his proper essence; as justice, goodness, wisdom, &c. The perfections of God are called his attributes, because he cannot be without them. Theological writers have distributed the attributes of the deity into natural, such as knowledge and power; and moral, such as justice and benevolence. Of these writers some have maintained that all the natural attributes are comprehended under power and knowledge; and that benevolence comprehends all those that are denominated moral. Others, alleging that God always does that which is right and fit, have considered all his moral attributes, viz. justice, truth, faithfulness, mercy, patience, &c. as merely different modifications of rectitude. Others, again, have represented wisdom as the spring of all the divine actions. Accordingly, they have flated the moral attributes of God to be only different ways of considering his will, as invariably determined by his wisdom, so that which is best in all possible circumstances. The attributes discriminated by this denomination are good, justice, truth, and fidelity. Goodness is the will of God, determined by his wisdom, to the communciation of being and happiness because it is fit, and as far as it is fit; justice is the will of God, determined by his wisdom, to maintain right and order, and for this purpose to do all that is necessary for convincing his reasonable creatures of the regard he hath for the preservation of his own rights and of theirs; truth, or sincerity, is the will of God, determined by his wisdom, to avoid using all signs in his intercourses with his intelligent creatures, from which they may not only take occasion, without necessity, to deceive themselves, but would have jst ground to charge him with being their deceiver, having a meaning to himself quite different from that which the other thes he made use of naturally supposed, and were intended to signify; faithfulness is the will of God, determined by his wisdom to make good all his promises and engagements; and the holiness of God seems to brand for all these perfections in conjunction; the Deity being separated by them from all society and friendship with false Gods. Accordingly, to this statement it is alleged, that we have clear, distinct, and proper, though not adequate, ideas of the moral attributes of the divine nature; whereas some have maintained, that our notions of justice and goodness do not at all agree to these attributes as they pertain to the Deity, in whom they signify something, of which we have only a confused or rather no apprehension, and very different from what they do when ascribed to men. To this purpose, lord Bolingbroke (Works, vol. iv. and v.) founds his fyllem on this extravagant paradox, as it has been juftly called, that we have no adequate ideas of God's moral attributes, his goodness and justice, as we have of his natural, his wisdom and power; and accordingly he denies justice and goodnes to be the same in God as in man; and he pretends, that the ideas of God's moral attributes cannot be acquired by any reasoning at all, either a priori or a posteriori, and hence concludes, that if a man has such ideas, they were not found but invented by him. See his objections slated and answered by the late Bishop Warburton, in his "View of Lord Bolingbroke's Philosophy," Letter 1. See Hartley's Obs. on Man, p. 316. Bays on Divine Benevolence. Wollaston's Rel. of Nat. p. 116—119. Grove's Wisdom the first Spring of Action in the Deity, in his Works, iv. p. 1—46, &c. Balguy's Divine Rectitude, p. 3—8.

The heathen mythologists divide the deity into as many distinct beings as he has attributes; thus the power of God was called Jupiter; the wrath of God, Juno; the absolute will of God, Fate, or Destiny, to which even his power is subject.

ATTRIBUTES, in Painting and Sculpture, are symbols added to figures and statues, to denote their particular office and character. Thus the club is an attribute of Hercules; the palm is an attribute of victory; the pears, of Juno; the eagle, of Jupiter; the trident, of Neptune; the balance of justice; the olive, of peace, &c. See Painting.

ATTRIBUTIVES, in Grammar, are words which are significant of attributes; and thus include adjectives, verbs, and participles, which are attributes of substantives, and adverbs, which denote the attributes only of attributes. Mr. Harris, who has introduced this distribution of words, denominates the former attributes of the first order, and the latter attributes of the second order. Harris's Hermes.

ATTRITION, formed of attrere, to draw; triturre, or friction, expresses such a motion of bodies against one another, as strikes off the superficial particles, whereby they gradually become lefs and lefs. The grinding and polishing of bodies is performed by attrition. The effects of attrition
ATU

Ation in exciting heat, light, electricity, &c. see under Electricity, Fire, Heat, and Light.

Attrition, among Divin i., denotes a sorrow or regret for having offended God; arising from a sense of the obdurate-ness of sin, and the apprehension of punishment; &c. of the loss of heaven, and the pains of hell.

Attrition is esteemed the lowest degree of repentance, being a steep short of contrition, which supposes the love of God an ingredient or motive of our sorrow and repentance. Attraction, in the church of Rome, was considered as a sufficient distinction for a man in the sacrament of penance to receive absolution, and be justified before God, by removing his guilt, and the obligation to punishment. Hence Dr. Jer. Taylor mentions this notion as one of those which accidentally taught or led to an ill life. Liberty of Prospecting, p. 272.

ATROW, in Botany, a name given by the people of Guinea to a plant which they use in caves of dwelling, bedding the leaves in water, and using the decoction by way of a fomentation.

It is a species of Kali, and called by Petiver Kali Guineense, foliis argyrophyllis, floribus verticillatis in modum dispathitis, from its leaves resembling the common knot-grass, and its flowers growing in bundles round the stalks. Phil. Trans. N. 1. 232.

ATTROMMALIGNOC, a name given by the people of Guinea to a herb which they use in medicine; they boil it in water, and give the decoction in the venerous disea.
The juice of it, when freshly pressed out, is also used, infused up the nostrils, to promote freezing, and cure several disorders of the head and eyes. Phil. Trans. N. 1. 232.

It is a species of COLUTA, called by Petiver, COLUTA Lamiifolia, foliis parvis pilosis pilis dense, februm densibus; and Dr. Herman calls it apergularis.

ATUARI, in Ancient Geography, a people of Germany, called by Strabo Chattuarii, and placed by him in the neighbourhood of Cattes. By Tacitus they are denominated Chattesarii. Julian marched against these people, and after an expedition of three months, defeated them.

ATUAE, in Geography, a town of Arabia, 76 miles W.S.W. of Saada.

ATTUND, or Ostund, a country of Sweden, being one of the three parts of Upland, between Stockhom, Upland, and the Baltic sea; famous for its mines.

ATTURNATO faciendo vel recipiendo, in Law. See ATTORNATO, &c.

ATTU, in Ancient Geography, a town of Asia Minor, on the confines of Bithynia and Mytra, Pityri.

ATUACA, or ATTUACA, a town of Beclue Gaul, mentioned by Caesar as belonging to the Eburones, and called by Anton. (Itin.) Adventus Tongravum. This city, under the appellation of Tongres, was raised by Attilla in 451, and its episcopal see was transferred to Maerderich; and from thence, in 861, to Liege.

ATUED, or ATUET, in Geography, a town of Sweden, in East Gotland, having in its vicinity some good mines; six leagues south-east of Lindköping.

ATUNJAUXA. See JUXA.

ATUN-CANAR, or GREAT CANAR, a village of South America, in the jurisdiction of Guiana, and province of Quito, famous for its fertility and the treasures supposed to be buried in the earth. One of the Indians is said to have built in this place several magnificent temples, splendid palaces, and forts of stone, like those of China, and to have plated the inside of the walls with gold. Some remains of its ancient magnificence are still visible. Juan and Ulloa's Voyage to South America, by Adams, vol. i. p. 319.

ATUL, or ATTUENSIM CITIATA, in Ancient Geography, a town of Gaul, in the district of Novem-populania, seated on the river Atunus; now Aire on the Adour.

ATURES, in Geography, a famous cataract of the river Oromoko, in South America.

ATURI, a town of European Turkey, in Bejfarabia, twenty-two miles south of Bender.

ATURIA, or ATTURIA, in Ancient Geography, a name given by Strabo to Affyrina.

ATWOOD's Key, in Geography, a small island surrounded by rocks, twelve miles north-east from Crooked island, and fifty miles from Yuma, or Long island, one of the Bahamas. N.lat. 23° 38'. W. long. 73°.

ATTYADE, in Ancient Geography, the first race of kings who reigned in Lydia, &c. called from Attys, the son of Cos, and grandson of Meaxes, who is said to be the son of Jupiter and Tellus. The Attiades were succeeded by the Heracleis, or descendants of Hercules. See Lydia.

ATYMNUS, in Antiquology, a species of Papilio (Plat. Rur. Lim.) that inhabits China and Siam. The wings are tailed, fulvous; with the anterior ones black at the apex. Donovan's Inf. China, &c. p. 10. This is Hypsea Arunia of Fab.

ATYPOS, from a negative, and μεκός, form, or tenor, erratic, or irregular, a word used by the old writers in medicine, for such diseases as did not observe any regularity in their periods.

Others have also used the same word in a very different sense, namely, for deformities and irregularities in the limbs; and others, for persons who, from some defects in the organs of speech, cannot articulate certain particular sounds.

ATYS, in Ancient Geography, a river of Sicily, now called the Corbo.

ATY, in Zoology, a species of Stoma, in Audubon's Histoire des Singes. (Fam. 4. fecl. 2. fig. 2.) It belongs to the family of Cynocon, and measures one foot five inches from the muzzle to the tail. The whole body is of a dirty whitish colour; the feet, hands, face, and ears are of a flesh colour; the muzzle is long; tail moderate; ears nearly round. This is represented as a mischievous and choleric animal; and capable of biting with great violence. It is conjectured to be the great white East Indian Apes figured by Albert Seba in his Thesaurus Rer. Natur. t. 1. pl. 48. fig. 5. by some modern French naturalists; and also the Cerphilias femen of Erxleben. Syll. Reg. Anim. p. 24.

ATZEL, ORIOLES Nobilis, in Ornithology, the name given by Merrem Begtr. to the bird called by Latham the long-billed Grackle; Gracoulus longirostris of Pallas and Gmelin. Merrem also calls it Ociula lorysophus of Gmelin, Goldzhiliger gelbchulderich Atzel.

ATZMANS DORF, in Geography, a town of Germany, in the circle of the Lower Rhine, four miles south-east of Erfurt.

AU, a town of Germany, in the arch-duchy of Austria, six miles north of Gemunden.—Also, a town in Lower Bavaria, twelve miles north-west of Hofburg.

AVA, a kingdom of Asia, in the peninsula of India beyond the Ganges; for an account of which see Birmian Empire.

AVA, or AVANGAN, the capital city of the kingdom of the same name, or of the whole of the Birmian empire, situate in N. lat. 23° 5', E. long. 97° 54'. It is divided into an upper and lower city, both of which are fortified; the lower is the most extensive, and is supposed to be about four miles in circumference; it is protected by a wall thirty feet high, with a deep and broad fosse. The communication between the fort and the country is over a mound of earth, crossing a ditch that supports a causetway; the upper or smaller fort, which may be called the citadel, and does not exceed Q 2 a mile
A V A

a mile in circuit, was much stronger and more compact than the lower; but neither the upper nor the lower had a ditch on the ride of the river. This ancient capital has been suffered to sink into ruins, since the recent foundation of Ummerapoora. "The walls," says Colonel Symes, "are now mouldering into decay; ivy clings to the ridge; and the earth has been suffered to fall in from the bottom, undermine the foundations, and have already caused large clayhams in the different faces of the fort. The materials of the houses, consisting chiefly of wood, had, on the first order for removing, been transported to the new city of Ummerapoora; but the ground, which is where it is covered with bushes, or rank grass, still retains traces of former buildings and streets. The lines of the royal palace of the Lotoo, or grand council hall, the apartments of the women, and the spot on which the piash, or imperial spire, had flood, were pointed out to us by our guide. Clumps of bamboo, a few plantain trees, and tall thorns, occupy the greater part of the area of this lately flourishing capital. We observed two dwelling-houses of brick and mortar, the roofs of which had fallen, and their guide said, he had belonged to Colars, or foreigners; on entering one, we found it inhabited only by two chief men, who flew in our faces, whilst two legs of feeding were afforded by their fish, and by the pineapple miller that hung upon the walls. Numerous temples, on which the Birman never lay faeculigious hands, were dilapidated by time. It is impossible to draw a more striking picture of devastation and ruin." To the gloomy and deflected walls of Ava, a fine contrail is exhibited by the new city of Ummerapoora.

A V A, River of, now called Irracaddyi, is the chief river of the Birman empire; according to major Remell (Memoir, p. 298.), it is the Non-Kian, little, if at all, inferior to the Ganges, and it runs to the fourth from that angle of Yunnan which approaches nearest to Bengal. It is said to be navigable from the city of Ava to Yunnan; it passes by Moguand to Bammoo, and thence to Ummerapoora and Chagain, and thence to Prome towards the sea, into which it discharges itself by many mouths, after a comparative course of near 1200 British miles. The two extreme branches of the Ava river are the Persian and Syriam rivers, which major Remell (Mem. p. 33.) has been able to trace to the place where they separate from the main river, at about 150 geographical miles from the sea. The bearings of these two branches intersect each other at an angle of about sixty degrees. The mouths of the Ava river form an amphitheatre of low islands like those of the Ganges. M. D'Anville erroneously supposed the Sampoo, Thibet river, or Burmanpootar, to be the same with that which is called, in the lowest part of its course, the river of Ava: and the Nou-Kian he supposed to be the same with the river of Pegu. This river of Pegu, according to Buchanan (see Symes's Embassy, vol. ii. p. 412.), which is supposed to come from China, rises among hills about 150 miles from the sea, which form the boundary between the Birman and Pegu kingdoms. The river coming from Thibet, supposed to be that of Arracan, it is really the Keendum, or the great western branch of the Ava river. That which is supposed to be the western branch of the Irrawaddy, is in fact the eastern one, which passes by Ava, and runs to the north, keeping west from the province of Yunnan, and leaving between it and that part of China a country subject to the Birmans. He adds, that between the Pegu and Martaban rivers there is a lake from which two rivers proceed: the one runs north to Old Ava, where it joins the Myoungnyin, a little river of Ava, which comes from mountains on the frontiers of China; the other river runs south from the lake to the sea, and is called Sitang. The country bordering on the Ava river, from the sea to Lundaye, is flat, and the foil rich, and resembles the lower parts of the courses of the Ganges, Indus, and other capital rivers, formed out of the road deposited by the inundations of the river. This low tract is called Poyou. Renneli's Mem. p. 297. Symes's Embassy to Ava, vol. ii. p. 413.

A V A, in Botany, a plant so called by the inhabitants of Otaheite, in the South Sea, from the leaves of which they extract an intoxicating juice. It is drunk very freely by the chiefs and other considerable persons, who, with each other in drinking the greatest number of draughts, each draught being about a pint: but it is carefully kept from their women. Hawkeworth's Voyages, vol. ii. p. 200.

A V A D I E S, in Ancient Geography, a people of Asia, placed by Ptolemy in Bactria.

A VA D O U T A S, a foot of Indian brann, distinguished by their authority and abstinence, and depending on accidental benefice for their necessaries.

A V A L L of Marriage, in Scotch Laws, denotes that custom in ward-holding, by which the superior was entitled to a certain sum from his vassal, upon his attaining the age of puberty, as the value or yield of his vassal.

A V A I L L E, in Geography, a town of France, in the department of the Vienne, and chief place of a canton in the district of Civray; five leagues east of Civray, and six and a half S.S.W. of Montmorillon. The place contains 2115, and the canton 5154 inhabitants: the territory includes 2125 kilometres and 4 communes.

A V A L, the largest of the islands in the gulf of Persia, known to the Europeans by the name of Bahrein. In this island were once 360 towns and villages; but at present it contains, besides Bahrein the capital, only fifty wretched villages; the others having been ruined by a long series of wars. This island produces great abundance of dates; but its chief dependence is upon the pearl-fishery, as the best pearls are supplied by it. The duties upon the two articles of dates and pearls affords its sovereign a lack of rupees, out of which he is obliged to maintain a garrison in the city.

A V A L A N C H E S, a name given in Switzerland and Savoy to those prodigious masses of snow, which are precipitated, with a noise like thunder, and in large torrents, from the mountains, and which destroy everything in their course, and have sometimes overwhelmed even whole villages. In 1719, an avalanche from a neighbouring glacier overspread the greater part of the houses and baths at Leuk, and destroyed a considerable number of inhabitants. The best preservative against their effects being the forests, with which the Alps abound; there is feared a village situated at foot of a mountain, that is not sheltered by trees; which the inhabitants prefer with uncommon reverence. Thus, what constitutes one of the principal beauties of the country, affords also security to the people.

Our readers may be gratified by the description which Thomson has given of the avalanches in his "Scenes:

"Among these hilly regions, where embraced
In peaceful vales, the happy Grisons dwell;
Oft, rushing fudden from the loaded cliffs,
Mountains of snow their gathering terrors roll
From steep to steep, loud thuddring down they come,
A wintry wale in dire commotion all;
And herds and flocks, and travellers and swains,
And sometimes whole brigades of marching troops,
Or hamlets sleeping in the dead of night,
Are deep beneath the smothering ruin hurl'd."

A V A L A S, a town of Servia, twelve miles south of Belgrade.

A V A L I T E S S I N S, in Ancient Geography, a gulf on the
the right of the Erythrean sea. In this gulf was a sea-port, called Avalis, on the coast of Ethiopia: the people of Ethiopia who lived near this gulf were called Alvatis, and Abatis, or Albius.

AVALLON, in Geography, a town of France, in the department of the Yonne, and principal place of a district, seated on the river Conin. This is a town of considerable trade in grain, wine, and cattle, with a cloth manufactury; twenty-three miles S.S.W. from Auxerre, and fifty-fourth of Troyes. The place contains 50,035, and the canton 9,668, inhabitants: the territory includes 17,555 square miles and 11 communes. N. lat. 47° 29', E. long. 3° 5'.

AVALON, a peninsula of the island of Newfoundland, not far from the south-east part of it, with Placentia bay on the south, and Trinity bay on the north.

AVANCAY, a jurisdiction in the diocese of Cueno, in South America, lying north-east of the city of Cueno, and extending above thirty leagues. The climate is variable, but in general hot, and many parts of it are cultivated with success, which yield a very rich harvest. The more temperate parts are forested, in which, native and fruit, which are sent to the city of Cueno. In this province is the valley of Xaquijagua, or Xajaguana, where Gonzalo Pizarro was defeated and taken prisoner by Pedro de la Gasco.

AVANCHE. See Avesche.

AVANIA, in the Turks' Legislation, a fine for crimes, and on deaths, paid to the governor of the place. In the places where several nations live together under a Turkish governor, he takes this profitable method of punishing all crimes among the Christians or Jews, unless it be the murder of a Turk. Of cucumber's fig. vol. ii. part ii. p. 30.

AVANT, a French proposition, signifying before, or any priority either in respect of time or place; sometimes used in composition in our language, but more usually contracted, and wrote vanta, or vant, or even van.

AVANT-PASSY, &c. See Van-Passy.

AVANT-GUARD, &c. See Van Guard.

AVANTICICI, in Ancient Geography, a people reckoned among the inhabitants of the Alps, and, according to Pliny, comprehended by Galba within the province called Narbonensis. Some have represented them as the inhabitants of Avanticum or Aventicum, the capital of Helvetia; but as Gaul Narbonensis never extended so far, Hardouin rejects this opinion. Mauzer (Mem de litter. t. xxxix. p. 248.) fixes them in a place, now called Avanos, between Gap and Embrun.

AVANTURINE, in Natural History, a yellowish stone full of sparkles, resembling gold, very common in France. An artificial imitation is made of it by mixing sparkles of copper with glafs, which is sold for emeralds, and to sprinkle as food upon writing. Various stones have been known by this appellation. See Quartz, and Pelas.

AVIAOU, in Ethnology, the name given by the natives of Othaebe to a species of Gobin figured by Brossinnet in his decade of fishes. See Gobius Ocellaris.

AVARA, or Avera, in Ancient Geography, a river of Gaul, which passes by the town of Avaricum.

AVARY, in Geography, a town of France, in the department of the Loir and Céor, and chief place of a canton in the district of Mer, 52 miles N.E. of Blois.

AUARCAVELICA. See Guamanza.

AVARES, or Avari, a tribe of Sarmatian origin, denoting far distant, and formerly applied to a chief of the inhabitants of the southern part of Russia, from thence dwelling farther to the east than any of the Sarmatian tribes.

In the differentiation of M. Peyronnel on the origin of the Slavonian language, we are informed that the slaves, who possessed Macedonia, Greece, and Epirus, were also called Avar or Avalis; and that they were unknown to the inhabitants of Constantinople till the end of the reign of Justinian. At this time, the Emperor Justinian, sent under the character of an ambassador to their camp at the foot of mount Caucasus. They numbered 356; their ambassadors addressed the Roman emperor who admitted them to an audience, as they represented the right of the possession of the most populous of nations, the invincible, the irresistible Avari. Their friendship was purchased by the timely emperor, and Volkanin, one of the emperor's guards, was sent under the character of an ambassador to their camp at the foot of mount Caucasus. He persuaded them to invade the enemies of Rome. These fugitives, who had fled before the Turkish armies, passed the Danube and Borythenes, and hastily advanced into the heart of Poland and Germany, violating the law of nations and abounding the rights of victory. Before ten years had elapsed, their camps were fixed on the Danube, and the Elbe, many Bulgarians and Slavonian names were obliterated from the earth, and the remnants of their tribes are found, at tributaries and vassals, under the standard of the Avari. The Chagan, by which appellation their king was distinguished, ill affected to cultivate the friendship of the emperor; and Justinian entertained some thoughts of fixing them in Pannonia, to balance the prevailing power of the Lombards. But the virtues of teaching of an Avari betrayed the secret enmity and ambitions of their countrymen; and they daily complained of the weakness, the paltry policy of detaining their ambassadors, and denying the arms which they had been allowed to purchase in the capital of the empire. An embassy that was received about this time from the conquerors of the Avari, might possibly have produced an apparent change in the disposition of the empresses. The Turkish ambassadors having pursued the footsteps of the vanquished to the Balk, the Volga, mount Caucasus, the Euxine, and Constantinople, in length appeared before the successor of Constantine, to request that he would not enforce the cause of rebels and fugitives. In consequence of this embassy, the emperor renounced, or seemed to renounce the Avari, and accepted the alliance of the Turks. In the year 566, Justinian II. gave audience to the ambassadors of the Avari, and the scene was decorated to impress the barbarians with astonishment, veneration, and terror. After the first emotions of surprise, the chief of the embassy extolled the greatness of the Chagan, by whose clemency the kingdoms of the south were permitted to exist, whose victorious subjects had traversed the frozen rivers of Scythia, and who now covered the banks of the Danube with immovable troops. It was also alleged, that the late emperor had cultivated, with annual and costly gifts, the friendship of a grateful monarch, and that the enemies of Rome had received the allies of the Avari. The same prudence, it was intimated, would inflame the nephew of Justinian to imitate the liberality of his uncle, and to purchase the blessings of peace from the powerful people who were enlightened and excelled in the exercise of war. To this address the emperor replied in the same strain of haughty defiance: and he derived the confidence from the God of the Christians, the ancient glory of Rome, and the recent triumphs of Justinian. The Chagan was awed by the report of his ambassadors; and instead of exercising his threats against the eastern empire, he marched into the poor and savage countries of Germany, which were subject to the dominion of the Franks; but after two doubtful battles, his confederate was compelled to retire. The spirit of the Avari was chilled by repeated disappointments, their power would have dissolved away in the Sarmatian desert, if the alliance of Alboin, king of the Lombards, had not given a new object to their arms, and a lasting settlement to their wearied fortunes. (See Alboin, and Lombards.) By the departure,
departure of the Lombards, and the ruin of the Gepidæ, between the years 570 and 622, the balance of power was destroyed on the Danube; and the Avars, at this time, spread their permanent dominion from the foot of the Alps to the Bosporus. The reign of Baian is the brightest area of their monarchy; and the Chagans, who occupied the rutile præst of Attila appear to have imitated his character and policy. The pride of Justin II., of Tiberius, and of Maurice, was humbled by a proud barbarian, more prompt to insult, than exposed to suffer, the injuries of war; and as often as Asia was threatened by the Persian arms, Europe was oppressed by the dangerous insults, or costly friendship, of the Avars. As the successor of the Lombards, the Chagan asserted his claim to the important city of Sirmium, the ancient bulwark of the Illyrian provinces. The plains of the Lower Hungary were covered with the Avar horde, and a fleet of large boats were built in the Heresian wood, for the purpose of defending the Danube, and transporting into the Sava, the materials of a bridge. But as the strong garrison of Singidunum, which commanded the confluence of the two rivers, might have flapped its paffage and baffled his designs, he dispelled their appearance by a solemn oath that his views were not hostile to the empire. Sirmium, however, was invested by the perfidious Baian, and its defence was prolonged above three years; but at length of food by famine, a merciful capitulation allowed the escape of the naked and hungry inhabitants. Singidunum, at the distance of fifty miles, experienced a more cruel fate; its buildings were razed, and the vanquished people consigned to servitude and exile. From Belgrade to the walls of Constantinople a line extended of 600 miles, which was marked with flames and blood. The horses of the Avars were alternately bathed in the Euxine and the Adriatic; and the Roman pontiff, alarmed at the approach of a more formidable enemy, was reduced to cherish the Lombards as the protectors of Italy. The despair of a captive, whom his country refused to ransom, did not fail to move the Avars to the invention and practice of military engines, but in the first attempts they were rudely framed and awkwardly managed; and the resistance of Diocletianopolis and Beres, of Philippopolis and Adrianople, soon exhausted the skill and patience of the besiegers. Although the warfare of Baian was that of a Tartar, his mode was susceptible of sentiments that were generous and humane; accordingly, he spared Anchialus, by whose Sabine waters the health of the belov'd of his wives was restored; and the Romans confess, that their starving army was fed and satisfied by the liberality of a foe. His empire extended over Hungary, Poland, and Prussia, from the mouth of the Danube to that of the Oder; and his new subjects were divided and transplanted by the jealous policy of the conqueror. The eastern regions of Germany, which had been left vacant by the emigration of the Vandals, were replenished with Scythian conquests; the fame tribes are discovered in the vicinity of the Adriatic and the Baltic, and with the name of Baian himself, the Illyrian cities of Novi and Littaba are again found in the heart of Russia. In the devastation both of his troops and provinces, the Chagan exposed the vassals, whose lives he degraded, to the first assault, and the favours of the enemy were blazoned before they encountered the native valour of the Avars. The emperor Maurice, after having, for ten years, supported the insalubrity of the Chagan, declared his purpose of marching against the barbarians. Dute to the advice and intercessies of the senate, the patriars, and the council of Constantinople, who diffused him from pernicious encroaching the fatigue and peril of a Scythian campaign, he boldly advanced seven miles from the capital; but Anacrulas was the limit of his progress both by sea and land. In five successive battles, 17,000 barbarians were made prisoners; near 60,000, with four sons of the Chagan, were slain; the Roman general, Praetorius, fortified a peaceful district of the Gepidæ, protected by the Avars; and his left troopers were seated on the banks of the Donmore and the Tytis. Baian, however, again prepared, with dauntless spirit, for recruited forces, to avenge his defeat under the walls of Constantinople. In the reign of Heraclius, A.D. 610—622, Syria, Egypt, and the provinces of Asia, were subdued by the Persian arms under Chosroes; while Europe, from the confines of Italy to the long wall of Thrace, was oppressed by the Avars, infatuated with the blood and rapine of the Italian war. They had coolly massacred their male captives in the field of Pannonia: the women and children were reduced to servitude, and the maidens virgins were abandoned to the promiscuous lust of the barbarians. When Heraclius was preparing to abandon his capital, and to transfer his person and government to the more secure residence of Carthage, the Chagan was encamped in the plains of Thrace; and dismembering his pernicious deluges, solicited an interview, for the purpose of reconciliation with the emperor, near the town of Herece (a place, called by the Hippodrome, the tremendous sound of the Chagan's whip gave the signal of assault; and Heraclius was saved by the defences of his horse. So rapid was the pursuit, that the Avars almost entered the golden gate of Constantinople with the flying crowds; but the plunder of the suburbs rewarded their treachery, and they transported beyond the Danube 270,000 captives. The Persian king having ratified a treaty of alliance and partition with the Chagan, A.D. 626; 30,000 Barbarians, the vanguard of the Avars, forced the long wall of Constantinople, and drove into the city a promiscuous crowd of peasants, citizens, and soldiers. In the mean while the magnifics of the capital repeatedly strove to purchase the ret ent of the Chagan; but their deputies were rejected and insulted; and he suffered the patricians to land before his throne, while the Persian envoys, richly drest, were seated by his side. For ten successive days, the capital was assailed by the Avars, who had made some progress in the science of attack. At length however, by the vigorous resistance of the inhabitants, the Avars were repulsed; a fleet of Scythian canoes was also destroyed in the harbour; the valets of the Chagan threatened to defect; his provisions were exhausted, and after burning his engines, he gave the signal of a short and formidable retreat. To the hostile league of Chosroes with the Avars, the Roman emperor opposed the honourable and useful alliance of the Turks; and the Persians were then reduced to the necessity of retreating with precipitation. Gibbon's Hist. vol. vii. viii.

From the annals of France, cited by Bolandis, we learn, that Thudon, a leader of the Avars, sent embassadors to Charlemagne, in 795, with proposals for surrendering himself and his people to that prince, and for embracing Christianity under such auspices. On:

At this day there exist an Avarian nation in Dagestan, in the district of Debent and Kubet, who, though by their habitation for several centuries with various nations, they have adopted their language and the Mahometan religion, have nevertheless retained some Scythian words, that prove their ancient origin. They march, says Mr. Tooke's Hist. Ruff. ii. p. 93, in the fourth century to Pannonia, dispossessed the slaves, and entailed themselves with those that remained. On the arrival of the Mahares and Romans, they collectively assumed the name Mahures, and by this name they are still distinguished.
tania Prima, was one of the most considerable cities of Gaul at the time of the Roman conquest. About the forty-seventh Olympiad, or 592 years before the Christian era, it was the capital of Gaul, or of that part of it which was subject to the Celts. The Romans erected an amphitheatre in this place, which was not demolished before the year 800; and also a capitol.

AVARILLO, Cape, lies N.E. from Padaran bay, and nearly in the south-east extremity of Cambodia. lat. 11° 35'. E. long. 109° 21'. See COMORIN Bay.

AVAROMO Temo, in Botany, the name of a fihiqua tree, which grows in the Braith. The bark is externally of a cinnarious, and internally of a deep red colour; and is the only part of the plant used by the chiefs for medicinal purposes: though the fame aromatic qualities are by fome applied to the leaves: for the bark, which is of a bitter taste, whether reduced to a powder, or boiled and used by way of fomentation, happily cures invertebrate and obflinate ulcers, and, as it is said, has been found to cure cancers themselves, by means of its remarkably cleaning and drying nature.

Bffe these purposes, it is also made use of on account of its effectually aromatic quality, for baths designed to strengthen and invigorate the muscular parts of the body, when weakened, or too much relaxed. Ray says it is much used by contractors for contracting the puncta.

AVARUM, in Ancient Geography, a promontory of Hifpinia Taragonensis. Polonomy.

AVAS, See ATRAMANIA.

AVAS, in Geography, a mountain of Hungary, in the district of Mararufi.

AVASP, a term frequently used on board a ship, signifying to flip, flip, or flay. The word is formed of the Italian vola, or bali, it is enough, it satisfies.

AVASTOMATES, in Ancient Geography, a people of Africa, in Mauritania. Amm. Marc.

AVATSCHA, or AVATSA, called also ST. PETER and ST. PAUL, in Geography, a sea-port of Kamathamaka, lying in N. lat. 52° 51', and E. long. 158° 48'. The bay of Avatfcha lies in the bight of another formed by cape Gavareea to the south, and Cheeponkofiofobs to the north; the latter bearing from the former N.E. by N. and distant from it thirty-two leagues. From cape Gavareea to the entrance of Avatfcha bay the coast bears to the north, extends about eleven leagues, consists of a chain of rugged cliffs and rocks, and presents in many parts an appearance of bays or latches, which on a nearer approach are found to be low grounds con- necting the head-lands. From the entrance of Avatfcha bay, Cheeponkofiofobs bears E.N.E. at the distance of fourteen leagues. The shore on this side is flat and low, with hills behind that rise gradually to a considerable height. When navigators approach this bay from the southward, this difference of the land on both sides of cape Gavareea in lat. 52° 21', will direct them in their course: when they approach it from the northward, Cheeponkofiofobs becomes very conspicuous, as it is a high projecting head-land, united to the continent by a large extent of level ground lower than the Nofs, and it presents the fame appearance both from the north and south. The situation of Avatfcha may be also known, in clear weather, by the two high mountains to the south of it; of which that nearest to the bay is in form of a fugar-loaf, and the other flat and not so high. These very conspicuous mountains also appear on the north side of the bay, that to the west being the highest; the next, which is a volcano, may be known by its smoke; and the third, which is the most northerly, is a cluster of mountains, with several flat tops. Within the capes, the entrance of Avatfcha bay to the north is pointed out by a light-houfe on a perpendicular head-land, to the eastward of which are many funken rocks, stretching two or three miles into the sea; four miles to the north of the entrance lies a small round island, principally composed of high pointed rocks. The entrance into the bay is at first about three miles wide, and in the narrowest part 11; the length in a north-west direction is four miles. Within the mouth is a noble bafin about twenty-five miles in circumference; in which are the harbours of Rakowee to the east, Taremika to the west, and St. Peter and St. Paul to the north. Such is the account of Avatfcha given in the continuation of Cook's voyages. The bay of Avatfcha, according to the relation of La Peroufe, who visited it in 1787, is certainly the finest, most commodious, and safest that can possibly be met with in any part of the world. Its mouth is narrow, and ships would be compelled to pass under the guns of the fort, which might be erected there. It has excellent holding ground, as the bottom is of mud. Two vaft harbours, one on the eall, and the other on the western coast, would contain all the ships of England and France. The rivers of Avatfcha and Paratouma empty themselves into this bay; but they are impeded by sand banks, and can only be entered at high water. The village of St. Peter and St. Paul is situated on a tongue of land, which, like an artificial bank, forms behind the village a little aboar, enclosed like a circle, which might accommodate three or four dismantled ships during the winter: its entrance is less than 25 toises wide. On the side of this bafin M. Kailoff, the governor, proposed to mark out the plan of a town defined to be the capital of Kamathamaka, and perhaps the grand centre of commerce with China, Japa, the Philippines, and America. A large lake of fresh water lies to the north of the site of this projected city, and at the distance of only 300 toises are many small brooks, the junction of which would facilitate the conveyance of all the commodities necessary for a large establishment. M. Kailoff gave orders for announcing, that an union of several districts with that of St. Peter and St. Paul would soon take place, and that he intended immediately to build a church. The ice in the bay of Avatfcha never extends within 3 or 400 toises from the bank; and during the winter it often happens, that the land winds dipcere that which obtrudes the passage into the rivers of Paratouma and Avatfcha, when the navigation again becomes practicable. This bay is said to bear a great resemblance to that of Drelf, but it affords better anchorage by the mud of its bottom; its mouth is narrower, and of course more easily defended. The two ships in the entrance of this bay, which are leperated by a large channel for the passage of ships, may be easily avoided, by leaving two detached rocks on the ealh shore open with the light-house point, and by keeping, on the contrary, flat in with the west shore, a large rock on the larboard-hand, and which is only separated from the shore by a channel less than a cable's length wide. The tides in this bay are very regular; and the greatest rise of high water, which happens at half past three on the days of new and full moons, is four feet. From M. Daglet's observations, the governor's houfe at St. Peter and St. Paul, is situated in N. lat. 53° 1', and E. long. from Paris, 156° 30'. La Peroufe's Voyage, vol. ii. ch. 22. p. 177, &c. Eng. Tranf.

AVATHA, in Ancient Geography, a town of Arabia Petraea. Polonomy.—Also a town of Phenicia. Notis. Imp.

AVATISCI, a people of Europe, in Gallia Narbonenfe, whose capital according to Pliny was Marutsima; or as Steph. Byz. has it, Myfravela.

AVAUNCHERS, among Hunter, the second branches of a bart's horn.

AVAXA,
AUBAIS, in Geography, a town of
France, in the district of
Moulins. Nat. Imp.

AUBAIS, in Geography, a town of
France, in the department of
Ain, in Rous. Nat. Imp.

AUBADE, a wine of M. et E. Desmaisons,
Aubigné, in the district of
Aix; three leagues south of
Chalon, in the department of
Ain; with a population of
2,835 inhabitants. J. C. B.
AUBERRY, or Aubry, John, was physician to the Due de Montpensier. He was educated under the famous D’Aubigné; and published in 1604, "Les Bains de Bourbon-Lancy;" and in 1608, "De refluenta et vindica Medicae Dignitatis;" both at Paris: but the work which gained him most reputation, and which is still in requisit, is his "Antidote de l’Amour," 12mo, first printed in 1699, and since at Diff. 1693.

AUBERY, Anthony, a French historian, was born in 1617, and after having been educated at Paris for the law, retired into the tranquility of private life, and devoted himself to historical researches. In 1642, his "General History of the Cardinals" was published in 5 vols. 4to.; in 1649, appeared his historical treatise "On the Preeminence of the Kings of France above the Kings of Spain and the Emperors;" in 1674, the "History of the Cardinal de Joyeuse, and Collection of Letters written by that Cardinal to Henry III.;" and in 1666, his "History of Cardinal Richelieu, containing the principal events in the reign of Louis XIII.;" in folio, which was accompanied by two other volumes of titles, letters, dispatches, instructions, and memoirs, serving as documents and vouchers to the general history. When Bertier the printer waited upon the queen regent, requesting her authority for the publication of the work, which contained severe invectives on many persons in high life, it is said that the queen replied, "Finish your work without fear; and put vice to the blush, that virtue alone may dare to show her face in France." Aubery, notwithstanding the freedom with which he wrote, has been charged with drawing, in this work, too flattering a picture of Cardinal Richelieu, and it has been said that this was done from lucrative motives, for gratifying the vanity of the duchess d’Arguinon, the cardinal’s niece. A book, written by Aubery, in 1667, on the just pretensions of the king of France to the empire, and dedicated to Louis XIV., alarmed the princes of the empire, and excited complaints against the author, who was committed to the Bastile, in order to silence and intimidate him, but he was soon released. This work was followed by a treatise "On the dignity of Cardinal," and another of little value, "On the Regale, or the right of enjoying the Revenues of vacant Bishoprics." His last work, published in 4 vols. 12mo. in 1731, was "The History of Cardinal Mazarin;" the facts collected in this publication from the records of parliament, now no longer to be found, constitute its chief excellence: for neither the style nor method of it have much to recommend them, and the author had not sufficient independence of mind or situation to write with impartiality. While he was preparing for the press other historical collections, his life, which had been spent in a course of literary labour and industry, was terminated by an accident in 1695, at the age of 78. Journal des Scavans, t. xxiii. p. 175. Nouv. Dict. Hist.

AUBERRY, Louis de Mauries, a French historian of the 17th century, accompanied his father, who went, whilst he was young, as ambassador to Holland, and visited Germany, Poland, and Italy. On his return to Paris, he obtained the favour of the queen regent; but having no public employment, he retired, after the death of Richelieu, to his family mansion, and spent his time in literary avocations. He died in 1687, and his works were "Memoirs for the History of Holland," published in two vols. 12mo. in 1682; and "Memoirs of Hamburg, Lubeck, Holstein, Denmark, Sweden, and Poland," published after his death, and both printed together at Amsterdam in 1736. The former work contains interesting facts, though it gave offence to the Dutch. Nouv. Dict. Hist.

AUBETTERRE, in Geography, a town of France, in the department of the Charente, and chief place of a canton in the district of Barbezieux, six leagues south-east of Barbezieux, and 73° south of Angouleme. The place contains 776, and the canton 8813 inhabitants; the territory includes 135 kilometres, and 13 communes. N. lat. 45° 15'. E. long. 0° 10'.

AUBETTE, a river of France, which runs into the Seine, near Rouen.

AUBEVILLIERS, a town of France, in the department of the Somme, and chief place of a canton in the district of Montdidier, thirteen miles S. S. E. of Amiens.

AUBEVILLIERS (Leu), a town of France, one league N. N. E. of Paris.

AUBIERES, a town of France, in the department of Puy de Dôme, and chief place of a canton in the district of Clermont-Senard, one league south-east of Clermont.

AUBIERES (Leu), a town of France, in the department of the Two Sevres, and chief place of a canton in the district of Chatillon sur Sevre, 23 leagues E. N. E. of Chatillon.

AUBIGNÉ, Theodor-Agriffa D’, in Biography, was born at St. Maur, near Pons, in Saintongue, in 1550; but, although he was betimes a proficient in literature, the circumstances of his family, on the death of his father, obliged him to recur to the profession of arms. In the service of Henry IV. of France, then king of Navarre, he so far recommended himself to the royal favour, as to obtain several considerable posts, both of honour and profit. Such was his known and approved fidelity, that his royal master ordered his remonstrances on such parts of his private and public conduct as deferred animadversion, without offence. The word of D’Aubigné discontented (said Henry on one occasion) is worth as much as the gratitude of another man;"
and when he was reproached for his friendship for La Tremonville, whom Henry had disgraced and banished, he excused himself by saying, "Sure, he is unfortunate enough to have lost the favour of his master—could I withdraw from him my friendship when he has most need of it?" D'Aubigné, however, found at length that extreme frankness becomes not only unacceptable but offensive to the best of princes. He therefore deserted the court and the kingdom, and retired to Geneva, where he died much honoured and regretted, in 1636, at the age of 56 years. By his wife, Sufiana de Lecat, he had several children, one of whom was the father of the famous Madame de Maintenon. The principal of his works is "An Universal History from 1550 to 1601, with an abridged account of the death of Henry IV." in 3 vols. folio, printed in 1616, 1618, and 1620. The style is exceptionable, being partly vulgar and partly affected and turgid, but the sentiments are free, and the representations of the transactions and characters of the times in general are impartial. On the appearance of the first volume, in which the character of Henry III. is represented in an odious and contemptible light, the parliament of Paris condemned it to the flames. The detail of the military operations is the part of the work that has been most censured for its accuracy. The "Confession of Sancy," and the "Baron de Feneffe," are two tautric poems; the first of which is commended for its vein of ingenious and delicate r又llery, but the second, though not less acrimonious, is of a groser kind. Besides miscellaneous pieces, tragedies, poems, &c., D'Aubigné also wrote "Memoirs of his own life," which were not published till 1731. They abound with curious and free anecdotes, and exhibit a lively picture of the man. Of the rest, we have an English translation. Gen. Dict. Nouv. Dict. Hist.

AUBIGNY, in Geography, a town of France, in the department of Calais, and chief place of a canton in the district of St. Pol, eight miles W. N. W. of St. Pol.—The place contains 640 and the canton 12,152 persons; the territory includes 1774.18 square miles and 39 communes. Also, a town of France, and chief place of a district in the department of the Cher, six leagues north-west of Sancerre, and 74 north of Bourges. The place contains 2533 and the canton 4305 inhabitants. The territory includes 2442.18 square miles and 4 communes. In 1442, Charles VII. granted the estate of Aubigny to John Stuart, count of England and his heirs male, as a recompence for services rendered to him in France, with remainder to the crown on failure of male issue. This peeronary charter took effect in the 16th century, by the death of Charles Stuart without issue. Lewis XIV. made a new grant in favour of Charles II. king of England, the descendant of John Stuart, and made the estate a dukedom, annexing a preeage to it in favour of Charles Lenox, duke of Richmond, natural son of Charles II. by Louise de Quatreville, the dutchess of Portsmouth, from whom it descended to the present duke. The right of peerage to this estate was guaranteed by the treaty of Utrecht, confirmed to the present duke, and regisitered in the parliament of Paris, in 1777. N. lat. 47° 29′. E. long. 2° 29′.

AUBIN, in French Hébert, in the Mange, is derived from the Italian word Uberto, signifying a little horse. Accordingly the light-armed troops were termed in unclassified Latin Héberti, in contradistinction to the cataphracti, or heavy-armed troops. Berenger. See Hobby.

AUBIN, St. B., in Geography, lies on the island of St. B., in the English channel; and at the bottom of it is a town of the same name with a good harbour, defended by a fort near the south-east extremity; three miles west from St. Helier's. N. lat. 49° 7′. W. long. 2° 15′.

AUBIN, St., is also a town of Switzerland, in the principality of Neuchâtel.

AUBLETIA, in Botany (named after M. F. Aublet, author of the History of Plants in Guiana). Schreb. 889. Aepiaba, Aubl. 213. Swartz. Prod. 82. Sloanea. Laxl. 311. Chira. polyandra monogynia. Gen. Char. Col. perianth five-leaved, rigid, spreading, coloured within, pubescent without, deciduous, five-parted; parts linear-lanceolate, acute, with thick margins, which before flowering are contiguous. Cor. petals five, roundish-oblong, smaller than the calyx, with very short claws. Stem. filaments very many, very short; anthers ovate-oblong, outwardly gibbous, gaping on the inner side, foliaceous at the tip, acute, the exterior ones illeris, lanceolate, ending in a foliaceous point, shorter than the corolla. Siph. germ roundish, depresso; style long, fritated, gradually thickening, slightly incurred, stigmas spreading, perforated, ten-toothed. Per. capsule large, orbicular, depresso, ten-toothed, gaping at the base. Seeds. very many, small, roundish, somewhat compressed; receptacle of the seeds, fleshy.


Species, 1. A. Tithourb., aepiaba tibouchon. Aubl. l. c. Swartz. l. c. "Leaves acutely ferrate, hirsute." A tree of a middling size, having a trunk seven or eight feet high, and a root in diameter, with irregular, chopped, soft bark, which is fibrous, and fit for making ropes. Wood white and light; branches spreading in all directions, and bent down; twigs villoso; leaves alternate, oval-oblong, cordate at the base, green above, on short pedicles; stipules in pairs, acute; flowers in racemes, opposite to the leaves. A pair of opposite bractes is placed at the origin of each twig, and four at the peduncle. The raceme, peduncles, and under side of the leaves, are covered with radiate-chopped hairs. A native of Brazil, Guiana, the islands of Cayenne and Tобouc. Aepiaba is the Brazilian name, and Tобouc the Caribbean. 2. A. Petoum., aepiaba potoumo. Aubl. l. c. Swartz. l. c. "Leaves elliptic, acute, ferrate, hoary beneath." This tree often rises forty feet high, with a brown, thick, filamenteo bark, fit for cordage. Wood whitish, soft; branches spreading, arising from the top of the trunk; leaves alternate, nine inches long, and four broad, entire, smooth, ending in a point, petiolate; flowers yellow, in racemes opposite to the leaves, on long peduncles, surrounded by four large scales at the base. A native of Guiana, in the vast forests of Sinemar. It is called petoumo by the Caribbees. 3. A. apera. Aubl. and Swartz. l. c. "Leaves quite entire, pubescent beneath; fruit compressed." A tree from thirty to forty feet high, with bark and wood like those of the preceding. Leaves alternate, ovate, smooth, pointed, rounded, five inches long, and a short footstalk, at the base of which are two stipules, which soon fall off; flowers at the extremities of the branches, in racemes which have at the base two bractes, and at the divisions three or four scales, from which spring three yellow flowers. A native of Guiana and Cayenne. It is also called petoumo by the Caribees. 4. A. levis. Aubl. l. c. 274. (apieiba glabrum) "Leaves quite entire, smooth on both fides; fruit rough, depresso." A tree of middling size, with a trunk from ten to twelve feet high; its wood is very light, leaves ovate, acuminate, on short footstalks; stipules in pairs, short, deciduous; flowers in racemes, greenish. A native of Guiana, flowering in May. The inhabitants call it lavoura, and use pieces of the wood rounded and polished to procure fire hence the Creoles call it bois de macheche.

AUBONDE, in Geography, a town of France, in the department of the Meurthe, and chief place of a canton in the district of Chateau-Salins, five miles N. N. E. of Chateau-Salins.
AUBONNE, the name of a government and of a town in the canton of Berne, in Switzerland, which was formerly a lordship belonging to the marquis du Quesnay, purchased by him of the famous traveller, Tavernier, and afterwards sold to Berne; seven miles W.S.W. of Lausanne. The town is situated near a river of the same name, on an elevation, at the foot of which the river runs with an impetuous torrent. The form of the town is that of an amphitheatre, and in its upper part is a handsome castle, from the top of which may be seen not only the town and its adjacent fields, but the whole lake of Geneva, and the land that surrounds it. In the castle of Aubonne, as well as Thonon in Savoy, which is opposite to it on the other side of the lake, is a tower covered with tin, which makes a glittering appearance when the sun shines upon it. In the ballage of Aubonne are several villages, most of which lie at the foot of Mont Jura; and in one part of this mountain is a deep cave, which forms a natural ice-house; and from the bottom of it ascends the noise of a subterraneous river, supposed to be the river Aubonne, because it first appears, with several fountains, about 100 paces from the foot of this mountain.

AUBREY, in Latin ALBERICUS, John, in Biography, an eminent Elegist antiquary, was born at Enlon Percy in Wiltshire, in 1625 or 1626; and after preparatory education at Malmsbury, entered in 1642 as a gentleman commoner of Trinity college at Oxford. Whilist he was at the university, he collected in compiling materials for the "Monalicon Anglicanum." In 1646, he was admitted a student in the Middle Temple; but the death of his father, and the derangement of his affairs, devolved upon him much business and many perplexing law-suits, which prevented him from prosecuting his legal studies. However, he did not abandon his favourite pursuit, but maintained a regular correspondence with the lovers of antiquities, and furnished Anthony Wood with many valuable materials for his great work. He also preferred an intimacy with several of those philosophical friends, who formed the Royal Society, of which he became a member in 1662. His domestic circumstances were peculiarly distressing; for he married unsuitably, and by the total loss of his property he was reduced to absolute indigence. But he had the wisdom and fortitude to adapt his mind to his circumstances; and accordingly he says of himself, "From 1670, I have, I thank God, enjoyed a happy delitieucy." "This obscurity, which he calls happy, confided in following the best of his genius, while he owed his subsistence to the kindness of his friends; and in labouring to inform the world, in which he knew not how to live." The principal of those who contributed to his support was lady Long of Draycot in Wiltshire, in whose house he had an apartment till his death, which happened about the year 1700, as he was on a journey to Oxford. Aubrey was a good classical scholar, a tolerable naturalist, and a most laborious antiquarian; but he was credulous, and addicted to superstitition. His works were numerous, and most of them were left behind him in MS. These are 1. "The life of Thomas Hobbes of Malmsbury," never published, but having supplied materials for Dr. Blackbourne's account of this philosopher. 2. "Miscellanies upon the following subjects: viz. Day-Daity, Local-faity, Offuta, Omens, Dreams, Apparitions, Voices, &c. &c. Corples-candles in Wales, Magic, &c. Second-lighted perfons, &c." This work, the title of which sufficiently indicates the trifling taste and credulous disposition of the author, was printed in 1696, and Aubrey left corrections and additions for a second edition, which was not printed till the year 1721. 3. "A Perambulation of the county of Surrey, begun 1673, ended 1693;" printed in 1719, in 5 vols. 8vo., and often referred to by topographical writers. 4. "The Natural History of the north division of Wiltshire, never published." 5. "Monumenta Britannica, or a discourse concerning Stowbery, and Roman ruins in Oxfordshire." MS. On the 5 subjects, Aubrey's judgment was held in high estimation by Mr. Toland; and it was his opinion that these remains are druidical, and anterior to the Roman invasion of Britain. 6. "Architectonica Sacra, a dissertation concerning the manner of our church-building in England." MS. 7. "The idea of universal education," and several letters on natural philosophy, and other curious topics, published in "Ray's Letters," by Derham, and other collections. Among his MSS. at Oxford, there is one which is an account of English writers, especially poets, with many of whom the author was well acquainted. This MS. "was lost to Wood, while he was drawing up his "Athenes;" but Wood greatly enriched the MS. while it was in his possession. Wood's account of Milton, the first that ever appeared in print, and which has since furnished the substance of all the materials now extant of Milton's life, was literally taken from this MS." See Warton's Life of Dr. R. Bathurst, p. 151-153. Biog. Brit.

AUBURG, in Geography, a town of Germany, in the circle of Welfphalia, and county of Diepholz, six miles east of Diepholz.

AUBURN, or Aubourn, is a small town in Wiltshire, 7 miles west of London. It is seated on a branch of the river Kennet, and has a small market on Tuesdays. Its inhabitants are principally employed in the manufacture of fustians, a considerable quantity of which is annually sent to the metropolis. The soil of Auburn and its vicinity is chiefly gravel, with a subplanum of chalk. About one mile from the town is a very extensive rabbit warren, whence many hundred couple of rabbits are sent to London during the proper season. Auburn suffered materially in its trade and buildings by a furious fire that occurred here on the twelfth of September 1760, when twenty-two houses, and other property, to the estimated amount of 20,000l., were consumed. By means of a public subscription, the distressed inhabitants obtained some remuneration for their losses; but the town has never recovered the serious injury it then sustained.

AUBUSSON, a town of France, and chief place of a district in the department of the Creuse, fourteen leagues west of Clermont. Its manufacture of tapestry renders the town populous. The place contains 3460 and the canton 9977 inhabitants; the territory includes 153 kilometres and 12 communes. N. lat. 45° 58', E. long. 2° 15'.

AUCA, a town of Asia, in the kingdom of Candahar, forty-five leagues north-east of Zareg.

AUCAGUERELLE, a town of Africa, in the country of Adet. N. lat. 9° 10'. E. long. 44° 45'.

AUCAS, the name of a warlike and independent tribe in South America, occupying the same parts of Paraguay with the Ariponians, and resembling them in their disposition and manners.

AUCH, a city of France, and capital of the department of Gers. Before the revolution it was the capital of Armagnac, and the see of an archbishop, who had the title of primate of Aquitaine; and it was the metropolis of Galcogny. It is seated near the Gers, on the declivity of a hill. Some of the streets are straight, well paved, and full of neat buildings. The cathedral is a large and beautiful building, adorned with painted windows, whose colourings are bright and superior to most of the kind. The number of inhabitants has been estimated at 7696; that of its two cantons at 21,447; the territory of both includes 515 R2 kilometres.
kilometres and 47 communes. The country round Auch consists of high limestone hills, with narrow valleys, in which are many vines, and in the vineyards are also fig-trees. N. lat. 43° 50' E. long. 2° 46'.

AUCH, in Ancient Geography, a river, upon which was situated the town of Gaiths.

AUCHASIS, in Geography, the name of a tribe of mount Ararat, called also Abanas or Ababes, who, according to Strabo, the southern side of the Kaban, and on the eastern coasts of the Euxine. The proper Auchas or Abana is under the Ottoman supremacy, having a prince, who resides at Anchopis. The western races of the Auchasians acknowledge the paramount sovereignty of the Khan of the Crimea; and these are they who at present belong to the Russian Kaban. They mostly live about the river Laba. See ABAE-A.

AUCHTTIE, in Ancient Geography, a people of Asia, in Scythia.

AUCHENIA, in Entomology, the name of a genus of coleopterous insects, adopted after profuse Hthuberg, by Mr. Marshall, in his late and very excellent work intitled Entomologia Britannica. It comprehends a tribe of insects before arranged under the Linnean chrysolomae, and among them several which Linneus had himself assigned to that genus; such as m7edigera, 12-promacata, alparagi, rhamis, lucriva, flavicina, lutea-promacata, and tenella, to which Mr. Marshall adds the subpinaida and rubipes (crincides) of Fabriscius; and a new species which he names flavicollis. The character of the auchenia genus is, antennae filiform; head advanced; thorax cylindrical, and narrower than the wing-cases, and the body oblong. T. 1. p. 213.

AUCHIS, in Ancient Geography, a people of Africa, in the Cyrenean territory.

AUCKLAND, or BISHOP AUCKLAND, in Geography, is a neat market and corporate town situated about ten miles south-west from Durham, and 896 N. by W. from London. This place obtained the latter name at the time of bishop Bee, who is said to have built a magnificent ecclesiastical edifice here during his prélacy, which continued from 1334 to 1350. But this building has been wholly destroyed, and succeeding bishops have erected and enlarged another noble mansion where the present dioecesan occasionally resides. Mr. B. Crampton describes the palace and grounds, as particularly beautiful and grand. "Nothing," he observes, "can equal the approach to the former through the latter, which is varied with verdant slopes, rising hills, woods, and deep precipices impending over the Wear." The ground on which the town and castle are placed is of an angular form, and the streets are extended on the sides of the angle, having the castle at one of the terminating points. The eminence is washed on the north side by the river Wear, and on the south-east by the river Gaunless; the banks are formed into hanging gardens, and the whole aspect is extremely beautiful. The town is built on high ground, which rises nearly one hundred and forty feet from the level of the plain below, and the steepness of the roads that approach the town renders them very disagreeable and difficult for the passage of carriages. A free grammar school was founded here by Anne Swyfte, under letters patent from James I. in the second year of his reign. It has been further endowed in 1753, and is held in an apartment under a small and neat chapel which was then built by a subscription of the inhabitants, and dedicated to St. Ann. As the parish church is at St. Andrew Auckland, a village about one mile distant from the town, this was a necessary improvement. Here are a weekly market on Thursday, and three annual fairs. The market place is a large open space in the middle of the town, and on its western side has lately been crested and established a large manufactury for printing all kinds of cott,

tons, calices, muffles, &c. On the north-west is a sub-
flattened old bridge, built by bishop Skirlaw about 1493, over the river Wear; and in the vicinity of the town are four or five respectable and handsome gentlemen's seats. Leland's Itin. vol. i. and Hutchin's History of the County of Durham, vol. ii.

AUCTA, in Entomology, a species of Cheyromela, with an azure shining thorax; wing-cases blue, dotted, with a red margin. Fabriscius, a native of Europe. In size and appearance it resembles Cheyromela marginata.

AUCTA, a species of Vespa, of a black colour, with the anterior margin yellow; two yellow dots and a transcurrent line on the scutellum; and five yellow bands, the first with a dot on each side, upon the abdomen. This kind inhabits Germany. See A. E. C.

AUCTION, in Commerce, denotes a kind of public sale, much in use for estates, houses, household goods, and other commodities, subject to certain conditions, in which the highest bidder is the buyer. These sales are subject to legal regulations. By 19 G. III. c. 56, an auctioneer is required to take out a licence, forfeiting forth his true name and place of abode; and for the said licence, if it be within the limits of the chief office of excise in London, he shall immediately pay the sum of 20s. and elsewhere 5s. over and besides any other dues or payments for trading in or vending any gold or silver; but, or otherwise; and acting without such a licence incurs, within the bills, a forfeiture of 100l. and elsewhere 50l. The said licence must be renewed annually; and bond must be given at the time of taking it out with two sureties in the sum of 200l. within the bills, and elsewhere in 50l.; that he will deliver in a full account, and make payment of the duties. These duties are as follow: viz. for every 200l. of the purchase money arising by virtue of any sale by auction of any interest in possession or reversion, in any freehold, copyhold, or Leasehold lands, tenements, houses, or hereditaments, and of any annuities, or money charged thereon; and of any utensils in husbandry and farming stock, ships and vessels; and of any reverential interest in the public funds; and of any plate or jewels, shall be paid by the auctioneer or agent 6s. 8d. by 25 G. II. c. 15, and 3l. more by 37 G. III. c. 12. And for every 200l. of the purchase money arising or payable by virtue of any sale by auction, of furniture, fixtures, pictures, books, hereds, and carriages, and all other goods and chattels whatever, 10d. viz. 7d. by 27 G. III. c. 13, and 3d. more by 37 G. III. c. 14. Piece goods are exempted from duty by 25 G. III. c. 63.; and also all goods imported from Turkey, and fudny commodities imported from Africa in British ships, or from any British settlement abroad by 32 G. III. c. 41. There are also further exceptions specified by the statutes 17 G. III. c. 52, 61, 12, 13, and 19 G. 21. c. 56. § 13, 14, 15. The auctioneer is required to give previous notice to the office of excise of the day of sale, and deliver a written or printed catalogue specifying the several articles to be sold, attested and signed by himself or his known clerk, under a penalty of 20l. 19 G. III. c. 56. § 9. He shall also within 28 days, within the limits of the chief excise office in London, and elsewhere within six weeks, deliver in an account in writing of the total amount of the money bid at each sale, and of the several articles or lots there fold, and the price of each; and at the same time make payment of the duties: the truth of the account to be attested upon oath. And by 38 G. III. c. 54. every auctioneer neglecting to make payment within the limited time, shall forfeit double the duty.

Auction, or Avalua, was originally a kind of sale among the ancient Romans, performed by the public eier "/5b husa
AUD

AUCUM, in Geography, a town of France; in the department of the Higher Pyrenees, and chief place of a canton, in the district of Argeles; the place contains 1208 and the canton 10,554 persons; the territory includes 272½ kilometres and 10 communes.

AUDARISTIENSES, in Ancient Geography, a people of Macedonia, in Pelagonia. Pliny.

AUDATTHA, a town of Arabia Deserta. Ptolemy.

AUDIE, in Geography, a river of France, which rises in the Pyrenees, palls by Quilan, Altet, Lamoux, Carcaonne, &c., and discharges itself into the Mediterranean, about ten miles east of Narbonne. It gives name to a department through which it flows. This department is one of the seven formed by Langenedoc, Comminges, &c. It is bounded on the north by the departments of Hérault, Tarn, and Upper Garonne; on the east, by the Mediterranean; on the south, by the departments of the eastern Pyrenees and Arriege; and on the west, by those of Arriege and Upper Garonne. Its superficies is about 1275593 square acres, or 659996 hectares; its population coulds of 219107 persons; and it is divided into four communal districts.

AUDELA, in Ancient Geography, a town of Asia, in Melopotamia.

AUDENA, a river of Italy, in Liguria.

AUDENAERDE, in Geography, a town of France, in the department of the Escaut, and chief place of a district. The place contains 4000, and its two cantons 29924 persons; the whole territory includes 70 kilometres and 21 commune.

AUDENGE, a town in France of the department of the Gironde and chief place of a canton, in the district of Bordeaux. The place contains 800 and the canton 4610 persons; the territory includes 692½ kilometres and 6 communes.

AUDEUX, a town in France of the department of Doubs, and chief place of a canton, in the district of Besançon. The place contains 159 and the canton 11567 persons; the territory includes 227½ kilometres and 44 communes.

AUDIA, a town of Arabia Petraea. Ptolemy.

AUDIANISM, in Ecclesiastical History, the system or sentiments of Audius, and his followers; particularly as to the belief of the human figure of the deity. See Anthropomorphites, and Audius.

AUDIENCE, in a general sense. See Hearing.

The word is formed from audire, to hear.

Audience is also used for the ceremonies practised in courts, at the admission of ambassadors and public ministers to a hearing. In England, audience is given to ambassadors in the presence chamber; to envoys and refidents, in a gallery, closet, or any place where the king happens to be. At their admission, the way in all courts is to make three bows, after which they cover and sit down, the king first covering and sitting down, and giving them the sign to put on their hats. When the king cares not to have them be covered and sit, he continues uncovered himself, and standing all the while, which is taken as a slight and an affront. After the first audience, it does not look well to be too hastily in demanding another. At Constantinople, ministers usually have audience of the prime vizir; in his absence the caimacan admits them to audience.

Audience is also a name of courts of justice or tribunals established by the Spaniards in America, and formed upon the model of the court of chancery in Spain. Of these there are eleven, which dispense justice to as many districts, into which the Spanish dominions in America are divided. They are established at the following places; viz. St. Domingo in the island of Hispaniola, Mexico in New Spain, Lima,
AUD

Lima in Peru, Panama in Terra Firma, Santiago in Guatamala, Guadalquila in New Galicia, Santa Fe in the new kingdom of Granada. La Plata in the country of Los Charcas. St. Francisco de Quito, St. Jago de Chili, and Buenos Ayres. To each of these are subject six several large provinces; and some so far removed from the cities where the courts are fixed, that they can derive little benefit from their jurisdiction. The Spanish writers commonly reckon twelve courts of audience, including that of Manila in the Philippine islands. The number of judges is various, according to the extent and importance of their jurisdiction. Both civil and criminal causes come under their cognizance; and for each peculiar judges are set apart. The Spanish viceroys have often attempted to intrude themselves into the seat of justice; and, therefore, in order to check this interference, which must have annihilated justice and security in the Spanish colonies, the viceroys have been prohibited by repeated laws, from interfering in the judicial proceedings of the courts of audience, or from delivering an opinion, or giving a voice with respect to any point litigated before them. These courts of audience are subject to restraint and limitation. They may advise, they may remonstrate; but in the event of a direct collision between their opinion and the will of the viceroy, what he determines must be executed, and nothing remains for them but to lay the matter before the king and the council of the Indies. But to be entitled to remonstrate and to inform against a person, before whom all others must be silent and tamely submit to his decrees, is a privilege which adds dignity to the courts of audience. Besides, upon the death of a viceroy, without any provision of a successor by the king, the supreme power is vested in the court of audience residing in the capital of the viceroyalty; and the senior judge, affixed by his brethren, exercises all the functions of the viceroy, while the office continues vacant. In matters which come under the cognizance of the audience, in the course of their ordinary jurisdiction as courts of justice, their sentences are final in every litigation concerning property of less value than 6000 pears; but when the subject in dispute exceeds that sum, their decisions are subject to review, and may be carried by appeal before the royal council of the Indies. Robertson's Hist. Amer. vol. iii. p. 286, &c.

AUDIENCE is also the name of one of the ecclesiastical courts in England, which is held wherever the archbishop calls a cause to his own hearing.

The two archbishops have their courts of audience: that of the archbishop of Canterbury is under the direction of the dean of the arches, who is official of the the audience, and keeps his court in the hall of Doctors Commons.

The court of audience is chiefly concerned in differences arising upon elections, confessions, institations, marriages, &c.

AUDICIENDE. See CHAMBER.

AUDIENDO & TERMINALIS, a writ or rather commission, directed to certain persons, when an infusion or great misdemeanor is committed in any place, for the apprehending and punishing thereof.

AUDIENTES, or AUDITORS, in Ecclesiastical History, an order of catechumens; confiding of those who were newly instructed in the mysteries of the Christian religion, and not yet admitted to baptism.

AUDIERNE, in Geography, a town of France in the department of Finisterre, and chief place of a canton in the district of Ponsertx. It is five and a half leagues west of Quimper.

AUDIFRET, John Baptist, in Biography, a French geographer, was a native of Draguignan, in Provence, or of Marseilles, and flourished at the end of the seventeenth, or beginning of the eighteenth centuries. He was appointed by Louis XIV. in 1698, envoy extraordinary to the court of Mantua, Parma, and Modena. He died at Nancy, in 1733, at the age of seventy-six years. His much esteemed work, intitled, "Geographie Ancienne, Moderne, et Historique," was printed in three volumes, 4to, at Paris, in 1699 and 1691, and in 12mo., at Paris in 1694. This work, which unites geography and history, comprehends only Europe, and being left unfinished, it ends Spain, Italy, and part of Turkey in Europe. Nouv. Dict. Hist.

AUDIGUER, Vital Dr., a French noble, was born at Naevre, near Villefranche de Rouergue, about the year 1565, and united literature with the profession of arms. Of his writings the principal are, "A Treatise on the true and ancient Usage of Duels," printed in 8vo, at Paris, in 1617, shewing the injustice of common duels, and recommending a revival of the ancient practice of public combats on great occasions, under royal authority; "Poems," in two volumes, 8vo, printed in Paris, in 1614; and two romances under the titles of "The Loves of Lyfander and Califa," printed at Lyons, in 1622; and "The Loves of Riformado and Ceebonce," at Paris, in 1625. His style is clear and sprightly; and his romances were much read. He is said to have been affiliated about the year 1632. Nouv. Dict. Hist.

AUDINCOURT, in Geography, a town of France, in the departamento of the Upper Rhine, and chief place of a canton, in the district of Pontotrey. The place contains 535 and the canton 6199 persons; the territory includes 1371 kilometres and 24 communes.

AUDIT, a regular hearing and examining of an account by officers appointed for that purpose. See AUIDOR.

AUDITA QUERELA, in Law, is a writ by which a defendant, against whom judgment is recovered, and who, is, in danger of execution, or perhaps actually in execution (or on a statute-merchant, statute-daple, or re-cognition), may be relieved upon good matter of discharge, which has happened since the judgment; as if the plaintiff hath given him a general release; or if the defendant hath paid the debt to the plaintiff, without procuring satisfaction to be entered upon the record. In thef and the like causes, wherein the defendant hath good matter to plead, but hath no opportunity of pleading it (either at the beginning of the suit, or post dorain continuance, which must always be before judgment), an audita querela lies, in the nature of a bill in equity, to be relieved against the oppression of a plaintiff. It is a writ directed to the court, stating, that the complaint of the defendant hath been heard, audita querela defendentis, and then setting out the matter of the complaint, it at length enjoins the court to call the parties before them, and having heard the allegations and proofs, to cause justice to be done between them. Finch, L. 488. F. N. B. 102. It also lies for bail, when judgment is obtained against them by fine facies, to answer the debt of their principal, and it happens afterwards that the original judgment against their principal is reversed; for here the bail, after judgment had against them, have an opportunity to plead this special matter, and therefore they shall have redress by audita querela (1 Roll. Abr. 328.) which is a writ of a most remedial nature, and seems to have been invented, lest in any case there should be an oppressive defect of justice, where a party, who hath a good defence, is too late to make it in the ordinary forms of law. But the indulgence now shown by the courts in granting a summons relief upon motion, in cases of such evident oppression (Lord Raym. 459.), has almost rendered ufele the writ of audita querela, and driven it quite out of practice. Blackft. Com. vol. iii. p. 406.

AUDITONALIS, Scholasticus, in Middle Age Writers,
is used for an advocate who pleads causes for his clients in
audiences. Du Cange.

AUDITOR, a hearer, one who listen or attends to any
thing.

AUDITOR is also used for several officers, appointed to
audit or hear accounts, pleadings, &c.

Anciently the word auditor was also used for a judge, and
even for an inquisitor, appointed by judges to examine and
find out the truth of some matter in contest. Notaries are
also frequently called auditors.

Auditors, in our fathers, is an officer of the king, or some
other person, or corporation, who yearly, by examining the
accounts of under-officers that are accountable, makes up a
general book, with the difference between the receipts and
charges, and the allowances or allocations.

Receivers-general of far-farm rents, &c. are also termed
auditors, and hold their audit for adjusting the accounts of
the said rents, at certain times and places appointed. There
are also auditors assigned by the court to audit and settle
the accounts, in actions of account, and other cases, who are
proper judges of the cause, and pleas are made before them, &c. 1 Brow. 24. See Account, and
Assumpsit.

Auditors of the Revenue, or of the Exchequer, are offi-
cers who take the accounts of those who collect the revenue,
taxes, &c. raised by parliament; as also of the sheriffs, ele-
choners, collectors, tenants, and customers; and all them
down, and perfect them.

Auditors of the Profits, or Imprest, are officers in the ex-
chequer, who formerly had the charge of auditing the great
accounts of the king's customs, naval and military ex-
pen ses, and of all monies impressed to any man for the
king's service; but they are now superseded by the com-
missioners for auditing the public accounts. See Public Accoun-
ts.

Auditor of the Receipts is an officer of the exchequer
who files the tellers' bills, and makes an entry of them, and
gives the lord-treasurer a certificate of the money received
the week before. He makes deputees to every teller, be-
fore they receive any money, and takes their accounts.
He also keeps the black book of receipts, and the trea-
urer's key to the treasury (where the ancient leagues of the realm,
and many records of the king's bench, and common pleas,
are reported); and sees every teller's money locked up in
the new treasury. 4 Stat. 107. All the exchequer bills,
orders, deputees, patents, and other instruments which
pafs the office of the exchequer, are signed by him.

There are also auditors of the first fruits; of the princi-
palities of Wales; of the duchy of Cornwall, &c. See First Fruits, &c.

Auditor of the Rotuli, the apostolic chamber, the chate-
el, &c. See Rotuli, Chamber, &c.

Auditors in Church History. See Audients.

The auditors formed one branch of the Manichean sect,
which was divided into eccadudiors; corresponding,
according to some writers, to clergy and laity; and, accord-
ing to others, to the faithful and catechumens among the
catholics. By the Manichean rule, a different course of life
was prescribed to the elect from that of the auditors. The
latter might eat flesh, drink wine, bathe, marry, trade,
possess estates, keep magistracy, and the like; all which
things were forbidden to the elect. The auditors were
obliged to maintain the elect, and kneaded down to ask their
blessings. Beaufrere observes, that the elect were ecclesiastics,
and in general such as made profession of observing certain
counsels, called evangelical; such as the clergy and monks;
and they were called the perfed by Theodoret. The auditors
were the laity, and so denominated, because they heard in
the church, while others taught and instructed. Lardner's
Works, vol. iii. p. 404, &c.

Auditors, Conventual, Collegiate, &c. were officers for-
merly appointed among the religious, to examine and pass
the accounts of the house.

Auidorius Matutus, or Auditorius Paffage, in
Anatomy. There are two passages, differing slightly by this title:
an external one, by wliich the air has access to the tympanum;
and an internal one, by which the seventh pair of nerves pafs
from the brain into the petrous part of the temporal bone.
See the Description of the Ear.

AUDITORY, in an adjective sense, something belong-
ing to the sense of Hearing.

AUDITORY, Audience, is also a collective name, de-
oting an assembly of persons, hearing or attending to a
person who speaks in public.

AUDITORY is also used for the seat or bench where a
magistrate or judge hears causes.

At Rome, the several magistrates had auditories, or
seats of justice, according to their dignity. Those of the
superior officers were called tribunals; those of the inferior,
justices.

The pedanei had their benches or auditoriums in the per-
tice of the imperial palace. Those of the Hebrews, at the
gates of cities. The judges appointed by the ancient
kings distributed justice under an elm, which was usually
planted before the manor-house, and served them for an
auditory.

AUDITORY, Auditorium, in the Ancient Churches, was
that part of the church where the audientes stood to hear,
and be instructed; and it was that part now called navis ecclesiae.
See Nave. In the primitive times, the church was so fre
it.

The people had their benches or auditoriums in the por-
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planted before the manor-house, and served them for an
auditory.

AUDITORS, in Ancient Geography, a promontory of Africa,
in Mauritania Cufariens. Ptolemy.

AUDRAN, in Biography, the name of a celebrated fa-
mily of artists, who acquired eminence in painting and en-
grav ing,
The first of the family was the son of Louis, who lived in the reign of Henry IV. of France. He was born at Paris in 1572; but as he made no great progress in the art of engraving, his prints are held in little or no estimation. He resided at Lyons, and died there in 1677.

Carl, or Karl, was the brother, or, as some say, the cousin-german of Claude, and born at Paris in 1582. For the purpose of gratifying and improving an early taste for the arts, he went to Rome, and at his return adopted that species of engraving, which is performed merely with the graver. His style was that of Corinachus Cloenamur, but meeter. The abbe Marolles, who speaks of this artist in terms of high commendation, attributes 150 prints to him, amongst which are "The Annunciation," a middle-sized plate, upright, from Ambide Caesar; and "The Assumption," in a circle from Dominichino, are the most esteemed. His full prints were marked with the letter C; and he afterwards, by way of distinguishing his prints from those of his brother Claude, used the letter K. He died at Paris, in 1674.

Germain was the eldest son of Claude, first mentioned, and born at Lyons in 1611. At Paris he perfected himself under his uncle Carl, and on his return to Lyons, published several prints which did honour to his graver. Such was the estimation in which he was held, that he was a member and professor of the Academy established in this town. He died at Lyons in 1710, and left four sons, all artists.

Claude was the second son of Claude, and born at Lyons in 1639; having studied painting at Rome, he was, on his return, employed by Le Brun, to affix him in the battles of Alexander, which he was then painting for the king of France. He was admitted into the Royal Academy in 1675, and died at Paris in 1684, applauded not less for his virtues than his talents.

Girard, the most celebrated artist of the whole family of Audran, was the third son of Claude, and born at Lyons in 1640. Having learned from his father the first principles of design and engraving, he removed to Paris, where his reputation introduced him to the acquaintance of Le Brun, by whom he was employed in engraving the battle of Conflans, and the triumph of that emperor. At Rome, he studied under Carlo Maratti, and engraved several fine plates, and particularly the portrait of pope Clement IX. Recalled to Paris by Louis XIV. at the instigation of M. Colbert, after a residence of three years at Rome, he assiduously applied to engraving, and was appointed engraver to the king, who greatly encouraged him. In 1681, he was named counsellor of the Royal Academy, and died at Paris in 1715. Strutt considers him as one of the greatest engravers, without any exception, that ever existed in the historical line; and a careful examination, he says, of the battles of Alexander, engraved by this artist, will of itself justify this assertion. His distinguishing excellence consists in his contracting no manner of his own, but transcribing on copper simply, with great truth and spirit, the style of the master whose pictures he copied. "On viewing his prints, you lose sight of the engraver, and naturally say, it is Le Brun, it is Poussin, it is Mignard, or it is Le Seur, &c. as you turn to the prints which he engraved from those masters." His works, exclusively of his portraits, are distributed into four classes: viz. 1. his flight prints or etchings, to which little or nothing was done with the graver, among which are the "Deluge," the "Passage through the red sea," the "Combat of Joshua against the Amalekites," the "Empire of Ptolemy," the "preferatio of Pyrrhus," a "cycling" from Le Brun representing the law of the land; and "The more finished, but in a rough, bold manner; e.g. "Paul and Barnabas at Lystra?;" "Coriolanus appealed by his family;" "Time supporting Truth;" the ceiling of the chapel de Saulrs, representing the "Accomplishment of the old law by the new one," engraved in 1681, from Le Brun, wonderfully uniting great spirit, character, expression, and beautiful drawing; and the "Death of St. Francis." 3. Those in his most finished manner; as the "Battles of Alexander," from Le Brun; viz. "The passage of the Granicus;" "the battle of Arbela;" "Porus brought to Alexander" after his defeat; "Alexander entering the tent of Darius;" and "the triumphant entry of Alexander into Babylon;" the "Pell," from Peter Mignard; the "baptism of the Pharisees," from N. Poufua; the "martyrdom of St. Lawrence," from Le Sueur; the "martyrdom of St. Agnes," from Dominichino.

Such as he did with the graver only, which are few, and of inferior merit; such as "Æneas saving his father Anchises," after Dominichino; and a small folio "Frontispiece" to the eglogies of the popes and cardinals, from Cyro Peri.

Bresis, second son of Germain Audran, was born at Lyons in 1661, and after receiving instructions from his father, removed to Paris, to enjoy the tuition of his uncle Girard, where he acquired great reputation. He died at Louzaron in 1721. His manner was founded upon the bold clear style of his uncle. His outlines were firm, and determined; his drawing correct; the heads of his figures are in general very expressive; and the other extremities well marked. But his works, compared with those of his uncle, want the mollceurs and harmony, which are so conspicuous in the latter. Among his neatest prints may be reckoned that which represents "Alexander fickle," from Le Sueur.

Johns, the third son of Germain, was born at Lyons in 1665, and perfected himself in the art of engraving, at Paris, under his uncle Girard. His reputation began to display itself at the age of twenty years; and such was his future success, that in 1707, he obtained the title of engraver to the king, and had a pension from his majesty, with apartments in the Gobelins; and in 1708, he was made a member of the royal academy. He was eighty years of age before he quitted the graver, and near ninety when he died. In his most malleably and bell prints, the etching constitutes a great part; and he has finished them in a bold, rough style. The drawing of the human figure is correct; the heads are expressive, and finely finished; the other extremities are well marked; but he is inferior to his uncle. He wants that harmony in the effect; his lights are too much and too equally covered; and there is not sufficient difference in the style, in which he has engraved his back grounds, and his draperies. The following prints, besides many others, are unfailingly esteemed; viz. "Moses saved by Pharaoh's daughters;" "Athabah reading her clothes, on discovering the king is the temple;" "Either before Anasracus;" "Cupid and Psyche;" all from Ant. Corpel. "The presentation of Christ in the temple," from Corene. "The miraculous draught of fishes," and its companion "The resurrection of Lazarus," from Jouvenet. "The battles of Alexander," small, from the large prints; "Moses defending the daughters of Jethro," and its companion, "Moses expelling the daughter of Jethro;" "the miracle of the five loaves;" "Christ healing the sick and lame;" and "Christ carrying the cros," both from Ant. Dier, &c.

Louis, the last son of Germain, was born at Lyons in 1670, and studied at Paris in the school of his uncle Girard. He died suddenly at Paris in 1712. Among his most esteemed prints are, "The seven acts of mercy," from Seb. Board, and "The Cadaver or Corps," from R. A. Houalle, Sculp. Del.
well of St. Omer. The place contains 2058 and the canton 11,709 inhabitants; the territory includes 22½ kilometres and 14 communes.

AUDEUX, in Arie, is a town of France, in the department of the Hérault, and capital place of a canton in the district of Bessèges, 43 kilometres west of Thononville. The place contains 205, and the canton 11,729 inhabitants; the territory includes 284½ kilometres and 23 communes.

AUERS, in Aribere, Geographies, a river of Africa, placed by Ptolemy near the bottom of the Sinae Numero; but no traces of it now remain.—Also, a mountainous district in the interior part of Mauritania Sitifensis, the Moors Arabians of the middle age, and Jibbel-Aures, as the Turks pronounce it. It is a chain of eminences running one into another, with several beautiful little plains and valleys intervening. The higher and the lower parts of it are very fertile, and are regarded as the garden of this province. The whole mountainous tract is reckoned to be about 120 miles in circuit, and the northern part, which is visited every year by a flying camp of the Algerines, is polved by such a number of clans, etc. the Boozenah, Lathah, Maffih, and Bouref, that it requires 40 of their tribus to bring them all under contribution. Shaw's Trav. p. 57.

This mountain, according to Bruce (Travels, &c. Introd. p. 28.), is inhabited by a savage tribe, of fair complexion, red hair, and blue eyes; called Nearied, and supposed to be a remnant of Vandals, who have maintained themselves in the wildnesses, in defiance of the Moors and Arabs. Each of the people of this tribe live in the middle of the face between their eyes, a Greek cross, perfect into antiquity, and this mark seems to be the chief vesture of Christianity among them, which religion they not only acknowledge, but boast that their ancestors professed it. Procopius (Bell. Vandal. lib. i. c. 15.) mentions the defeat of an army of the Vandal nation near this place, of which these are probably remains. They pay no taxes to the Bey, but live in constant defiance of him. In this mountain is the Lambes of Ptolemy.—Also, the name of a small part in the eastern part of Mauritania Cearienitis, mentioned by Ptolemy, and placed by him in the promontory of Jartifh, north-east of the mouth of the river Nafah.

AVE, in Geographies, a river of Germany, which runs into the Weser, three miles south of Nienburg, in the circle of Welfphalia.—Also, a river of Germany, in Lower Saxony, which runs into the Fulde, two miles S.S.E. of Zeller. Also, a town of Germany, in Upper Saxony, and circle of Ersching, five miles north-west of Schwerzenberg.

AVEY, a river of Portugal, which runs into the sea near Villa de Conde, in the province of Entre-Douro e Minho.

AVEBURY, or ABURY, a name given to a village in England, situated in the county of Wilts, about five miles west of the town of Marlborough, nineteen miles north of Stonehenge, and eighty miles west of London. As a village it presents no particular claims to public notice, but as the site of the most remarkable and tremendous monument of Britain's Antiquity in the island, it becomes exceedingly interesting to the antiquary and historian.

The British bards and druids have been repeatedly noticed and often described by our ancient historians; some of whom have given very copious accounts of their religious and juridical rites and ceremonies; but none of them have left complete and satisfactory information relating to the men, their manners, or monuments. Hence arises the great difficulty of giving decisive descriptions of those subjects; and the repeated wars and invasions that have harassed this country, have nearly destroyed all documents and monuments of British antiquity. Among the vallies of former times, we recognize the Rupeous temple at Avebury, which was unquestionably the most considerable and important in Great Britain. It consisted of a number of large unhewn stones placed perpendicularly in the ground, and disposed in parallel rows and circles. There were four of the latter included within a fifth of larger circumference, and at the end of the southern avenue, about one mile distant from the great circle, were two concentric oval arrangements of stones. The number of stones originally employed in the whole work united to fix hundred and fifty, and most of them measured from twenty to forty feet in height above the ground, forty feet in circumference, and weighed from forty to fifty-four tons each. The large circle, and the principal part of this temple, were surrounded with a very considerable vallum and ditch, which included an area of twenty-two acres of ground, and measured about 1400 feet in a transverse diameter. This bank and ditch must have been produced with immense labour, and its peculiarity of formation proves that it was never intended for a fortified place in time of war, as the bank is thrown up on the outer verge of the ditch; whereas all military encampments have the bank within the ditch, to give an advantageous height of ground to the besieged inhabitants. The vallum measures about 30 feet in height from the top to the middle of the ditch. Supposing that it was raised for spectators to behold any ceremonies performed in the included area, it would accommodate above 70,000 persons, and allow two square feet to each. This boundary embraced one large, and four small circular arrangements of stones. The vallum was about thirty-five feet within the ditch, and contained 100 stones, placed at nearly equal distances from each other. Within this circle were two double concentric circles composed of eighty-eight stones, three others called the cove, and one called the central obelisk. From the large circle proceeded two avenues, or double rows of large upright stones, placed at nearly regular distances in each row, and from one row to the other. These confounded 200 stones, extended about one mile in length each way, and were called the Beckhampton and Kennet avenues. The first proceeded from the temple in a westerly direction, and was terminated with a single stone; whilst the other took a south-easterly course, and had two oval rows of stones at the extremity. The objects we have already described, are considered by some persons as the whole of this extraordinary monument; but it seems very probable that Sibury Hill, some crumleths, other circles, and numerous relics, were originally connected with it. Sibury Hill is considered as the largest tumulus, or barrow, in England, and its situation implies that it was intended to mark the meridian line from the centre of the temple. Dr. Stukeley states, that it is directly south of the great circle. It measures 105 feet diameter at top, 500 feet at the base, 240 feet in height, following the surface of its northern side, and 1682 feet in circumference at the bottom. From the top of this artificial hill a spectator commands a view of the western avenue, and the whole area of the temple, with a considerable tract of flat country to the north and west. This barrow has been dug into by some persons, who expected to make interesting discoveries; but for want of perseverance, or well-directed research, they discontinued their operations, without gratifying their curiosity, or rewarding their labour.

The Goths, Vandals, and Turks, have often been stigmatized as the merciless destroyers of every venerable and interesting monument of antiquity; but rarely, they were not more reverent in their behaviour than many of the inhabitants of this highly civilized and refined country: some of whom have revered such ingenuity and labour unsentily and deliberately destroying this singular monument of ancient customs. We have already stated that...
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it originally consisted of 650 stones, but most of these have been broken in pieces, by means of fire and manual labour, and the differerent fragments ascribed to the destruction of walls, hovels, and common roads. In 1722, only forty remained of the great circle, of which number seventeen were flaking; but these are now reduced to nine. The interior circles were almost entire in 1716, but in 1723 only two stones were left erect belonging to the outward circle of the northern temple. Of the Kenot area, there were seventy-two stones in 1722, of which only eight or ten remain; and only two of the Beckhampton area.

The stones used in forming this temple are called by the inhabitants, Bolderstones and Sarfons. They are of fibrous grit, being of the same species as those that accompany the great stratum of chalk, which crosses England from E. N. E. to W. S. W. These stones lie on the surface of the ground in detached masses, unconnected with any stratum of chalk.

Having here what the temple was, and what it is, we will next endeavour to explain its appropriation and use; in doing which, we found our deductions principally on the trials and traditions of the Welsh bards, a class of people more likely to preserve correct memorials of the ancient Britons, which will be found in any of the Roman histories. By these writers we learn that Avebury was the great national temple, or circle of convention of the ancient Britons; in which they assembled from all parts of the island, on the four grand festivals, which were held at the time of the two solstices and the two equinoxes, more particularly on midsummer day, and new-year's day, or the winter solstice. The Bardic trials called the temple at Avebury, one of the three primary Gewifdæa, or supreme seats of the island of Britain, the other two were those of Beigewater and Moel Efor.

The circles at Avebury and Silbury Hill had their names reciprocally from each other, for the former was termed Garifen-Bryn-Georfan, or the supreme feast of the Hill of preference, or cognition; and the other was called Cleder-Cytrægen, or the tumult of the circle of conventions. In this place the legislative, faucetoral, and scientific classes, which formed the ancient British constitution, held their great assemblage called the Beirô, Drujynæ, and Gwern, or Bards, Druids, and Ovate; and, according to Caesar, that the Druids of Gaul, "who wished to be perfectly skilled in the Druidical science," occasionally visited England to learn it. From the magnitude and situation of Avebury, we are induced to believe that it was their place of meeting or convention. The situation was the most convenient of any in Great Britain; and that it was the grand metropolitan itation, seems satisfactorily ascertained by its magnitude above all others in the island; by the variety of British roads or rideways which converged to this spot; by the vast number of barrows scattered all over these plains, and by several other relics of remote antiquity to be found in the neighbourhood. To Dr. Stukeley we are indebted for much information concerning this place, but for his diligent inquiries and researches in 1722, &c. we should never have been able to ascertain the figure and dimensions of the temple; with his assistance, aided by repeated examination of the spot, we are enabled to present our readers with the account which we hope will prove as satisfactory as it is faithful. To those who wish to fix the position of the various parts, we must refer to Britton's Beauties of Wiltshire, vol. iii.; and for accounts of some subjects collaterally connected with this, see Bard, Barrow, Cromley, Druid, Kistvæn, Stonehenge, &c.

AVEHEN, a town of North America, in the county of Mexico, and district of Chiametan.

AVEIA, in Ancient Geography, a town of Italy, in Samnium, south of Ambricum.

AVEIN, in Geography, a village of the Netherlands, in the duchy of Luxembourg, near which the army of France defeated the Spaniards; two leagues from Rochefort.

AVEIRO, or Braganza Nova, a sea-port town of Portugal, in the province of Beira, situated in a flat and marshy country, at the mouth of the Vouga, and containing about 1,420 houses, divided into four parishes, and six monasteries. The river Vouga flows through the town, where it is very narrow; but it is adorned with a handfome quay. Near the town it divides into two branches, one to the left and running southward to the sea, the other flowing northward to Ovar. Its trade is considerable, as small boats only come to the town: and as the bar is continually shifting, none but small ships can pass it. The fishery of this place is alone worthy of notice; for Aveiro chiefly supplies the province of Beira with Sardins, which are carried by large troops of mules into the higher parts of the province. Salt is also produced here in large quantities; though it is not reckoned so good as that at St. Ives and Lisbon. The town is, on account of its marshy situation, uninhabited, which exposes the inhabitants to frequent attacks of agues and pestilential disorders. Aveiro is nine leagues from Coimbra, and eleven fourth of Oporto. N. lat. 40 30', W. long. 9° 8'.

Aveiro, a river of France, which runs into the Tarn, four leagues below Montauban.

AVELGHEN, a town of France, in the department of Leys, and chief place of a canton, in the district of Couray. The place contains 3355 and the canton 13,716 inhabitants: the territory includes 57 3/12 kilometres and 9 communes.

AVELINE, in Conchology, a name given by French naturalists to one kind of land-faun found in Ambyona, and called by Linnaeus belis ferrarius.

AVELLA, in Geography, a town of Italy, in the kingdom of Naples, and county of Lavora, four miles north-east of Nola. The situation of this town, with its castle, is delightful, and it commands a view as far as Naples. Not far from this place are the ruins of Abelba. It now gives the title of prince to the family of Disa.

Avelian, a species of PHELMA aenus.

AVELLANA, in Conchology, a species of Helix, with a slightly unibulated shell, of an oblate and somewhat triangular form, rough, plated, and fissilv within; aperture smooth and erect; and an elevated circle on the first whorls of the spire.

Aveliana, a species of Patella with a thia white shell, very easily irritated; and an oblong perforation divided by a ligation. Native place unknown. Menchen, Naturf.

Aveliana, in Entomology, a species of Phalena (Trrix) found on the nut-tree in the north of Europe. The wings stellateous, with three short bands. Linn. Gmel. &c.

Aveliana, a species of Attela, of a black colour, with the wing-cases, thorax, and legs red. This insect Gmelin's conjectures, may be only a variety of attela coryli; it inhabits Germany, and is called by Scolopi curculo colliari.

Aveliana, a species of Cithara, of a black colour, with brown upper-wings that are white at the base and tip; legs fuscous. Found on the nut-tree. Gmel. Scop. &c.

Aveliana, a species of Phalaena (Bombyx); that is found on the nut-trees in Europe. The wings are dull ash-coloured, with an obscure fuscous band, and without spots. Fabr. Gmel. &c.

Aveliana, in H. radleyi, a term peculiar to the form of acorns, whose quarters resemble those of scatelana, or siled-grad. nut.

Avellin, in Geography, a town of Italy, in the kingdom
A.V.E.

kingdom of Naples, and Principepia Ultra, the see of a bishop, and fulfiller of the archbishop of Benevento. Avellino, which was probably founded by the Lombards, is a considerable city, extending a mile in length down the valley of a hill, with ugly freets, but tolerable houses. The churches are crowded with monstrous ornaments in a barbarous stile, which the Neapolitans seem to have borrowed from the Spaniards. The cathedral is a poor building, adorned merely with uncouth Latin dillicha, and chapels Gothic sculpture. The inhabitants have access to a statue of St. Laurence, with a phial of his blood, which for eight days in the month of August entertains them with a miraculous liquefaction similar to that of St. Januarius at Naples. The only edifice of note is a public granary, of the compos- ite order, adorned with antique statues, and an elegant bronze one of Charles II. king of Spain, while a boy, call by Cavalier Cofimo. The number of inhabitants amounts to 8 or 10,000. The bishop's revenue is about 6000 ducats or 1251. a year. The magistracy consists of a fyndic and four ekti, who are chosen annually; but these offices are engrossed by a certain number of families of some distinction, who neither intermarry nor associate with the other burghers. The estates of the prince amount to the yearly value of 20,000 ducats or 4150., and 2000 arre from duties on the dye of cloth, which is made of various qualities and colours, but chiefly blue. The fuel sells for thirty carlin a kanna, and pays twenty-six grana duty of entrance into Naples. Many wealthy merchants are concerned in this cloth manufacture, some of whom employ in it a capital of 80,000 ducats, or 15,000., The poor women who spin the wool, must work very diligently to earn about four grana, a day. The second article of trade is macaroni and paits of many kinds, which are of excellent quality, and much esteemed through the country. Wooden chairs are also made and sold here in great quantities. Avellino abounds with all sorts of provisions; each street is supplied with fresh water; but the wine is indifferent. The soil of this district, consisting chiefly of volcanic subulances, produces little corn, but abundance of fruit, of which the apple is held in high estimation. The most profitable of all fruits, however, is the apricot. Nut-bulbes cover the face of the valley, and in good years yield a profit of 60,000 ducats, or 11,250., The nuts are mostly of the large round species of silberd, which we call Spanish; and the bulbes were originally imported into Italy from Pontus, and known among the Romans by the appellation of "Nux Pontica," which, in progress of time, was changed into that of "Nux Avellana," from the place where they had been most successfully propagated. The proprietors plant them in rows, and, by dreffing, form them into large bulbes of many items. Every year they refresh the roots with new earth, and prune off the fraggling roots with great attention. Swinhorne's Travels, vol. i. p. 171, &c.

A.V.E.M.A.R.I.A, or Ave-Mary, the angel Gabriel's falutation of the Virgin Mary, at his bringing her the tidings of the incarnation; thus called, as beginning with these words, Ave Maria, q. d. Holl Mary.

The ave-mary is a prayer or formule of devotion very usual in the Romish church. It was added to their prayers by order of pope John XXII. in the fourteenth century.—Their chaplets and rosaries are divided into fo many avenary, and to many pater-naglers; and hence the beads themselves which indicate them, are also called aver, or ave-marys.

AVENA, in Botany, oat-grafs (supposed from avo, to desire, or covet; cattel being fond of it). Lin. g. 91. Schreb. 122. Jull. 32. C.fas, triandria digynia. Nat. Ord. graminia. Gen. Char. Cal. glume generally many-flowered, two-valved, loosely collecting the flowers; valves lance-olate, acute, ventricose, loof, large, awnless. Cor. two-valved; lower valve harder than the calyx, the fuzz of the calyx, roundish, ventricose, acuminate at both ends, curling from the back an awn spirally twisted, reflex; median two-leaved; bellows lanceolate, gibbous at the base. Stems filaments three, capillary; anthers oblong, forked. Pfit. gem obtuse; styles two, reflex, hairy; stigma simple. Per. none. Cor. small firmly closed, grows to the seed and do- not gape. Seed, one, slender, oblong, acuminate at both ends, marked with a longitudinal furrow.


Species. 1. A. fihirica, Siberian oat-grafs; selleu gluma, villosa, arilis calyce triplo longioribus. Gmel. Sib. i. 173. t. 22. "Panicled; calyxes one-flowered; seeds hirfute; awns thrice the length of the calyx." Cunis very slender, from two to three feet high; leaves rolled up at the edges, from fix to twelve inches long; panicle reflammimg a spike, often directed to one side; glumes of the calyx equal, dagger-pointed, membraneous towards the point; glumes of the corolla of the fame length, extremely villous. A native of Siberia, introdiced in 1777 by Mell. Kew. and Lee. 2. A. ulmei, tall oat-grafs. Huds. With. Curt. Lond. 3. 6. (grace) caruinum adnudum; Ger. "Panicled; calyxes two-flowered; hermaphrodite; inflorescence almost awl-like, male awned." Root perennial; flums erect, round, fmal, flxh, with four or five purplish joints, above three feet high; leaves frizzed from five inches to a foot in length; panicle erect, flning, nume- roously branched; spikelets two-flowered, one male and the other hermaphrodite; valves of the calyx unequal, the largest marked with three, the smallst with one green nerve. In the hermaphrodite flower, the midrib of the outer valve forms a short awn, and the bottom very hairy; nectary two small lanceolate glumes, somewhat globular at bottom; germ villose. It is common on banks, in hedges, on the borders of fields, and sometimes in wet meadows. It flowers in June and July. It is an early grafs, very produc- tive, and yields a plentiful aftermath. In particular situations the base of the stem becomes knobby and forms the variety abulunci, which, in some areas, is very troublesome, and is one of the several grafses confounded under the name of quick or cooch. 3. A. fittiformis. "Panicled; calyxes two-flowered; awns twice the length of the feed; culm branching." Culin a foot high, often recliining, smooth, with brown joints; branches from each axil, short; one glume of the calyx lanceolate, the other ovate; flretos two, fefile; corolla smooth, except the outer glume, which is rough with hairs. A native of the Cape. 4. A. pennyl- vanica. Pennylvaniaen oat-grafs. "Panicle attenuated; calyxes two-flowered; seeds villose; awns twice the length of the calyx." Observed in Pennsylvania by Kalm. In- troduced here in 1785, by Dr. Pitzamn. 5. A. laefiuliana. Spanish oat-grafs. Cavan. Hilp. t. 45. f. 1. "Panicle contracted; flretos in pairs, hirfute; one-peduncled, with two awas at the top, the middle awn largelf. Root annual, capillary; culms very slender, from two to four inches high; leaves short, flabrit; one of the flretos is fefile, the other on a villofe pedicel; valve of the corolla brilh-faced at the tip, with a twisted awn on the back twice the length of the valve. It grows near Madrid, and at the Cape of Good Hope. Introduced here by Monf. Richard, in 1770. 6. A. ffitura, cultivated oat. Of this there are four varieties, the white, black, brown or red, and the blue oath. "Panicled; calyxes two-fed; feeds very smooth, one-awned." Annual; culm or straw upwards of two feet high; panicle various in different varieties, but always loose and pen- dulous; the two glumes or chaffs of the calyx are marked
with lines, pointed at the end, longer than the flower, and unequal. There are usually two flowers and seeds in each calyx; they are alternate, conical, the smaller one is awned, the larger one puts forth a strong, two-coloured, bent awn, from the middle of the back. No botanist has been able to ascertain satisfactorily the native place of growth of this, or indeed of any other fort of grain now commonly cultivated in Europe. The varieties mentioned above have been long known, and others have been introduced, as the Poland, the Friedland or Dutch, and the Siberian or Tartarian oat. The blue oat is probably what is called Scotch grey. The white oat is most common about London, and those countries where the inhabitants live much upon oat-cakes, as it makes the whitest meal. The black is more cultivated in the northern parts of England, and is esteemed a hearty food for horses. The red oat is much cultivated in Derbyshire, Staffordshire, and Cheshire; it is a very hardy oat, and gives a good barley. The straw is of a brown red colour, very heavy, and a very good food for horses than either of the former oats. In Lincolnshire they cultivate the forrished Scotch grey. The Poland oat has a short plumplike grain, but the thicknees of the skin feems to have brought it into disrepute among the farmers. Add to this the straw is very short. It was fown by Mr. Lille, in 1799. Friedland, or Dutch oat affords more straw, and is thinner flaked, and the grains mostly double. A white oat, called the *petasus oat* in Cumberland, where it was lately discovered, promises, from the size of the grain and the length of the straw, to be the most valuable of all; it is now very generally bought for sowing. The oat is a very profitable grain, and a great in improvement to many estates in the north of England, Scotland, and Wales; for it will thrive in cold barren soils, which will produce no other oat of grain; it will also thrive on the hottest land; in short there is no soil too rich, or too poor, too hot, or too cold for it; and in wet harvests, when other grain is spoiled, this will receive little or no damage. The meal of this grain makes a tolerably good bread, and is the common food of the country people in the north. It is also esteemed for pottage and other mixtures, and in some places they make beer with it. *A. nuda*, naked oat, pilcorn, or pillis. *Panicled* calyxes three-flowered; receptacle exceeding the calyx; petals awned at the back; the third floret awnless.

This has been considered as a British plant by Ray, Hudson, and Withering; but Mr. Smith says it is by no means to be claffed among our indigenous plants. Linnaeus observes it is very nearly allied to the *f timia*; and Haller remarks that the calyx is sometimes two-flowered, but that the awn is neither twifed nor jointed. We are told the seeds have been cultivated, and for the uses of the poor answer all the purpozes of oatmeal. 8. *A. fistulosus*, wild oat or haver. Hudf. With Smith. Brit. 153. Matt. Fl. Ruth. 81. *Panicled*; calyxes mostly three-flowered; florets awned, and hairy at the base. Annual; culm erect, single, three feet high, a little leafy, fringed, very smooth; leaves linear, patent, nervoos, bristly; nervation thin, nervos, smooth; fistules oblong, toothed, lacerated; panicel erect, much branched, and spreading; peduncles alternate, capita, branched, bristly, thickened towards the apex; rachis, acutus, calyces glumes equal, lacerated, smooth, longer than the florets; florets for the most part three, remote, gradually diminishing, roundish, beaf with tufts of hair at the base, armed from the middle of the back, awn twice the length of the calyx, rough, jointed, twifed at the end; interior glume conceave, naked, ciliated. Seed has a soft hairy covering. It grows in fields and hedges, and is one of our most destructive annual weeds among corn. The awns are sometimes used for hydrometers, and the seeds instead of artificial flies, in fishing for trout. 9. *A. pratensis*. Schen. Gram. 220. t. 4. f. 17. *Panicled*; calyxes mostly three-flowered, all the florets armed; receptacle bearded. *Panicled* oblong; the flowers appear to be hairy, but all the hairs fall on pedicels or receptacles within the calyx among the flowers. The third flower is imperfect. Haller thinks it to be only a variety of the *f timia*. A native of Germany, Switzerland, &c. 10. *A. poaefcus*, soft oat-grafs. Hudf. With Smith. *Panicled erect*, almost simple, calyxes commonly three-flowered, receptacle bearded, leaves flat, pubescent. Perennial; culm one or two feet high, erect, simple, roundish, smooth, frnated, leafy; leaves spreading, short, oblong, flat, which together with the flictus are covered with a soft down; simple, short, deted; panicel contracted for 10 to appear like a spike; calyces glumes very uneaual, keeled, febrous, pointed, membranaceous, naked; interior very long, three-nerved; florets three, the third often abortive, remotif, clubbed-cylindrical, narrow, roundish; dispharous, armed towards the middle of the back; interior glume smaller and weaker, rough at the edge; common receptacle elongated above the floclet, beaf with white hairs. It grows in dry meadows and chalyce pastures, flowerins in June. 11. *A. f timia*, great wild, or beard oat-grafs. *Panicled*; calyxes three-flowered; the outer florets and awns hairy at the base, the inner ones awnless. Annual; culms three or four feet high, smooth; leaves smooth, flat, sharp, very long; flowers pendulous; calyces four or five-foved; valves lanceolate, acuminate, concave, equal, smooth, white with green breaks. In the two outer florets, the outer valve of the corolla resembles a valve of the calyx in form but shorter, and puts forth an awn two inches long. The other florets are awnless. A native of Barbary and Spain. Curt. Lond. 3. t. 5. 12. *A. foae foae*, yellow oat-grafs. Hudf. With Smith. Curt. Lond. 3. t. 5. *Panicled much branched, boole, calyxes mostly three-flowered, unequal, receptacle hairy; leaves flat, subpubescent*. Culm erect, but curved at the base, a foot and a half high, frnated, jonted, leaves flat, acute, frnated, more or less pubescent; *panicel* somewhat nodding, spreading, branched very much, many-flowered, of a shining gold colour; calyces glumes acute, keeled, febrous on the back, one twice the size of the other, three-nerved; florets two or three, remotif lanceolate, compressed, fuffury nervos, awned; anse twice the length of the floret, febrous; interior glume narrower; receptacle hairy. It grows in meadows, pastures, and the sides of roads, flowerins in June and July. In many of our counties, this species forms the principal part of the finest pasturage on the downs, and in some meadows it contributes to the goods as well as the meats of the crops. 13. *A. hispida*. "Panicled; calyces three-flowered, hairy." Culm a foot high, smooth; fuffury hairy; panicel or raceme with undivided pedicels, three or four; glumes oblong, acuminate, hairy, uprefit; corollis awnless; awns twifed, twice or three times the length of the flowers. 14. *A. repens*. "Panicled contracred; calyces three-flowered, frubulbe; corolla pubescent; middle awn twifed, curved." Culm a foot high; leaves long; calyces glumes equal, lacerated, smooth, longer than the florets; florets for the most part three, remote, gradually diminishing, roundish, beaf with tufts of hair at the base, armed from the middle of the back, awn twice the length of the calyx, rough, jointed, twifed at the end; interior glume conceave, naked, ciliated. Seed has a soft hairy covering. It grows in fields and hedges, and is one of our most destructive annual weeds among corn. The awns are sometimes used for hydrometers, and the seeds instead of artificial flies, in fishing for trout.
short, like those of foxties ovina; panicle small; glumes of the calyx purple; valves lanceolate, keeled, smooth; all of the florets are awned, and covered with a white down. A native of Martincio. 16. A. lutea. "Panicle spreading; calyxes two-flowered; glume bifid; corolla naked, three-awned, middle awn flexuose." This renews aids flexuosa both in habit and colour. A native of Martincio. 17. A. lupulina. "Panicle contracted, ovate; calyx three-flowered, lanceolate; corolla villose, outer glume bifurcate; middle awn reflex." This is not readily distinguished from the 15th. It is larger, with feathers extremely tomentose. Panicle yellow, closely crowded; flowers longer than those of the 15th, with the corollas bifid and more hirsute; the divisions furcate, awned. A native of the cape, found by Thunberg. 18. A. frigida, brittle oat-grafs. Schreb. Gram. t. 24. "Spiked; calyxes four-flowered, longer than the floret." Culms many; smooth, with three to fifteen, fix or fewer inches high; leaves flat, ciliate: spike the length of the culm; flories in a double row, profuse clove, red alternate; calyx two or four-flowered, laticial, oblong, pubescent; one valve twice the length of the other; outer valve of the corolla sharp, with an awn from the back. This is the only avens truly spiked. A native of Spain. Introduced by Monf. Richard, in 1770. 19. A. pratensis, narrow-leaved oat-grafs. Huds. With. With. Smith. Gramen aven, &c. Ray. Syn. t. 21. f. 1. ed. 2. 252. n. 2. & 3. Schreb. Agr. 250. "Spica erect; calyxes moftly five-flowered; receptacles hairy; leaves involu- cate, furcate, naked." Root perennial; culms many, a foot or a foot and a half high, crisp, fimple, with a single joint near the base, above naked, ftirted, roughrid; radial leaves linear, acute, rigid, incurved, smooth on both fides, with the edges furcate-fabrous; thick on the culms broaded, nervo; with long fheaths which are nervo;e and smooth; ftipule lanceolate; spike erect, commonly very fimple; upper spikelets fuble; under one long, pedunculated; calyx glumes furcate, acute, three-awned, a little keeled, flabrous of the length of the lower florie; flories four or more, fubfutuca, roundifh, roughrid, neruo; at the apex, membranaceous, lacerated, avned from above the middle of the back; awn double the length of the floret, purple, with a white apex; interior glume smaller, very flider, minutely ciliate; receptacle under the flories, beft with fhort hairs. It grows on dry paths and heaths, fowering in July. 20. A. fpatiata. "Spiked; calyxes fix-flowered, longer than the outer petal, which is awned and forked at the top." Spike compounded of three or four remote upright spikelets; flowers fix, felfe, upright; calyx fubfutuca, equal, longer than the spikelet; outer petal bitd at the top, with a jointed awn between the divisions, the length of the spikelet. It has the habit of felguga decumbens. A native of Pennsylvania. 21. A. bromidodes, Gr. alpinum aven, &c. Schreb. Gram. 228. t. 4. f. 21. "Subspiked; fpikelets binary, one peduncled; awns diverfate; calyxes eight-flowered." Two feet high; culm flider; spikelets round, general in pairs, one felfe, the other peduncled; calyx from four to eight-flowered; awns from the middle of the back, twifled. A native of Switzerland, and about Montpellier. 22. A. frigida. "Panicle; calyxes two-flowered; corolla fMOOTH at the base; outer valve ending in two awns, shorter than the valve, and with a bent awn from the back." Annual; culm and leaves bare; peduncles from one to four, rough; calyx the length of the fiores; valtes seven or ten-rigbed, bordered with a row of minute dots; valve of the corolla fMOOTH below; segments terminating in purple awns white at the tip; seeds hairy. This has been found growing with the cultivated oat, but it is not native of this country. See Smith. 23. A. aurata, golden oat-grafs. "Calyces two-flowered; panicle scattered, erect; corollas golden, villous at the base." A handsome grafs, nine inches high; leaves very flider, brittle-leaved; panicle stiff, with mucronate spikelets, one shorter than the other; corolla elliptic, pubefcent at the base; top plaited, ferrate; at the base of the outer glume, a jointed awn, longer than the flower. When this grafs arrives at maturity, it is of a refluent golden colour. A native of the Alps, of Switzerland, and Piedmont. 24. A. scheuchzeri. Scheuch. Gram. 23. t. 3. "Spikes five-flowered, pubefcent at the base; peduncles branching." Culm from six to twelve inches high; leaves fMOOTH, two lines broad, keeled; panicle narrow like a spike; calyx purple, thinning, curved at the top; glumes unequal, mucronate; outer glume of the corolla mucronate, green, variegated with bay and gold colour; inner with a golden and filver colour, membranaceous, awn long, brown, jointed, twifled. A native of the fame place as A. aurata. 25. A. illyricus. Forst. Flor. n. 46. "Panicle erect, very flider; calyxes one-flowered; awns twice the length of the calyx." A native of New Zealand and Eaftern Island.

Propagation and Culture. For the gralls, see GRASS. Oat. The best time for fowing oats is in February or March, according as the fefon is early or late. The black and red oats may be fown a month earlier than the white, because they are harder. The advantage of early fowing is proved by experiment to be found in the papers of the Bath Agricultural Society. White oats fown in May have produced seven quarters the acre, and in Hertfordshire they do not fow them till after they have done fowing barley, which is found to be a good practive; this oat being more tender than the others. Mr. Marshall mentions the blowing of the fallow as a direction for the fowing of this grall. He fays "most people allow four buhels of oats to an acre, but I am convinced, that three buhels are more than enough; the ufual prufide is about twenty-five buhels to an acre, though I have sometimes known more than thirty." But forty buhels and more are certainly no unfual crop. It appears from Mr. Young's "Tour through the Southern Counties," that the quantity of oats fows varies from five buhels two pecks to two buhels and a half, and that the produce is as follows:

<table>
<thead>
<tr>
<th>Produce</th>
<th>Q. B. P.</th>
</tr>
</thead>
<tbody>
<tr>
<td>5 buhels and upwards</td>
<td>4 0 6</td>
</tr>
<tr>
<td>4 buhels</td>
<td>4 2 2</td>
</tr>
<tr>
<td>4 to 5 buhels</td>
<td>3 6 0</td>
</tr>
<tr>
<td>3 buhels and a half</td>
<td>2 0 2</td>
</tr>
<tr>
<td>2 buhels and a half</td>
<td>2 0 0</td>
</tr>
</tbody>
</table>

He thinks the quantity of feed should be proportioned to the poverty of the ground; for in rich land corn tillers to much as apparently to cover the field; but in poor land it does not tiller at all, consequently the grains should be so much nearer. Mr. Young, in his "Northern Tour," gives another table of the different quantities of feed corn, with their respective average produce, as follows:

<table>
<thead>
<tr>
<th>Produce</th>
<th>Q. B. P.</th>
</tr>
</thead>
<tbody>
<tr>
<td>7 buhels fown, average produce</td>
<td>6 0 3</td>
</tr>
<tr>
<td>6 buhels</td>
<td>4 0 1</td>
</tr>
<tr>
<td>5 buhels</td>
<td>4 0 2</td>
</tr>
<tr>
<td>4 buhels and a half</td>
<td>4 0 5</td>
</tr>
<tr>
<td>4 buhels</td>
<td>4 0 4</td>
</tr>
<tr>
<td>3 buhels</td>
<td>4 0 3</td>
</tr>
<tr>
<td>2 buhels</td>
<td>4 0 2</td>
</tr>
<tr>
<td>Or thus:</td>
<td>4 0 2</td>
</tr>
<tr>
<td>6 and 7 buhels</td>
<td>6 0 2</td>
</tr>
<tr>
<td>4 buhels and a half and five</td>
<td>4 4 3</td>
</tr>
</tbody>
</table>

Hence it appears, that although some points remain doubt-ful, yet the superiority of fix or seven buhels is fo great, that there is abundant reafon to think the other quantities are not equal to these in advantage, and that the modern ide
ideas of sowing small quantities of seed are not universally to be adopted. Mr. Young therefore recommends that experiments should be tried on all sorts of soils, and in every situation, on small pieces of land, to decide this important point.


APONAE, in Entomology, a species of Musca, of a black colour and shining; eyes brownish; wings red and greenish. Inhabits Sweden. Gmelin, &c.

APONAGE, formed of the Latin avveno, out; in Latin, a certain quantity of oats paid to a landlord in lieu of some other duties, or as a rent, from the tenant.

APONAY, in Geography, a town of France, in the department of the Marne, situated on the river Marne, one league and a half north-east of Epernay, and five W. N. W. of Chalons-sur-Marne.

APONCHE, or APRONCHE, a town of Switzerland, in the canton of Bern, and the principal burgh of a bailiwick in the Pays de Vaud. Some contend that it was the capital of Helvetia, because Tacitus (Hist. l. i. c. 68) calls it "Aventicum gentis caput;" while others have endeavoured to prove that by this expression the historian only intended to denote the capital town of its particular district. According to some accounts, the city was built, and a Roman colony founded, by Vepstatian; but with greater probability, according to others, it was only repaired and beautified by Vepstatian, after it had been laid waste and almost ruined by Cæcina, one of the lieutenants of Vitellius, when many thousands were slain, and many thousands sold for slaves. It was afterwards taken and pillaged by the Burgundians; and reduced to a heap of ruins by the Franks. Without doubt it was formerly a very considerable town, and subject to the dominion of the Romans, as we may conclude not only from several mile stones found in many parts of the Pays de Vaud, most of which are numbered from Aventicum, as the principal place of reference, and more particularly from the present ruins. The ancient walls appear to have inclosed a space near five miles in circumference; of which the present town occupies but a very small spot; the remainder being covered with corn fields and meadows. In an adjoining field is a Mosaic pavement, which was the floor of an ancient bath, about sixty feet long, and forty broad; consisting of three compartments, in which are represented human figures in various attitudes, but chiefly bacchantes. From a glory that surrounds the head of Bacchus in this Mosaic, it has been inferred that it was wrought during some part of the intervening age between Vepstatian and Marcus Aurelius; because that mark of divinity is not usual upon monuments of Roman antiquity before that period. Besides, the head-dress of a Bacchic lady is represented in this Mosaic, resembling the head-dresses of the empresses Plautina and Sabina. The ancient amphitheatre appears from the ruins that remain, to have had an arena of about 80 yards in diameter; and under a tower is a cell from which the animals were probably let loose upon the arena. On the outside, remains of five doors are visible; and the walls are adorned with several pieces of rude sculpture dilapidated. Not far from these ruins stands a column of white marble about sixty feet high, composed of large masses neatly joined without cement; and near it lies a considerable fragment of d-bayed sculpture, which seems once to have formed part of the portal belonging to a magnificent temple. There are also several other relics of the ancient extent and grandeur of this place. Cooxe's Travels in Switzerland, vol. ii. p. 175, &c. Avenche is situated at the south end of the lake Morat, 16 miles south-west of Bern. N. lat. 46° 50' E. long. 7° 7'.

APONIA, in Botany, denote leaves which have no visible veins.

APONIO, now AVIGNON, in Ancient Geography, a town of Gallia Narbonensis, upon the left bank of the Rhone. See AVIGNON.

APONNE, a town of France, in the department of Oute, and chief place of a canton in the district of Huy. The place contains 175 and the canton 11,016 inhabitants; the territory includes 156½ square kilometres, and 30 commune.

APONOR, in Antiquity, an officer under the master of the horse, who by order or warrant from him, made up the accounts of the stables, and issued debentures for paying the officers and farmers.

In a flat, Car. II. we find the avenor mentioned as an officer who provides oats for the stables. In the Rot. Parl. Edw. III. we also read of avenor of the queen, of the prince, &c.

APONACE, in Biography, a philosopher among the Spanish Saracens, who flourished about the middle of the twelfth century, and was a follower of Aritotles. He wrote a commentary upon Euclid, as well as philosophical and theological epistles. He was intimately conversant with the Peripatetic philosophy, and applied it to the illustration of the Islamic system of theology, and to the explanation of the Koran; and on this account he was suspected of heresy, and thrown into prison at Cordova. It is said that he was poisoned at Fez, in the year of the Hegira 553, A.D. 1158; or, according to others, 525, A.D. 1130. Pococke Spec. Hist. Arab. p. 373. Gen. Dict. Among the Arabian writers he is commonly known by the name of Ebn al Sâyeâh; and was born in Spain, of Jewish ancestors.

APONES, in Botany, See GEUM.

APONIA, in Ancient Geography, a river of Italy, in the Sabine territory, which discharged itself into the Tiber, and which is supposed to have given the name of Ager Aventinus to the neighbouring district.

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APONIA, in Botany, See GEUM.
AVENTURÉ, in our Ancient History, signify tournaments, or military exercises on horseback.

AVENTURE, or rather ADVENTURE, in our Law Books, a mischance, causing the death of a man, without felony; as, when he is suddenly drowned, or burnt by an accident or mischief, falling into the water or fire. See ACCIDENT, and CASE-MEDLEY.

AVENTURE, in Mineralogy. See QUARTZ, and FELSAR.

AVENUE, formed of AVENIR, or ADVENT, to arrive at, in Fortification, an opening or inlet into a fort, battery, or the like place; or the pafles and ways to and from it. See BATTERY, and EASTERN.

AVENUE, in Ornamental Gardening, is a large and generally straight walk, bounded on each side by one, two, or more rows of forest or other trees, designed sometimes as a principal way from the common road to the manor-house of a country seat, and often to form views, or to lead to different districts of the neighbouring country. But though avenues of the more regular kind, when formed about extensive forts, or detached in parks, or other extensive pleasure-grounds, always exhibit an air of grandeur, it is more agreeable to the present taste to have the principal front of the mansion entirely open, and unencumbered with these or any other kind of plantation, as it is certainly a great absurdity to hide a good front, and obstruct the prospect; an avenue can therefore seldom be admitted with propriety in that part of the ground. A spacious lawn of grass should, as frequently as possible, be exhibited in due extenion in the most conspicuous fronts of such dwellings. See LAWN.

But in directions from the wings, detached at considerable distance, avenues may perhaps with propriety be occasionally introduced, and extended on the sides of spacious lawns, serving by way of boundaries, being backed up next the lawns with shrubs and lower trees, disposed irregularly; and if they be carried in an oblique direction, the lawns will widen gradually, and the prospects be more comprehensive.

Avenues may also be admitted at some distance from either the ends or the back fronts of the dwellings, in either of which situations, one may be extended towards any common road, village, or town, serving as the common entrance to the invitation, or merely by way of ornament, &c. And in still more extensive situations, they may occupy different parts at a distance, being directed towards woods, groves, edifices, or particular districts about an estate; which, when formed of considerable width, and bounded on each side by a proper variety of trees, the noblest of the forest, and other kinds, afford a striking effect as well as an air of dignity to the site.

Avenues of this fort should always be planted with the flat-topped trees; an assemblage of the different forts of which effects the most agreeable variety.

The width of the avenue in such cases should seldom be less than forty feet; and when it is to be extended any considerable length, a hundred feet in width is not too much; when the two trees grow up, the branches on the opposite sides continue to approach each other, which by degrees gradually contract the views; so that if a considerable width be not at first allowed, the avenues in time appear narrow and confined.

The trees in the rows on the sides should be planted at least thirty feet distant from each other, that they may have full scope to display their heads, and each fort exhibit itself conspicuously, according to its natural form and habit.

The forts of trees most proper for this purpose are those of the deciduous tribe; as the elm, beech, Spanish chestnut, holly-chestnut, white poplar, fycamore, maple, walnut, wild-cherry, &c. all of which, as being of lofty growth, when disposed in a proper manner, will have a fine effect. Sometimes evergreen trees are used among these: where this is intended, the most proper forts are the various species of the pine, including all the different varieties of the fir, most of which attain a great height and magnitude, with beautiful spreading heads, that are extremely ornamental and pleasing.

Avenues of the more rural kind, such as common ways or walks through parks or other pleasure-grounds, to habitations, may be continued either in direct line, or carried round in a moderate sweep, or the course directed to the right, or left, or more, very gentle bends, or easy serpentine turns, each side being ornamented with different sorts of trees, thinly dispersed, some singly, others in clumps or groups, of two, three, or more together, exhibiting them variously, some breaking forward, others standing more backward; and, for the full greater divaricacy, a clump of tall flowering shrubs may here and there be introduced; having the whole so considerably detached, as to admit a full prospect of the adjacent lawns, fields, or plantations, in the whole extent. This is the most modern method of forming avenues, but it cannot be practised with full effect except where the situation is of considerable extent. In short, in walks and confused situations, the row method is mostly to be preferred, as having a better effect.

All the trees that are employed in this way, whether deciduous or evergreen, should be permitted to take their natural growth, without being much cut or pruned.

AVENZOAR, whose true name was Abu Merwan Abdelmelech Ibn Zohr, in Biography, was the son of a physician of considerable eminence of Seville in Spain, under whom he received the first rudiments of his education, which he afterwards improved by close application and by travel. He appears also to have had the care of an hospital, and to have acquired an uncommon share of knowledge for the age in which he lived, both in the theory and practice
practice of medicine. He was for some time under the displeasure of Hali, the governor of Seville, by whom he was imprisoned, but soon at length to have surmounted all his difficulties, as he was made physician to King Almanzor, in which post he continued probably to the end of his life. He is said to have died at Morocco in 1166, at the great age of 135 years; though it is probable the age of his son, who succeeded to his fame and practice, is included in this term. From a manuscript in the Eicurt (Bib. t. ii. p. 152), cited by Dr. Ruffell in the appendix to his "History of Aleppo," vol. i. p. 30, it appears that Avenzoar died at Seville, and not at Morocco, about the year 1162; and if it be true, that he had lived to the age of 135 years, and began to practice very young, he must have made a figure in the 11th century, and been born eight or nine years before the death of Aviceuna. He prepared his own medicines, reduced luted bones, and performed other chirurgical operations, but did not cut for the stone; the Mahometan religion, which he professed, prohibiting him from inspecting or handling the naked genitals.

On the work by which he is principally known, called "Al Theifer," is a compendium of the practice of medicine; in which some diseases are described, not found in other writers. It includes a number of cases, candidly, it should seem, related, as the author does not conceal those in which he was unsuccessful. Averhsores, not ordinarily profuse in his commendation of other writers, speaks very favourably of our author, whom he esteemed as the best physician that had appeared since the time of Galen. From his active and inquisitive turn of mind, and the pains he took to learn from practice the real powers of the medicines he used, he was called the "Experimenter."


AVER, in Agriculture, a general name, in some districts, for a labouring beast of any kind.

AVER, in Geography, a river of Lithuanian Russia, which runs into the Pregel, twelve miles west of Inflenburg.

AVER, in Ornithology, the name of the variegated chatterer (Amelius variegatus, Gmel.), in Buffon's Histoire of Birds.

AVERBACH, in Geography, a town of Germany, in the circle of Upper Saxony, 14 miles south of Zwickau, and 60 W.S.W. of Dresden. N. lat. 52° 26'; E. long. 12° 26'.

AVER-CORN, in Ancient Writings, such corn as by custom is brought by the tenants' carriages, to the lord's granary.

AVERDUPOIS Pound. See Pound.

AVERDUPOIS Weight. See Weight.

AVERHAHN, in Ornithology, a name assigned by Frich, Bloch, and others, to the woods grouse, or mountain cock, tetrio urogallus of Linnaeus.

AVERIA, in our Law Books, properly signify oxen or horses used for the plough; but, in a general sense, any cattle; and sometimes the term included all personal estate. When mention is made of one beast, they say, quidem equus, vel quidem bovis: when of two or more, they do not say, equi vel bovi, but averia.

AVERIA, in Commerce, a branch of the Spanish revenue, denotes a tax paid on account of convey to guard the ships falling to and from America, which was first imposed when Francisco Drake Eled the New World with terror by his expedition to the South sea. It amounts to 2 per cent. on the value of goods. Robertson's Amer. vol. iii. p. 499.

AVERIA, Replegari de Aversa. See REPLEGIAR.

AVERIIIS capit in Hist. rerum, in Lat. a dict the taking of cattle to the use who hath cattle unlawfully driven by another, and driven out of the county where they
not what is against presumption of law or any thing apparent to the count. Co. Litt. 362. 373. By bat. 4 & 5. Ann. c. 16, no exception or advantage shall be taken upon a demurrer, for want of a peremptory paratus of. &c. except the same be specifically set down for cause of demurrer.

AVERN, among the Ancient Naturalists, certain lakes, grovets, and other places, which infect the air with poisonous fumes or vapours; called also nephtes.

The word is formed of the privative av, and avdos, bird, as intimating that birds could not fly over them, but dropped down dead. Avernus, q. d. avernos, loca fine avidis.

Avern is said to be frequent in Hungary, on account of the abundance of mines therein. The Grotto del Cani, in Italy, is a famous one. But the most celebrated Avernus was a lake near Baiae, in Campania, by the modern Italians called Lago di Tripergola, and situate in the county of Lavori in Naples, near Pozzuo, and said to be about 600 yards in diameter, and in some places 188 feet deep. — The fumes it emitted are represented by the ancients, to be such as malign a nature, that birds could not fly over it, but sunk down dead; which latter writers have chosen to attribute to this, that it is full of an effluvia not being of confidence to sustain the birds, they dropped by their own weight into the water. This circulation joined with the great depth of the lake, occasioned the ancients to take it for the gate or entrance of hell; and accordingly Homer brings Ulysses to Avernus, as to the mouth of the infernal regions; and in imitation of the Grecian bard, Virgil makes Aeneas descend this way into the same abodes. —

Vibius Sequelser says, that no bottom of it has been found. (See HEL.) Next to the Baiae (fays Strabo) lies the Lucrine bay, and within it the lake Avernus; which is a deep darksome lake, with a narrow entry from the outer bay: it is surrounded with steep banks, that hang threatening over it; and is only accessible by the narrow passage through which you fall in. These banks were anciently quite overgrown with a wild wood, impenetrable by a human foot. Its gloomy shade impressed an awful superstitious upon the minds of the beholders: whence it was reputed the seat of the Cimmerians, who dwelt in perpetual night. Whoever failed hither, felt offered facialis; and endeavoured to partake the ancient ceremonies, with the assistance of some priests, who attended them on their way in. This circumstance, joined with the great depth of the lake, occasioned the ancients to regard it as the gate of hell. Within, a fountain of pure water broke out, just over the sea: but no creature ever tasted of it, believing it to be a vein of the river Styx: somewhat near this fountain was the oracle: and the hot waters frequent in these parts, made them think they were branches of the burning Nilegethon.

The holids of these shades (fays a modern traveller) remained unspoken for many ages. Hannibals marched his army to offer incense at this altar; though, perhaps, he was led to this act of devotion, rather by the hope of inspiring the garrisons of Petoli, than by his pious. After a long reign of undisturbed gloom and celebrity, a sudden change of light was let in upon Avernus: the horrors were dispelled, and with them vanished the faculty of the lake: the axe of Agrigita brought its force to the ground, disturbed its steepy waters with limbs, and gave room for all its malignant effluvia to escape. The violence of these evolutions is described by ancient authors as very extraordinary; but modern writers, who know the fable very well in a clear light, charge these accounts with exaggeration; and yet it must be owned, they did change some form, as the air is ever new, and dangerous, which the jaws that biteth the veins of those who have succeeded the Sobys and Cimmerians in the possession of the temple, must ruefully tell. Bocceato relates, that during his residence at the Nepolian court, the surface of this lake was suddenly covered with dead flies, etc.

Vol. III.
half a mile distant, from which these animals might be supposed to have derived "their origin, were it not that the frogs of that lake are of a totally different species." Upon the whole this ingenious naturalist concludes, that the presence of these creatures in this place was to him an enigma, which it required a longer stay in this volcanic country to enable him to solve.

The cave, called the Sibyl's Grotto, near Avernus, which is opposite to the temple, seems more likely, as Mr. Swinburne apprehends, to have been the mouth of a communication between Cumae and Avernus, than the abode of a prophet; especially as the Sibyl is positively said by historians to have dwelt in a cavern under the Cumaean citadel. Some have conjectured that it was part of the canal absurdly projected by Nero, from the mouth of the Tiber to the Julian port. On every hill, and in every vale of these environs, appear the ruins of extensive villas, once embellished with all the elegancies of combined art, but now traced only by half-burned moulidng walls, and some marble fragments, the remaining indications of the tale of coltines with which they were constructed. Among the ruins of this country, one, in particular, claims attention; and this is the villa in which Cicero had his academy, where he penned some of his most admirable productions, and which probably stood on a spot covered by the eruption of 1535.


AUEROCHS, in Zoology, a synonymous name of the wild ox, given by Gœthe and Ridering. See Bos Ferus.

AVERON, in Geography, an island in the North sea, near the coast of Norway. N. lat. 63° 6'. E. long. 7° 44'.

AVERPENNY, q. d. Average-penny, in Antiquity, money contributed towards the king's average, or money given to be freed thereof. See AVERAGE.

AVERROEA, in Botany, (to named after the famous commentator on Aristotele and Avicenna; commonly called Averrhoes, of Corduba, in Spain; his "Colliget," or the plates used in food, &c. was written about the end of the twelfth century). Linn. g. 576. Schreb. 784. Jull. 375. Clafs, decandria pentagonia. (Passonaria, Lour.) Nat. Order, graminaceae. Jull. Gen. Char. Col. perians five-leaved, erect, small; leaflets lanceolate, permanent. Cor. petals five, lanceolate, the lower part crenat, the upper spreading. Stam. filaments ten, fuscous, alternately the length of the corolla, and shorter; anthers roundish. Péj. germ oblong, obscurely five-cornered; styles five, fuscous, erect; stigma simple. Pé. pome turbinate, five cornered, five-celled; seeds angular, separated by membranes.


Species. 1. A. Bilahea. Rumph. Amb. t. 118. t. 36. Rhed. Mel. 3. 35. t. 43. 45. Lour. Cœchlin. 289. "Trunk naked, fruit-bark g." Lour. Cœchlin. 289. A tree about eight feet in height, with few ascending branches; leaves pinnate, with ten or more pairs of leaflets; flowers on racemes adhering to the trunk, of a red purple colour; calyx five-cleft; fruit an oblong pome, the thickfleshed of a finger, smooth. A native of Cos, and of both sides of the Gauges. 2. A. Carobolidae, Rumph. l. c. t. 35. Rhed. l. c. t. 45. 44. Phil. Trav. vol. 75. Lour. l. c. "Axille of the leaves fruit-bearing; pomes oblong, acute-angled. This is a tree above the middle size, with spreading branches, and a very close head; leaves with about four pairs of leaflets, which are ovate, acuminate, entire, opposite, the upper ones largest; flowers lateral, on short racemes; corolla bell-shaped, variegated with purple and white; famous always five; pome the
the size of a hen's egg, with a yellow rind. Dr. Bruce gives a curious detail of the sensibility of the petals and even branches of this tree. The fruit of both the species affords a pleasant acid juice, especially the former. The Bramius and Portuguese call this tree carambola; in Malabar it is named tamar-tonga; and in Bengal, camrue, or camrum. Both these Indian trees have been introduced into the Kew-garden.

Averrhoes, or Averroes, or Abu Al Walid Mohammed Elia Abul Elia Rosli, in Biogaphy, an eminent philosopher and physician, was born about the middle of the twelfth century, at Corduba, the chief city of the Saracens in Spain, where his grandfather and father had occupied the posts of chief priest and chief magistrate. The first care of his education was entrusted to Theophilus of Seville, who instructed him in the Islamic law; and after the manner of the Arabian schools, in the Mahometan theology, connected with the Aristotelian philosophy. Under Avenzoar he studied medicine; and under Umm-Sag, the mathematical sciences; and he connected himself with the Mahometan sect of the A fiscalites. Upon his father's demise, he was chosen to succeed him in the chief magistracy at Corduba. The fame of his talents and erudition having reached the caliph Jacob Al-Manfor, king of Mauritania, he was appointed by this prince supreme magistrate and priest of Morocco and all Mauritania, and allowed to retain his former honours. Averroes accepted the appointment; and having provided a substitute at Corduba, removed to Morocco, and continued there till he had instituted, through the kingdom, judges well skilled in the Mahometan law, and settled the whole plan of administration. He then returned home, and resumed his offices. This rapid advancement excited the envy of his rivals at Corduba; and, in order to justify an accusation of his having deserted the true Mahometan faith, they engaged a number of young persons to make a full instruction in philosophy, that they might detect his heresy. Averroes frankly communicated his theological sentiments, of which they took minutes for the use of his accusers. Accordingly, a charge of heresy was filed upon oath, and signed by one hundred witnesses, was conveyed to Al-Manfor. The caliph admitted the accusation, and proceeded to punish him by an order for the confiscation of his goods, and by requiring him to reside in those precincts of Corduba which were inhabited by the Jews. Here he became an object of general obloquy and persecution; and he was pelted by the boys in the streets, whenever he repaired to perform his devotions at the mosque of the city. His pupil Maimonides, in order to prevent the necessity of joining in this general outcry against him, left Corduba; and Averroes himself at length finding means to escape, fled to Fez; but here he was soon discovered, and committed by the magistrates to prison. The king, as soon as he heard of his flight, convened an assembly to deliberate upon the measures which were proper to be pursued against this heretic. In the assembly, a diversity of opinions was heard; some recommended death, and others public penance and a recantation of his errors. Al-Manfor approved the sentiments of those who were most mild and moderate in their judgment; and Averroes was conducted, at the time of public prayers, to the gate of the mosque; and being placed upon the upper lip, every one that passed was allowed to spit upon his face. At the close of the service, he was interrogated by the judge, accompanied by his attendants, whether he repented of his heresies. Averroes professed his penitence, and was released. During his continuance at Fez he opened a course of lectures on the civil law; but finding little encouragement, he obtained leave of the king to return to Corduba, where he experienced all the miseries of poverty and contempt. The people, however, dissatisfied with the

regent who had succeeded him, petitioned the king that their former governor might be restored. Al-Manfor, unwilling to act on his own judgment, called a general assembly, and it was determined, that the present heretic should be restored, by the royal mandate, to all his former honours. In consequence of this fortunate change in his circumstances, Averroes removed to Morocco, taught in its schools, and spent there the remainder of his days. According to Leo Africanus, his death happened in the year of the Hegira 603, A. D. 1206; others say that he died about the year 1198.

This philosopher has been highly celebrated for his personal virtues. Such was his temperance, that he partook only once in the day of the plainest food. In his application he was unceasing and indefatigable; allowing himself no other recreation in the course of the day than the change of fewer literary occupations for those of poetry or history, and spending whole nights in study. In his judicial capacity, he discharged his duty with great wisdom and integrity; and his humanity was such, that he could not pass sentence of death upon any criminal, but performed this office by his deputies. In the exercise of forbearance, meekness, and self-command, he was signal exemplar. When a servant, employed by an enemy, intruded upon him in one of his public lectures, and whispered some abusive language, Averroes, with perfect self-poise, turned round to him, and said, "Well well!" and proceeded with his business. This servant waited upon him the next day to implore his pardon for the insult he had offered him. "God forgive thee," said Averroes, "thou hast publicly shown me to be a patient man; and as for thine injury, it is not worthy of notice." He then gave him money, and dismissed him with this admonition; "what thou hast done to me, do not to another." In the exercise of liberality to men, Averroes made no discrimination between his friends and his enemies; and for his conduct in this respect, his apologists was, that in giving to his friends and relations, he merely followed the dictates of nature; but in giving to his enemies he fulfilled the obligations of virtue; and he also boasted that by this method he had converted enemies into friends. Upon the occasion of burning some amatory verses which he had written in his youth, he remarked, that when he was young, he was disobedient to reason; but now in his old age, he followed it; and he added this singular truth, that he had been born an old man: "utiam natus fulfem fenex." However, when he was requested to exercise his magisterial authority in the suppression of some licentious poems that had been published by a learned Jew, and informed that his own son had copied some of the verses, and that there was not a man, woman, or child in Corduba, who had not learnt some of the songs of Salahi, he exclaimed, "Can a single hand flop a thousand mouths?"

In philosophy, Averroes was an enthusiastic admirer of Aristotle, and yielded to the influence of deference to his authority; he even indulged his admiration in such an excess, that he ascribed to the writings of the Stagirite a degree of perfection "which is truly miraculous, and which proves him to have been rather a divine than a human being."—The doctrine of Aristotle," says he, "is the perfection of truth, and his undertaking attained the utmost limit of human ability; so that it might be truly said of him, that he was created and given to the world by divine providence, that we might see in him how much it is possible for man to know." This extravagance of admiration on the part of Averroes is the more surprising, as he was unacquainted with the Greek language, and was therefore obliged to peruse the writings of his oracle in wretched Arabic transliterations, taken immediately from Latin or Syriac versions.

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His commentaries, however, though they abound with error, misrepresentation, and collision, have been held in such high estimation, ever since the revival of letters, that Averroës has been fliled by way of eminence, "The Commentator." Many of his writings in this way were so much admired by the Jews, that some of them were translated into Hebrew. Averroës also wrote a paraphrase of Plato's Republic; and a treatise in defense of philosophy against Al-Gazeli, intitled, "Habapala Altabapah," or "De Destructiones Destructorum?" the design of which was to confute the metaphysical opinions maintained against those philosophers, who affect two uncreated natures.

Though it is evident from the whole tenor of his life, that Averroës could have little time for the practice of physic, whose study, as well as several other writers, have supposed, that his knowledge of medicine was merely theoretical, yet we have the authority of his own words to prove, he was engaged in the practice also, though probably to no great extent. One observation (Friend says) we find made by him which does not occur in any earlier writer, is, that the same person could have the small-pox but once.* His principal medical work, the "Colliget," or "Universal," written at the command of the Miramadini of Morocco, is a compendium of physic, collected from the writings of other authors, with some not very material additions from his own stores. He wrote also a Commentary on the Cautics of Avicenna, which he calls the best introduction to the knowledge of medicine extant. This affords a complete answer to those who accuse him of having been jealous of the fame of that celebrated physician. As a proof however, that he regarded him as a rival, it is alleged that he avoids the mention of him, and in confuting a doctrine maintained by Avicenna, he treats it merely as the opinion of Galen. Besides the works above mentioned, Averroës wrote "De Veritate," "De Facibus," "De Thesauris," and "De Simplicibus Medicinis," all of which have been translated into Latin, and published in various forms. Averroës wrote many other treatises in theology, philosophy, jurisprudence, and medicine. In the Eufèbius catalogue (c. 41. p. 299.) mention is made of an index of his books, amounting in all to seventy-eight. His commentary on Aristotlē was published in Latin, at Venice, in folio, in 1495. An edition of his works was published in 4to., at Lyons, in 1587; another in folio, with the famous Latin translation, by Bagolii, at Venice, in 1552; and a third by Mofei, at Venice, in 1608. Of the MSS. prefixed in different libraries and particularly at Vienna, many are either Hebrew translations from the Arabic, or Arabic written in Hebrew characters.

As to the religious opinions of Averroës, he was by profession a Mahometan; but he does not seem to have entertained any great reverence for his prophet. It is related of him, that he called Christiandom an impossible religion, because it taught men to eat their god; similar to the instruction of the Doctor Ciceron De Nat. Deor, i. c. 16, when he considered, that the nature of men was expressly to feed, and that of Bacchus to wine: "Ecquent tum acentum esse putas qui illud, quo fecatur, Deum credit esse?" that Judæus, on account of its rites and ceremonies, was a religion for children; that Mahometism, offering only sensual rewards, was the religion of fowls; and that he exclaimed, "Let my soul, at death, be among the philosophers." It is also said, that he wrote against the three great law-givers, Moïse, Chrís, and Mahomet; and that he furnished materials for the book "De tribus Impostribus." His doctrine concerning the soul is supposed, not to have been peculiar to his own, but to have been affected by Aristotlē, and to have been embraced by Theophrastus, Simplicius, and Themestius; which was this, that intellect does not exist individually in this or that man, but that there is one intellect belonging to the whole race of human beings, the common source of all individual thoughts, as the sun is the common source of light to the world. Similar to this was the doctrine of Mulデン, who ascribed the production of ideas immediately to God, and taught that the human mind perceives God, and all things in him. Averroës, however, proceeded farther; and he seems to have conceived that there was no other cause of thought in individual men, than one universal intelligence, which, without multiplying itself, is actually united to all the individuals of the species, as a common soul. This notion, with its obvious consequences, as they concern the distinct existence and immortality of the human soul, obtained so much credit among philosophers for several centuries, and particularly in Italy, where their advocates were denominated "Averroists," that it was thought necessary to employ the papal authority for its suppression. At preseat, the notions of Averroës are exploded, and his writings are forgotten. Dr. Friend (Hist. Phys. p. 187) anxious to vindicate Averroës from the charge of infidelity, with regard to a future state, refers to two passages in his works, in one of which (Physic. Distrib. 32) he affirms, that the soul is not immortal; and in another, (Id. 4) that it is immortal. Leo. A. De. Vir. Illust. Arab. Gen. Dict. Brucker's Philos. by Enfield, vol. ii. p. 235, &c. Fabr. Bib. Graec. t. xiii. p. 55, &c. Friend's Hist. of Physic, vol. ii. p. 115, &c. Haller, Bib. Med. Pract.

AVEBROISTS, a sect of peripatetic philosophers, who appeared in Italy some time before the restoration of learning, and attacked the natural immortality of the soul; and who took their denomination from Averroës. The opinion of this sect was condemned by the last council of the Lateran, under Leo X.

AVERRUCATION, from averruca, I præm. in Agriculture, the act of cutting or lopping off the superfluous branches of trees. See Branching.

AVERRUNCT, from averruca, I præm. in Antiquity, an order of dukes among the Romans, whose peculiar office was to protect dukes and evils. The Greeks called these titles aleutris, a name that they were Hercules, Apollo, the Dioscuri, and Jupiter. The Egyptians had also their diame averruca, or apotropel, who were pictured in a menacing posture, and sometimes with whips in their hands,—this was a divinity of this kind; as is shown by Kircher. See God. p. Egypt. tom. iii. p. 487.

AVERSA, in Geograph. a town of Italy, in the kingdom of Naples, and territory of Lavora, the seat of a bishop, who is suffragan to the archbishop of Naples. This town was built and fortified A. D. 1029, by count Ruadulf, the first leader of the Normans, who came into Italy to seek their fortunes in the service of the Italian princes. The feast of this town was chosen, in a sacred district, as a central spot to which the Normans might resort, and where they might obtain a fixed settlement. Accordingly, it attracted every year new swarms of pilgrims and soldiers; some urged by recollection, and others by the hope of fame. The outlaws of every province associated with the settlers in this place, and were soon affiliated in manners and language with the Gallic colony. The spot was situated near the ruins of Arech, at the junction of two highways, that formed an easy communication with every part of the country, and from its being opposed to Capua, and from his aversion to Pandal, prince of that place, Ruadulf called it Averfa. This town was burnt to the ground by king Roger; and many years after, it underwent a similar fate, by order of Charles of Anjou. Its ancient palace, on the foundation of which a convent has been erected,
AVER, a river of Italy, which runs into the Adriatic, near Rimini.

AVERCOURT, Robert of, in Biography, an ancient English historian, flourished in the fourteenth century. He was register of the archbishop of Canterbury's court, and wrote a history of England in his own time, entitled, “Mirabilia Gestis Anglorum Dominorum Edwardi Tertii, &c.” As this history reaches only to the 30th of Edward III. A.D. 1356, the author was probably prevented by death from finishing his plan. He appears to have taken great pains in procuring the most authentic information; his facts are authenticated by original papers; his dates are accurate; and the defect of his style is compensated by his candour and impartiality as an historian. This valuable work has long been esteemed; till, in the year 1727, the indefatigable antiquary, Thomas Hearne, printed it at Oxford, from a MS. belonging to Sir Thomas Seabright, which had been formerly in the hands of archbishop Parker, and two other MSS., one in the Harleian library, and the other in the university library at Cambridge; all which are thought to be as old as the time when the author flourished. Mr. Tyrrell, in the preface to the third volume of his General History of England, cites this historian, and says, that he was a considerable writer of that age, and very exact in his account of King Edward's actions beyond the sea, as having taken them from several original letters of persons of note. To Hearne's edition is added an appendix, containing several curious pieces in English antiquities, unconnected with the work itself; and particularly, a transcript of the love-letters between Henry VIII. and Anne Boleyn, taken from the originals kept in the Vatican at Rome, A.D. 1582. Diog. Brit.

AVESNE, a town of France, in the department of the Baillaunds, and chief place of a canton in the district of St. Pol, three leagues west of Arras. The place contains 1221, and the canton 13,915 inhabitants; the territory includes 225 square kilometres, and 35 communes.

AVESNES, a strong town of France, is the department of the North, and principal place of a district. It is situated in Hainault, on the small river Hespe. Its fortifications were repaired by Vauban; and it was ceded to the French by the Spaniards in 1659. The place contains 9295, and the two cantons 18,785 inhabitants; the whole territory includes 510 square kilometres; and both cantons 17 communes. It is distant ten leagues east from Cambrai, seven from Valenciennes, and forty north-east from Paris. N. lat. 50° 7', E. long. 3° 48'.

AVETRON, a department of France, comprehends the northern part of the province of Guyenne; bounded on the north by the department of Cantal; on the east, by those of Lorraine and Gard; on the south, by those of Gard, Herault, and Tarn; and on the west, by those of Tarn and Lot. Its superficies is about 1,767,432 square acres, or 932,675 hectares. Its population consists of about 332,050 persons; and it is divided into two communes. It has its chief city is Rhôdey.

AVEZARAS, a river of France, in Gaufogny, waters the territory of Aire, and discharges itself into the Adour, between Gréymau and St. Sever.

AVEZZANO, a town of Italy, in the kingdom of Naples, and province of Abruzzo Ultra. This town, was founded in 860, and contains 2700 inhabitants. It is built on an almost imperceptible declivity one mile from the lake of Chone, to which an avenue of poplar-leads from the baronial castle, which is a square edifice flanked with towers, at a small distance from the town.

AUFEINO, a town of Italy, in the kingdom of Naples, and province of Abruzzo Ultra, twenty-one miles W.S.W. of Agripira.

AUFENA, or AUFENA, in Ancient Geography, Offena, a town of Italy, in Saturnia, belonging to the Velvani; south-east of Amiurenum.

AUFENTE, in Geography, a river of Italy, in the Cappadocia of Rome, has its source near Sezzu, and its mouth in the sea, near Terracina.

AUFFAY, a town of France, in the department of the Lower Seine, and chief place of a canton in the district of Dieppe, five leagues north of Rouen.

AUFIDENA, in Anti-nt Geography, Afidena, a town of Italy, in Saturnia, and the capital of the people called Caresseni, situated near Sagus. The inhabitants were called Auedinates.

AUFIDUS, a river of Italy, the most considerable in Apulia. For theouth of the description given of it by Pliny, see OANTO.

AUFINA, or AUFINUM. See AUFENA.

AUFENAY, in Geography, a small island of Swifterland, in the lake of Zürich, containing two churches.

AUGEA, in Ancient Geography, a town of Macedonia, in the Chalcidic territory. Ptolemy.

AUGALA, a town of Africa, in Mauritania Cazemriis, at some distance from the sea. Ptolemy.

AUGALI, a people of Asia, in Sogdiana. Ptolemy.

AUGARA, a town of Asia, in Asia. Ptolemy.

AUGARRAS, in Geography, a people of South America, in Brazil, in the province or government of Puerto-Seguro.

AUGE, in Entomology, a species of Sphinx (Zegenna Fabr.)
AUG

Fabra) of a black colour, with fanguineous hair on the sides of the abdomen; wings transparent, black behind; and the antennæ pectinated. Fabricius, Obs. This is Papilio euragus, of Cramer. It is a native of America.

Auge. This specific name Cramer has given to a variety of Papilio bolina. Linna.

Auge, in Geography, a district of France, in the late province of Normandy, extending from Falaise and Argentor, as far as the sea, between the rivers Dives, Vic, and Tongres, formerly giving name to a vicinage. Its productions are grain, flax, and apples. The pastures are rich and fatten the cattle that are brought hither from Picquou and Brittany.

AUGELA, in Ancient Geography, a town of Greece, in the Peloponnesus, written Augela, Augelia, by Homer, and supposed by Paulusinus to be the same with the small town of Aegia, situated on the coast of Laconia, and at the distance of thirty stadia from Githium. It had a temple consecrated to Neptune.

AUGELA, AUGELA, or AGUILA, in Geography, one of the Oases, or islands, in the eastern division of that ocean of sand, called the Great Desert, or Sahara, in Africa. It lies on the western part of the desert of Barca, and is separated from the kingdom of Tripoli by mount Meys. Although it is generally sandy and barren, it has some spots so well watered as to afford plenty of dates; and mount Meys has excellent pasture. In this territory, besides the town of Augila, or Augela, from which the canton takes its name, and which was one of the stations of the caravans that formerly carried on the sand trade of Africa, is another, seated at the foot of that mountain, called Siwah, Siouah, or San-Rey, which is the base on that side that belongs to the government of Tripoli. Augela lies in N. lat. 30° and E. long. 22°.

AUGENIO, HORACE, Dr. Monte Santò, in Ancona, in Biography, professor of medicine, born about the year 1527. He was early initiated into the knowledge of medicine by his father, Lewis Augenio, physician to pope Clement VII. Horace was first advanced to the chair of professor at Rome, which office he filled five years. He afterwards gave lectures with success at Turin; and in the year 1592, he was appointed professor at Padua; where he continued to the time of his death in 1603. Haller is diffident in his account of his works, which however were principally controversial, and not now much noticed. In his "Epist. et Confidt. Med." fol. Ven. 1590, he recommends millepedes, in calculous cæsae, by which, he says, he saw a boy cured, after he had been condemned to the knife; he forbids injecting the bladder in these cæsae, as frequently mischievous. He gave water, in which quicksilver had been boiled, for the cure of worms in the bowels; and in diabetes, he gave, he says, narcotics, with advantage.


AUGER, EDMUND, a French Jesuit, was born of poor parents, in 1530, at Alencon near Sainte, in the diocese of Troyes; and having received the rudiments of education under an uncle who was a clergyman, was sent by his brother, a physician at Lyons, to Rome, with a recommendation to the celebrated father Le Ferrer; but with a supply of money to beauty, that he was obliged to beg alms before he arrived to the end of his journey. Le Ferrer was dead before he reached Rome; and he was obliged to hire himself as a domestic servant to a Jesuit. In this humble situation his talents and conduct attracted the notice of his master, who procured for him, as a novice, the means of further instruction. In the order of Jesuits, to which he was admitted, he taught rhetoric and poetry, and manifested great powers of eloquence. His talents recommended him to a mission, employed by father Laynez, the general of the society of Jesuits, and dispatched to France, in the year 1559, for opening the progress of the reformation. On this occasion he distinguished himself by his zeal and success in the conversion of heretics; and he was appointed preacher and confessor to Henry III. His attachment to the king rendered him odious to the catholics who had entered into the league, and by an order of the general he returned to Rome, where he was treated as an excommunicated person, and obliged to travel on foot in the midst of winter. In the year 1591, he died in consequence of the fatigue and vexation which he endured, in the sixty-first year of his age.

Such was the closing scene of a man who is said to have converted 40,000 heretics. The intolerant spirit of Auger was sufficiently displayed in his work, intitled "Le Pèlagoge des Armées," designed to instruct a Carthusian prince, how to undertake, and happily complete a good war, victorious over all the enemies of the state and the church. Nov. Dict. Hiflor.

AUGER, in Geography, a small town of Ireland, in the county of Tyrone, and province of Ulster, which before the union, returned two members of parliament; but is now deprived of that privilege. It is distant seventy-five Irish miles north-west from Dublin.

AUGES, in Astronomy, two points in a planet's orbit, otherwise called apodes, See Apes.

One of the auges is particularly denominated the apogee, the other perige.

AVGHANS, in Geography, See Afghanis.

AUGHACLOM, a town and market town of the county of Tyrone in Ireland, seated on the river Blackwater, at the distance of 704 Irish miles from Dublin, on the high road from Londonderry. The linen manufacture is carried on briskly in its neighbourhood. N. lat. 54° 25', W. long. 6° 53'.

AUGHRIM. See Aghrim.

AUGIAN, a town of Ailsa, in the province of Aderbigh or Aiderbeitzan.

AUGIAN MS. Codex Augiensis, in Biblical History, is a Greek-Latin MS. of the epistles of St. Paul, which is however defective from the beginning to Rom. iii. 8, and the epistle to the Hebrews is found only in the Latin version. This MS. is noted F in the second part of Wetstein's N.T. It is supposed to have been written in the ninth century, and has taken its title from Augia-Major, the name of a monastery at Rheinau, to which it belonged at the time of the council of Basal. It was purchased by Bentley in 1718, for 250 Dutch florins, and is at present in the library of Trinity college in Cambridge, where it was deposited in the library of the younger historians, together with the other MSS. of the celebrated Dr. Richard Bentley. The Greek text is written in uncial letters and without accents; there are intervals between the words, and at the end of every word there is a dot. The Latin is written in Anglo-Saxon letters; whence it is inferred that it must have been written in the west of Europe, where that formation of the Latin letters, vulgarly called Anglo-Saxon, was in general use between the seventh and twelfth centuries. This MS. has been collated by Wetstein. Marsh's Michaelis, vol. ii. p. 210. vol. iii. p. 662.

AUGIAS, or Augeus, in Ancient History and Mythology, a king of Elis who was one of the Argonauts. Fabulous history reports that he had a flable, which contained a great number of cattle, as some say 5000 oxen, and which had...
not been cleared for thirty years, so that the exhalations which proceeded from it infected the country; and to cleanse it was considered as a work surpassing human effort. Hercules undertook the labour, and engaged to perform it in one day, on condition that Augias should give him a tenth part of the cattle. This work Hercules is said to have accomplished by making the river Alpheus to pass through the stable. Augias withheld the promised recompense; upon which Hercules flew him, and placed his son Phileus upon the throne, because he advised his father to fulfil his promise. This fable, however, is variously related by different authors. Hence has arisen the ancient proverb of "cleaning the stables of Augias," for expressing a difficult or impracticable enterprise.

Augias, in Lattomology, a species of Papilio (Hesperia Fabr.) The wings are silvery and fulvous, with an oblique band, and margin behind black. Fabricius.—Donov. Inf. India. Inhabits India.

Augicourt, in Geography, a town of France, in the department of the Upper Saone, and chief place of a canton in the district of Jully, 4½ leagues north-west from Vefoul.

Augiles, of Augilites, in Ancient Geography, a people of Africa, who inhabited the country by which the Carthaginians were separated from the Trogolodites. Pomponius Mela says, they were savages, who acknowledged no other deities besides the manes of their ancestors, whom they invoked on all interesting occasions. They are said to have slept upon the tombs, in order to receive the inspiration from which they derived the rules of their conduct. It was a custom amongst their women, to grant the first favour after their marriage to any who solicited it, and who made them presents; and they valued themselves upon the number of their votaries on this occasion. In other respects, says P. Mela, they were distinguished by their wisdom and affections.

Augit, Silex Augites, in Mineralogy, pyroxine of Haui; a var. of basaltic hornblend of Kirvva; sobor vol-
canique Daubenton, &c. Volcanite Lametherie.

The colour of this mineral is a very deep olive or pear green, which at first may be mistaken for a blackish green. It occurs sometimes in rounded fragments; but more usuall crystallized. Its varieties of figure are,

1. A foci-faced prism, of which two opposite ones are broader than the rest. The two bases, which are oblique, are terminated by wedges more or less obtuse.
2. A var. 1 with the edges that separate the small sides of the prism, truncated; or an eight-faced prism.
3. Two or more crystals connected by their lateral faces, so as to form a right or oblique-angled croid.

The crystals are generally small and very small, rarely of middling size. They are also, for the most part, unbedded. Externally, when no decomposition has taken place, the surface of the augite is smooth and shining; but when it begins to be decomposed, it becomes dull. Internally, it is shining or much shining with a greyish lustre. Its fracture is perfectly brittle, but it flies when broken into rhomboid parallelepipeds.

It is translucent on the edges, but rarely so throughout. It is hard, stratches glass, and gives fire plentifully with the steel; it is brittle, and easily broken. Sp. gr. 3.128—3.377.

The augite is not easily fusible before the blowpipe, but in small pieces it affords a black enamel. Its analysis by Vauquelin afforded

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<tr>
<th>Mineral</th>
<th>Weight</th>
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<tr>
<td>Silex</td>
<td>52</td>
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<tr>
<td>Lime</td>
<td>13.3</td>
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<tr>
<td>Alumine</td>
<td>33.3</td>
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<td>Magnesia</td>
<td>10</td>
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This mineral is found in basalt, with olivin and hornblende; it is also met with in certain amygdaloids. It abounds in Bohemia, and is found besides in Hungary, Transylvania, Tyrol, Helvia, &c.

It refits decomposition much longer than olivin; but not so long as basaltic hornblende. It is at length, however, reduced to a greenish yellow argillaceous mass, and not, as the olivin, to a ferruginous ochre. Brochant, vol. i. p. 179.

Augment, in the Greek Grammar, an accident of certain tenses; being either the prefix of a syllable, or an increase of the quantity of the initial vowels. There are two kinds of augment.—Tempore, or of a letter 7 when a short vowel is changed into a long one; or a diphthong into another longer one; thus called, because the time of its pronunciation is now lengthened: and augmentum syllabicum, or of a syllable, which is, when a letter, w, _i_, is added at the beginning of the word: so that the number of syllables is increased.

Augmentation, in Mathematics. See Fluxions, and Mo-

Augmentation, in a general sense, the act of augmenting; that is, of adding or joining something to another, to render it larger or more considerable.

The governors of the bounty of Queen Anne, for the augmentation of the maintenance of the poor clergy (see First Prizes), by virtue of the several acts of parliament made for that purpose, are empowered to augment all livings not exceeding 50l. per annum; and the number of livings following were certified to be capabile of augmentation.

1071 Livings not exceeding 10l. per annum, which may be augmented (with the bounty alone) fix times each, pursuant to the present rules of the governors, which will make 6426 augment.

1447 Livings above 10l. and not exceeding 20l. per annum, may be augmented four times each, which will make 5868 augmentations.

1126 Livings above 20l. and not exceeding 30l. per annum, may be augmented three times each, which will make 3378 augmentations.

1049 Livings above 30l. and not exceeding 40l. per annum, may be augmented twice each, which will make 2098 augmentations.

884 Livings above 40l. and not exceeding 50l. per annum, may be each one augmented, which will make 884 augmentations.

5597 Total number of augmentations, which must be made (by the bounty alone) before the livings are already certified will exceed 50l. per annum.

Computing the clear amount of the bounty to make 55 augmentations yearly, it will be 329 years, from the year 1714, (which was the first year in which any livings were augmented), before all the small livings above certified can exceed 50l. per annum; and if it be computed, that one half of such augmentations may be made in conjunction with other benefactors (which is very improbable), it will require 226 years before all the livings above certified will exceed 50l. per annum.

Dr. Warner, in the appendix to his "Ecclesiastical His-
tory,"
tory," published in 1757, observes, that it will be 500 years before every living can be rated to 601 a year by queen Anne's bounty, supposing the same money to be distributed as there has been for some years past. In the course of between eighty and ninety years, many livings have been augmented by this bounty; nevertheless, the bounty, aided by private benefactions, has been found inadequate to the end of making a reasonable and competent provision for the prochial clergy in a short time. In order to accelerate the beneficial effect of this bounty, it was proposed by the learned Dr. Watton, the present Bishop of London, in a "Letter to his Grace the archbishop of Canterbury," printed in 1783, that a bill should be introduced into parliament, for appropriating, as they become vacant, one-third, or some other definite part, of the income of every deanery, prebend, or canony, of the churches of Wellsminster, Wind- lor, Christchurch, Canterbury, Worceler, Durham, Nor- wich, Ely, Peterborough, Carlisle, &c. to the same pur- pose. But the main part of the first-fruits and tenth were appropriated by the act, passed in the fifth of queen Anne. This plan, it is conjectured, would produce a wonderful change for the better, in 80 or 100 years, in the condition of the inferior clergy, and it would immediately begin to operate for their benefit. "If the reduction of debts and chapters," says this excellent writer, "should be looked upon as a step towards their annihilation, and should, on that account, be diffused by those who think them of use in our ecclesiastical establishment; there is another method in which the poor clergy might be, in no great length of time, well provided for. The clergy at present pay into the exchequer about 14,000l. a year for first-fruits and tenths, according to a valuation of the church revenues, which was made above 250 years ago; the clear revenue, arising to the governors of queen Anne's bounty from this source, may be estimated at about 12,000l. a year. If the clergy were to pay first-fruits and tenths according to a new valuation of their benefices, and the fund thence arising was applied to the augmentation of small livings, every one must feel how greatly the operation of what is called queen Anne's bounty would be accelerated. See Church of England, Clergy, Curate, Ecclesiastical Revenue and vicar.

Augmentation is also used for the augment; i.e. for the addition, or the thing added. Thus it is said, such a minister petitioned the king for an augmentation of salary, wage, &c.

Augmentation, Court of. See Court, &c.

Augmentation, in Heraldry, denotes additional charges to a coat armour frequently given as particular marks of honour, and generally borne, either on an escutcheon, or a canton.—Such are the arms of Ulster, borne by all the Lords of England.

Augus, in Geography, a mountain of Italy, being part of the Apennines, on the confines of Liguria and Piamont.

Augoas, a small island of Africa, on the coast of Mozambique.

Augre, or Awre, a carpenter's or joiner's instrument, used to bore large round holes.

The augre consists of a wooden handle, and an iron blade, terminated at bottom with a wheel bit.

Augsburg, of Augsburg, i.e. Augusburg, an anciently called Augusburg Fast-stadium, in Geography, an imperial city of Germany, and the capital of Swabia. It is situated in a delightful and fertile country, between the rivers Lech and Wertach, near their conjunction. It is not only one of the most ancient, but one of the largest cities in Germany. According to Riebeck (Tour through Germany, p. 111.) its circumference is 94 miles, and it contains about 30,000 people; others say that the number of inhabitants amounts to 35,000, and some reckon them at 40,000. It is enriched with ramparts, walls, and deep ditches; and besides four large and six small gates, which open and shut without any visible interference, it has a secret wicket, of curious contruction for admitting both horses and foot in the night, or in time of war. The town is supplied with water from the river Lech, by means of aqueducts, and of engines and towers, which furnish a sufficient quantity for working several mills of different sorts, for cleaning the streets, and for the domestic uses of the inhabitants. Some of its streets are deep and incommodeous; but others are broad and well paved. This city, since the earliest periods, had small subterraneous passages under the streets, like our cellars, and the Roman channels, for conveying away filth; and the whole town was paved soon after the year 1415, when a rich merchant suggested the utility of it by casting a footpath to be made before his own house. Many of the houses are built of wood, and others of stone, and they serve as specimens of the architecture that prevailed at the period of their construction; and, compared with other houses built in German towns, they exhibit the superior improvement and magnificence to which Augsburg had arrived. The more modern part of this town may be reckoned handsome; many of its churches are finely edifices, and adorned with curious workmanship and paintings. The town-house, completed after six years' labour, in 1620, is a magnificent edifice, and reckoned little inferior to that of Amsterdam. It is a large square building of stone, with a marble portico, at the top of the front within the pediment, is a large spread eagle, holding in its talons a sceptre and globe of gilt braes; the great portal is formed of a beautiful reddish marble, over which is a balcony of the same colour, supported by two pillars of white marble; over the gate are two large griffins of brass; and most of the rooms are wainscoted, and celled with very fine timber. The facade is 110 feet long, 54 broad, and 52 high; its roof is supported by eight columns of red marble; the ceiling is constructed of polished slabs, and divided into compartments, enriched with gilded sculptures; it is filled with pictures and other ornaments; and supported by eight pillars with bases and chapiteurs of braes. In the square, near the town-house, is the fountain of Augustus, or a large marble basin, surrounded with iron ballustrades, with four braes statues as large as life at the four corners; in the middle is a pedastal, having on its top the statue of Augustus, and at the foot are four large sphinxes discharging water from their breasts, with four infants above them, holding in their arms four dolphins which pour water out of their mouths, and over these infants are fountains and pine-apples of brass. Near this basin is a fountain, called that of Hercules, of a hexagonal form, with several braes figures, and particularly Hercules engaging the Hydra. Besides the cathedral, which is a large, gloomy, gothic building, with two spire Reeples, adorned with paintings, and opening with a brass gate, with its fourteen chapes; there are five Roman catholic parochial churches, a splendid college belonging to the Jesuits, five monasteries, three nunneries, and five Lutheran parish churches; and also the Lutheran court, which contains a good library. The Benedictine abbey is a large Gothic building, the ceiling of which is said to be the highest in Germany; it is adorned with several statues and a grand altar. The church of St. Croix surpasst all the others in its architecture, sculpture, gilding, and fine spire. The Imperial Franciscan academy for arts and sciences, was instituted here in 1757. It is under the protection of the magistrates, and its principal aim is to produce good mechanics, and to preserve the manufactures of the city. The part of the city that was erected in 1519, by the noble family of the Fuggers, who are lords of the adjacent country, and in some measure endow-
ed by them, conquests of 106 houses, inhabited by the poor burghers at a low rent; and some of whom are maintained by an annual pension. The burghers of this city are computed at 6000. The inhabitants are partly Lutherans, and partly Catholics. The Jews are excluded from the town; but they occupy a village at the distance of about a league, and pay a tax for the liberty of trading in the day. The aspect of the inhabitants is very different; that of the Protestants resembling the Swabians; and the Catholics being like the Bavarians. The government is aristocratical; it is voted with 45 persons, of whom 31 are patricians, 4 such as have married the daughters of patricians, 5 merchants, and 5 of the commonality; the council is formed of an equal number of Lutherans and Roman Catholics. The police is good; and though the town has no territory, it has no debts. In former times, Augsburg was the great mart for Indian commodities in the interior parts of that extensive country; its trade was very considerable; and we meet with many examples of such large fortunes accumulated by mercantile industry, as raised the proprietors of them to high rank and consideration in the empire. It was celebrated for its curious arts, whole manufactures, particularly in tin and silver, were much admired. Augsburg, however, is no longer what it was in this respect. It has no longer a Fugger and a Weller in it, to lead the emperors millions. Here are no merchants who have capitals of more than 20,000/. others, with small capitals, do the business of brokers and commission- ers; and next to these are the engravers, flatcutters, and painters. Their productions, like the toys of Nuremberg, have a general circulation. Augsburg supplies all Germany with little pictures for prayer-books: and in various ways, its trade is still considerable, though far from being so great as it formerly was. The bishop takes his name from this town, though he resides at Dillingen. His income is about 20,000/. per annum. He is a prince of the empire; and he fits and votes in the college of princes, betwixt the bishops of Constance and Hildesheim; the territory belonging to the bishopric lies between the rivers Lech, Iler, and Danube.

In the diet of the empire, Augsburg was originally called Vindelicia, and was the capital of the Vindelici; afterwards it had the name of Augella Vindelicorum, and Rhetorum, when it came under the dominion of the Romans, and a colony was settled in it by Drusus. Tacitus ( Germ. c. 28.) calls it the moll splied city of Rhetia. From the Romans it was colonized by Bavarians, Alemanni, the Goths, and the Franks; under the last of whom it declined much; but it recovered again under Charles the Fat. The emperor Henry III. took it under his protection, but it suffered much by its contests with the bishops, and its condition became very precarious. From Frederic I. it obtained several privileges; and in 1275, king Rudolph I. confirmed and enlarged its imperial rights.

Augsburg has acquired celebrity, not merely on account of its antiquity and pre-eminence for a long series of ages, and for the extent of its commerce in the 14th and 15th centuries, but from its having been the scene of several considerable transactions. In this place, a council held in 1522, confirmed the edict for the celibacy of priests. In 1518, a diet was held at this place, for concerting and promoting a general crusade against the Turks. At a diet, attended by the emperor Charles V. in 1530, the creed of the Protestants called the Augsburg or Augsburg confession, was presented and publicly read. In 1541, the emperor held a diet in this place for finally closing the controversies with regard to religion, which had long disturbed the empire; and having, at the head of his Spanish troops, taken possession of the cathedral and one of the principal churches, he re-established with great pomp the rites of the Roman worship. Before this diet, he laid forth, known afterwards by the name of the Interim; and in 1548, he made his first attack upon this city, on account of the part it took in its opposition to this synod, infusing a decrees, after he had taken forcible possession of the town, by which he abolished its form of government, dissolved all its corporations and fraternities of its burghers, and nominated a small number of persons, in whom he vested the future right of administration, and each of whom was constrained to take an oath for observing the Interim. In 1550, a diet was summoned by the emperor at this place for further enforcing the observance of the Interim. The diet held here in 1557, settled the religious peace of Germany, by an act called the Reformat. In this city an alliance called the league or treaty of Augsburg, was concluded in 1686, between the emperor, the king of Spain, the republic of Holland, the elector Palatine, Bavaria, and the duke of Savoy; the professed object of which was to restrain the ambition of the French monarch; but the real motive, says M. Arquie in his "Mots des Guerres et des Traites de Paix de la France, &c. 1708," which led William prince of Orange to effect this league, was, to keep Louis busy on the continent, while he, whose fagacity foretold what the intestine folly of James II. of England would lead, might with more ease afford the English throne in his stead. The holibites consequent on this league commenced in 1688, which was followed by a continental war, terminated by the peace of Ryswick in 1697. Although the Protestants were very powerful at Augsburg, they were driven from hence by the Bavarians, and restored again by Guibalas Adolphus in 1632; since which time they have continued, and shared the government with the Catholics. In 1703, the elector of Bavaria besieged the city and took it, and demolished its fortifications; but the battle of Hockfeld restored its liberty, which it enjoys under its own magistrates; the bishop having no temporal dominion in the city. The chapter is composed of persons who can produce proofs of their nobility. The canons have a right of electing their bishop, who is a sovereign, like several of the other German bishops. Augsburg is situated in N. lat. 48° 24'. E. long. 10° 58'.

**Augsburg Confeffion. See Augustan.**

**AUGST.** A village of Switzerland, near the Rhine, formerly a celebrated city called Augula Rauracorum, whither Manius Titius conducted a Roman colony under the empire of Augustus, B.C. 14. It was situated on the river Erga, two leagues from Bale. It was burned by Attila. Of its ancient magnificence many monuments have been discovered; such as the ruins of an amphitheatre, of towers, of subterranean vaults, and also medals, and fragments of statues and inscriptions.

**AUGUR, in Antiquity, a minister of religion among the Romans, appointed to take auguries or oracles concerning futurity from birds, beasts, and the appearances of the heavens.** The word is by some derived from avis, bird, and garvisus, stitching; whence the original office of the augurs is supposed to have been to observe, and take indications from the noise, calling, linging, chirping, and chattering of birds. Agreeably to which, augur is commonly distinguished from aurox, as the latter was supposed employed in observing the flight of birds.—Pezron derives it from the Celtic au, liver, and gar, man; so that, according to him, an augur was properly a person who inspected the entrails, and divined by means of observing the observation of the intestines.

The augurs constituted a college or community, which at first consisted of three persons, one being appointed by Romulus for each tribe; then of four, when Servius Tullius increased the tribes to ten at number; then of nine, four
of them patricians, and five plebeians, added in the year of Rome 454, at the solicitation of the tribunes, and elected from among the common people; lastly, Sulla, in the year 672, increased the number to fifteen. They were at first chosen, like the other priests, by the comitia curiata, but their election afterwards underwent the same changes with that of the pontiffs.

The elder of these presided over the reft, and was honoured with the title of "Magister Collegii." Their office, which terminated only with their death, and of which to crimine or forfeiture could deprive them, as it is compelled in the august law mentioned by Cicero (De Divin. i. ii.), was to interpret dreams, oracles, prodigies, &c. They were to decide what action should be fortunate or prejudicial to particular persons, or to the whole state. Thus they were the interpreters of the will of the gods with respect to the making of war or peace; and all were obliged to obey them in an important article.

They bore an august staff, or wand, called liurus, as the ensign of their office and authority. The other badges of their office were a kind of robe called trabea, and a cap of a conical shape like that of the pontiffs. No affair of moment could be referred to, without first consulting them; and their advice, be it what it would, was, by a decree of the senate, appointed to be exactly and religiously observed.

The office was important and honourable. It was aspired after by some of the principal persons of the Roman state. Cato was a member of the college of augurs; and Cicero also was dignified with this title, and perfectly understood the whole art practiced by himself and his colleagues. Although he ridicules the profession (De Divin. i. ii.), and demonstrates by various proofs the impiety, imbecility, and absolute impossibility of the art, and relates a laying of Cato concerning it, "that he could not imagine how one archivus could look another in the face without laughing;" yet, notwithstanding his contempt of its superfluities, he blamed those generals and magistrates, who on important occasions had neglected them; and maintains, that this practice, though allowed to be subject to many abuses and frauds, ought to be regarded on account of religion and the prejudices of the people. Pliny was also raised by Trajan to the dignity of augur; and through every period of the Roman state, this office was the highest rank in the priesthood to which any senator could be raised. Of this Augustus was so well apprized, that by seizing the office of high priest on the death of Lepidus in the year of Rome 737, B.C. 29, he, and his successors in the empire, obtained a control over all religious matters; and by thus placing themselves at the head of all the colleges of priests, augurs, and keepers of the Sibylline books and others, they became the sole arbitrators in all sacred as well as profane concerns. For an abstract of the history and office of augurs, see AUGUR.

AUGUR, in Entomology, a species of Cimex, of a rufous colour, with the antennae, under-wings, and legs black. A native of the East Indies, and the cape of Good Hope.

AUGUR, a species of Phalana (Notula), with brown wings, characterized with black. Inhabits Germany. Fabricius.

AUGUR, a species of Musca that inhabits New Holland. It is eireoee; abdomen bluish; hides terebraceous and diaphanous. Fabricius, &c.

AUGULAR, something relating to the AUGURS.

The augural instruments are represented on several ancient medals. Evelyn on Medals, chap. ii.

AUGURAL SOPH., CONAUGURAL, that given by a priest on his first admission into the order, called also by Varro adiutal. De Re Rustica, lib. iii. cap. 6.

AUGURAL BOOKS, LIBRA AUGURALUM, those wherein the discipline and rules of augury were laid down. Cic. de Divin. lib. i. cap. 33. Pius (l. 708.) says, that Julius Cæsar composed of augural books.

AUGURAL, in Biography, a learned Italian, was born at Rimini about 1441, studied at Padua, and became professor of polite literature at Treviso, where he had a canonry, and where he died in 1524. He was addicted to the study of alchemy; and is said that pope Leo X. in return for the dedication of his Latin poem, intitled "Chrysopeia," gave him a large empty purse, saying, that he knew how to fill it. From his poem, however, it appears that Augurello was no believer in the art. He published, besides the Chrysopeia, many Latin poems, odes, elegies, and cartes: some of which poehts elegance and purity. The poems in his own language were not published till 1765. Trinolus. Gen. Biog.

AUGURY, the discipline of the augurs, or the practice of consulting the Gods, and learning their will, by divers kinds of omens.

The observation of auguries is very ancient, as having been prohibited by Moses in Levitices.—The cup put in Benjamin's lack, in Egypt, is said to have been that used by Joseph for making auguries.

However this be, augury was undoubtedly a very ancient superstitition. Heidt informs us, that the operations of agriculture were regulated by the migration of birds; and it had probably been in use long before his time, for tracing the changes of the elements. At length the flight of birds was more particularly observed; and their different motions were thought to be of such consequence, that no concern of importance, either private or public, was undertaken without consulting them. Ambard, as this superstition may now appear, and as it certainly was in the extensive application and use of it, it seems to have derived its origin from nature. The appearance and disappearance of particular birds at different seasons, would probably suggest to those who were ignorant of the places to which they migrated, and from which they occasionally returned, that they might visit the other regions, and so come over the gods, and acquire an instinct or faculty for foreseeing future events. A superstitious people might argue in this manner; and as birds are fond capable of imitating the human voice, some impostor might have availed himself of this circumstance, and deduced premonitions in favour of the fallacious system of augury. An ingenious writer luggs (see Stillingfleet's Catechism of Flora), that this might have been the case; and it is alleged, that the institution of augury seems to have been more ancient than that of alchemy; for Homer supplies us with several instances of the former, but none of the latter. Upon the whole, it is not improbable that natural augury gave rise to religious augury; and this again, by a tradition not unnatural, to augury. A passage in Aristophanes furnishes a hint that led to these observations. In his comedy of the birds, he represents one of them as saying, "The greatest blessing which can happen to you, mortals, are derived from us; first, we shew you the feasons, spring, autumn, and winter; the crane points out the time for fowling, when the flies with her warning notes into Egypt; the birds the falor hang up his rudder and take his sail, and every prudent man provide himself with winter garments; the kite appears next, announcing another
another season, when it is time to shear the sheep; after that, the swallow informs you when it is time to put on summer clothes; we are to you, adds the Chorus, Amon, Dodona, Apollo; for after consulting us, you undertake every thing; merchandize, purchases, marriages, &c.

"Exspectam diem Lumen, docebo eam, profetabo."[25]

Now, it seems not improbable, that the same transition was made in the speculations of men which appear in the words of the poet; and that they were easily induced to think that the surprising foresight of birds as to the time of migration, indicated something of a divine nature in them; against which opinion, Virgil, as an Epicurean, protestis, when he says,

"Haud equidem credo, quia fac divinitas illa ingeni."[26]

From these speculations of a conjunctural kind we proceed to observe, that some have ascribed the invention of this art to Prometheus, or Melampus, the sons of Amarynth and Dorippe. Pliny (L. vii. c. 53.), says, that the Carthaginians were the first observers of birds, and that Orpheeus first directed his attention to other animals. Paufanias (Phocis.) attributes the first observation of the flight of birds to Parâlaus, who gave his name to mount Parâlaus. Clement of Alexandrea reports, that the Phrygians were the inventors of this art. Upon the whole, it seems probable, that this species of divination was transmitted from the Chaldaean, Assiatic, and perhaps the Egyptians, to the Greeks; from them to the Hetrurians; and from the Hetrurians to the Latins and Romans.

We find five sorts of auguries mentioned by the ancients. 1. From the appearances in the heavens, as thunder, lightning, and other meteors. 2. From the birds, whence they derived the name of Auspices. Some birds furnished them with observations from their chattering or singing, and others from their flying. The former were called Oicles, and the latter Prophetae. For the taking of both these sorts of auguries, the augur went up to some high place, took the augural staff, heut, at one end like a crook, and marked out with it the four temples or quarters of the heavens. Then he turned to the east, and in that situation, waited for the omen; which was of no signification, unless it was confirmed by another of the same sort. In this manner Romulus perceived Jupiter's approbation of his election to the crown: having seen lightning that came out on his left side and proceeded to his right. This ceremony, which was also observed when Numa was called to the crown, is largely described by Livy, i. i. c. 18. 3. From birds kept in a coop for that purpose. The manner of divining from them was as follows: early in the morning the augur that was to take the observation, after having commanded a general silence, ordered the coop to be opened, and then threw in a handful of crumbs or corn. If the chickens did not eat greedily, scattered the food about with their wings, let fall a great deal of it from their mouths to the ground, or, above all, refused to eat, the omen was reckoned unlucky, and some great mischief foretold; but if the fed greedily, and let none of the food drop out of their mouths, they obtained all desirable assurance of happiness and success. This form of augury was called tripudium, from the ancient Latin word panicum, to strike, and terra, the earth; because the birds, in eating greedily, struck the ground with their beaks. The story of P. Claudius the consul is well known (Val. Max. i. 1. c. 4.), who, ready to engage at sea in the first Punic war, and hearing that the chickens would not come out of their coop, ordered them to be thrown into the sea, with this jest, "If they will not eat, let them drink." But he was vanquished; not, it will be thought, by the contempt of this silly and childish ceremony, but in consequence of his own rashness. 4. The next sort of augury was from heads, viz. wolves, goats, foxes, beavers, asp, lamps, hares, weasels, and mice. The general observations about them were, whether they appeared in a strange place, or crooked the way; whether they ran to the right or left, &c. 5. The last sort of divination by auguries was from what they called dire, or unusual accidents happening to any person, as tumbling, seeing apparitions, hearing strange voices, persons spilling salt on the table, meeting a wolf, fox, a hare, &c. Many curious circumstances of Roman super-\(\text{f}i\)tion with respect to omens and other things are enumerated by Pliny, xxvii. 2.; and among the Greeks, by Paulus, iv. 13. Cæsar, in landing at Adramuetum in Africa, with his army, happened to fall on his face, which was reckoned a bad omen; but he, with great presence of mind, turned it to his own advantage; for taking hold of the ground with his right hand, and killing it, as if he had taken on purpose, he exclaimed, "Pesse te, Africa!" "I take possession of thee, O Africa." Dio, xiii. 199. Saturn. July 59.

Augury, in its more general signification, comprises all the different kinds of divination; which Varro distinguishes into four species of augury, according to the four elements.—Pyromancy, or augury by fire; aeromancy, or augury by the air; hydromancy, or augury by the water; and geomancy, or augury by the earth.

The particular branches are elektoromancy, anthropomancy, locomancy, etymomancy, capromancy, garromancy, geomancy, archipinica, libanomancy, lecanomancy, necromancy, &c. See each described under its proper article.

AUGUST, Augustus, in a general sense, something majestic, venerable, or sacred.

The title Augustus was first given by the Roman senate to Octavius, Jan. 14th. A. U. C. 727. B. C. 27, after his being confirmed by them in the sovereign power.—It was conceived as expressing something divine, or elevated above the pitch of mankind, being derived from the verb augere, to increase, to augment, to ennoble; by which word, Jupiter augsua, "tangam supra humnum fortunam et anxum." When some of the senators, in concurrence with his own heart inclina, would have given him the name of Romulus, as a second founder of Rome; Munatus Plancus proposed his being denominated Augustus, because it denoted a person or thing consecrated by some augur, or form of religion, and nearly allied to the deity. Accordingly, Ovid gives us this reason for the appellation in his "Fasti," i. i. v. 609.

"Sanata vocant Augusta patres: Augusta vocaturo Temple, Sacerdotum rite diecata manus.
Hujus et augurium dependet origine verbi,
Et quandoque suus Jupiter augur opes."

The successor of Octavius affirmed the same quality; so that thenceforward Emperor and Augustus became synonymous terms.

The Greeks rendered the name Augustus by ΕΥΒΑΛΤΟΣ, and gave it to all the successors of Augustus, after the example of the Romans.

Augustus, the title expressive of the character of peace and felicity, which Octavius uniformly affected, was a personal, and Cæsar a family distinction. The former, therefore, should naturally have expired with the prince on whom it was bestowed; and however the latter was diffused by adoption and female alliances. Nero was the last prince who could allege any hereditary claim to the honours of the Julian line. But, at the time of his death, the practice of a century had inseparably connected those apppellations with the imperial dignity, and they have been preferred by a long succession of emperors, Romans, Greeks, Franks, and Germans, from the fall of the republic to the present time. A distinction was, however, soon introduced. The sacred title of Augustus was reserved for the monarch, whilst the name of Cæsar was more freely communicated.
AUG

1693, September it signify this the common: a the town adorned a town division—

On medals and coins, some of the ancient kings of France are found with the appellation Augustus particularly Chloe, Clothaire, and Clovis; add, that the wife of this last, Chrotechilda, is also called by Herring, in his book of the miracles of St. Germain, indifferent other Augustus, or queen.

August, in respect of Chronology, denotes the eighth month of the Julian year.

This was called in the ancient Roman calendar, sextilis, as being the sixth from March, from which the Romans began their computation. The emperor Augustus changed the name, and gave it his own; not that it was the month in which he was born, which was September, and which was first proposed for bearing his name, but because it had been fortunate to him by several victories which he had gained in it.

He preferred this month to September for the reason mentioned in the deliberations of the senate, preferred by Macrobius. The tenor of the is as follows: “As it was in the month, hitherto called sextilis, that the emperor Cesar Augustus took possession of his first consulsip; that he celebrated three triumphs; that he received the oath of allegiance of the legions that occupied the Janiculum; that he reduced Egypt under the power of the Roman people; that he put an end to all civil wars; it appears that this month is and has been a most happy month to this empire; the senate therefore ordains, that this month shall henceforth be called Augustus.” This decree of the senate was ratified by an order of the people.

Our Saxon ancestors called it Wood-monath, that is summer-monath, on account of the plenty of weeds in this season. Spelman.

This month is esteemed one of the richest in the whole year, because of the harvest of the several sorts of grain which is produced in that season. Hence is to be derived the French proverb, a mon has made his August; which proverb is much used among merchants, to signify that a man has been successful in trade, and got an estate.

August is also used in Middle Age Writers, for a power or licence of going out of a city in harvest time, to reap, &c. Du-Cange.

Augusta, in Ancient Geography, a name given singly, or in connection with some epithets, to several towns in honour of Augustus the Roman emperor. Thus, Augustus was a town of Gallia Narbonensis, founded by Augustus, with the title of a colony; situate 15 league from the Rhone, and having a temple of Jupiter, a circus, and an amphitheatre. Also, a town of Cilicia, seated on mount Taurus, five or six leagues north from Adana. Pliny, l. v. c. 27. It became subject to Rome in the reign of Augustus. Also, a town of Dacia. Ripensis. Also, a town of Rhein. Also, a port of Sicily, nearly north of Syracuse. Augusta Aterius, Alera, an ancient town of Spain, in Asturia. Alia Augusturum, a town of Aquitania, originally called Climum, which name it afterwards assumed. In the middle age it took the name of the people Aterius, and is now Aum — A. Batenerum, or Bacianorum, an ancient town of Italy, in Liguria; called also A. Varissinum. A. Brascanum, Braga, an ancient town of Hispania Citerior. P. N. A. Emerita, a town of Lusitania, on the river Aras, the capital of the province: it was a colony of the Emeriti, or of such soldiers as had served out their legal time, were men of experience, or had received marks of favour, founded by Augustus; adorned by him with stately buildings, a long and magnificent bridge over the Gaudiana, and two aqueducts. It is now called Merida. A. Ephesus, a town of Achaia, in Comagene, on the banks of the Euphrates. A. Gennes, a town of Beccia, in Spain, in the country of the Turduli. A. Magna, a town of Achaia, situated at the confines of the Aplar and Phasis. Potentia. A. Scipionum, a division of Egypt, which commenced about the time of Thucydides, comprehending that part of Lower Egypt, which extends from the right arm of the Nile to the coast of Syria, in the frontier of Arabia. A. Nicaea, a town of Hispalia Tarraconensis, on the river Era, in the country of the Aracvac; called by Pliny Porta Ager. A. Procurum, a town of Gallia Cisalpina, at the foot of the Alps, in Duria, so called because Augustus fent thither a colony of the prætorian soldiers: inhabited by the Salassi; now Augusta. A. Ravennorum, a town of Helvetia, now called August. A. Succesum, a town of Gallia Belgica, on the Axone, now Soissonis. A. Taurinorum, a town of the Taurini, at the foot of the Alps, where the Duria Minor falls into the Po, so called because Augustus establisht here a Roman colony; now Turin. A. Tiberii, a town upon the Danube, on the confines of Rhedia and Doria; now Ratibon. A. Trebi, a town of the Aequi, near the springs of the river Ado in Italy, now Trevi, in Umbria. A. Treverorum, a town of Gallia Belgica, belonging to the Trevisi, a people inhabiting the territory between the Rhine and the Molile, now Trevies or Treiers. A. Trinobatum, a town of the Trinobatii, in the isle of Albion, called Augusta from its grandeur; now London. A. Va- gianorum, the seat of a Roman colony, among the mountains, now Wico near Mondonio. A. Vercambrium, a town of Gallia Belgica, now St. Quintin. A. Valeria, a town of Hispalia Tarraconensis, belonging to the Celtibrians. P. Toletum. A. Vindelicorum, a town of Vindelicia, now Augsburg.

Augusta, in Geography, a town of Sicily, eighteen miles by land, and nine by sea, distant from Syracuse, was built by the emperor Frederick II., near the ruins of the Greek city of Megara; and covered a small low peninsula, joined to Sicily on the north side by a long cadiway, having on each side extensive salt-ponds. This projection forms a very fine harbour, the largest and most eay of access in Sicily, opening to the southern exposure, but sheltered by the points of the coast from both wind and wave, with nine fathoms of water in almost every part. A ruinous citadel guards the land gate; and three forts, built on little islands, defend the entrance of the port. The country along the opposite shore is beautifully diversified in its culture. The order of Malta has embellished Augusta magazines of salt meat, biscuit, and flour, for the supply of their ships that are continually passing between the islands. The town is fearfully recovered from the devastation caused by the earthquake in 1693, which destroyed by the falls of the houses about one third of the inhabitants, set fire to the powder magazine in the citadel, which blew up, and threw the light-house precipitately into the sea. Since that time the town has been rebuilt on a regular plan, with low houses to prevent injury from another shock if it should occur. The number of inhabitants
habitants is reckoned at 9205 by an enumeration. Swinburne says its population amounts to 16,000 persons. Travels, vol. 4. p. 116.

Augusta, a county of Virginia, in North America, lying partly on the east and partly on the west of the North Mountain, a ridge of the Alleghany. The soil is fertile, and the country contains 16,886 inhabitants, including 1567 slaves. In this district there is a remarkable cascade, called “the falling spring,” which is a branch of the James, where it is called Jack’s river, rising in the mountains twenty miles south-west from the “warm or hot spring,” in N. lat. 35° 9’. W. long. 8° 6′. At the “falling spring” the water falls two hundred feet, being fifty feet higher than the fall of Niagara: and the sheet of water is only twelve or fifteen feet wide above, and somewhat wider below.

Augusta, a town of North America, in the upper district of Georgia, situated on a fine plain in Richmond county, on the south-west bank of the Savannah river, where it is near five hundred yards broad, at the bend of the river, 127 miles north-west from Savannah, and 934 south-west from Philadelphia. At the first settlement of the colony, general Oglethorpe erected a fort here for protecting the Indian trade, and holding treaties with the natives. In 1787, it contained 200 houses. The country round it has an excellent soil, which, together with its central situation between the upper and lower counties, induces its improvement. N. lat. 33° 19′. W. long. 80° 46′.

Augusta, a town of Upper Canada.

Augusta, a river in the south-east part of the island of Cuba, in the Well 1 degrees, navigable for several leagues from the mouth, in which is Cumberland harbour.

Augusta, Histria, is the history of the Roman emperors from the time of Adrian to Carinus, composed by six Latin writers, El. Spartianus, Julius Capitolinus, El. Lampridius, Vukatus, Gallicanus, Trebellen Pollio, and Flavius Vopiscus. They all lived in the reign of Diocletian, though some of them flourished under his successors, near the end of the third and beginning of the fourth century. They are rather biographers than historians, and take more care to inform us of the good and bad qualities of the emperors, of their birth, education, stature, men, and even their diet, and the clothes they wear, than to describe their wars, the laws they enacted, and the great revolutions that happened during their respective reigns. Vopiscus, who was a Syracusan, and who is said, in the life of Probus, to have imitated Suetonius, according to the general opinion of the learned, far excels the rest, both as to his method and style; nevertheless he has many imperfections, and is not to be compared with any of the Latin historians. The other five betray great want of judgment in their choice, and of method in digressing their materials. Of these fix writers, Capitolinus is the most confused and injudicious; whence some have suspected that the author of this collection had blended together the relations of Capitolinus, Spartian, and some others. Their style is vulgar and unpolished, their expressions uncout, and sometimes hardly intelligible. Vopiscus observes, that Lampridius and Capitolinus attended more to truth than to elegance in their narrations. Pollio acknowledges that his style has nothing of the dignity of the ancients. Fabr. Bibl. Lat. vol. ii. p. 37, &c. Anc. U. Hist. vol. iv. p. 67. The histories of these writers were published together, with the notes of Calafonon, Salmasius, and Gruter, in two vols. 8vo. 1571; and re-published by I. P. Schmidt, in 1771.

Augustales, or Societatis Augustales, or Fla- minus Augustales, were the priests of Augustus, appointed after the deification of that emperor by Tiberius and instituted by him, to perform the service of the new god. Three of these were Drusus, Claudius, and Germanicus; and the others, who supplied the number of twenty-one, were chosen by lot among the citizens of the first families in Rome. The same name of Augustales was also applied to other colleges of priests, instituted in honour of the fac- eifiers of Augustus, and who like him were deified. The appellation is also extended to those who conducted the first ranks of the army; to the prefects of Egypt, who were established by Augustus after the defeat of Antony and Cleopatra; to all the officers of the imperial palace; and to those citizens in the colonies and municipia, who held the middle rank between the decurions and the people.

The Augustales of the provinces were probably set apart for the worship of Augustus in the same manner with those of Rome.

Augustalia, in Antiquity, a festival instituted in honour of the emperor Augustus.

This festival was first established in the year of Rome 735, being the fourth after he had ended all his wars, and settled the affairs of Sicily, Greece, Asia, Syria, and the Parthians. The day whereon he made his entry into Rome, being the fourth of the ides of October, was appointed to be kept a feast, and was called Augustalia.

Augustus and was also a name given to the games celebrated in honour of the same prince, on the fourth of the ides of October.

Augustalis, or Praefitus Augustalis, a Roman magistrate who was appointed to govern Egypt, with a power much like that of a procurator in other provinces.

Augustan, relating to Augustus or Augustus.

Augustan Era. See Actian.

Augustan, or Augsburg Confession, and Ecclesiastical History. This work contains twenty-eight chapters, of which the greatest part is employed in rep resenting, with perplicity and truth, the religious opinions of the protestants, and the ref in pointing out the errors and abuses that occasioned their separation from the church of Rome. The style in which it is written is plain, elegant, grave, and perpicious, such as becomes the nature of the subject, and does honour to the eloquent pen of Melancthon. The matter of this confession was invented by Luther, who, during the diet, refided at Coburg, a town in the neighbourhood of Augsburg; and even the form it received from the acute judgment of his colleagues was authorized by his counsel and approbation. The Roman Catholics attempted a refutation of this confession: this refutation was read publicly in the assembly; and the emperor demanded submission on the part of the Protestant members; but the Protestants were not satisfied, and requested a copy of this reply, that they might demonstrate at large its insufficiency and weakness. The emperor refuted this request, interpolated by his authority to suspend any further proceeding, and solemnly prohibited the publication of any new writings or declarations that might contribute to lengthen out these religious debates. Melancthon prepared an answer, which was presented to the emperor, but he refused to receive it. This answer was afterwards enlarged and published in 1531, with the other pieces that related to the doctrine and discipline of the Lutheran church, under the title of “A Defence of the Confession of Augsburg,” or “Apologia Confessionis Augustana.” In composing this defence,
defence, melan-Ghon’s love of peace and concord seems to have carried him beyond what he owed to the truth; and through servile fear, excessive charity, or indecision of mind, he makes several strange concessions to the church of Rome. Moffheim’s Eccl. Hist. vol. iv. p. 283. In some subsequent editions of the “Apologet,” the obnoxious palliages were omitted, and the philology that had given such offence materially altered. See PHILIPPISTS.

AUGUSTATICUM, in Middle Age Writers, denotes a largess, or donation, of an emperor to the people or fociety.

AUGUSTENBERG, in Geography, a town of Germany, in the county of Upper Saxony, and county of Schwartzenberg, three miles east of Arnstadt.

AUGUSTENBERG, a town of Denmark, in the duchy of Sleswick, six miles east of Sonderborg.

AUGUSTEBUM MARJOR, in the Natural History of the Ancients, a name given to the common green and white marble so frequent in life with us for tables, &c.; and called by our ancients, Egyptian marble.

AUGUSTIN, Anthony, in Biography, archbishop of Tarragona, was born at Saragossa, of parents of distinction, and studied in various universities both of Spain and Italy. At the age of twenty-five, he published a treatise of law, intitled, “Emendationes et Opinionis Juris Civilis.” He was sent as nuncio to England by pope Julius III. in 1554; and in 1562, he distinguished himself at the council of Trent. From the year 1574 to 1586, the time of his death, he presided the archbishopric of Tarragona. His liberality to the poor was such, that when he died, there was not found money sufficient to defray the expenses of a funeral fittable to his rank. Of many writings in law, which he left, the most valuable is a treatise “De Emendatione Gratiani,” first printed at Tarragona in 1587, and afterwards published in 1672, by Balzar, 8vo., and esteemed an elaborate treatise on the canon law. He wrote also “Antiquae Collectiones Decretalium,” printed at Paris in 1621, folio, with notes; “Dialogues on Medals,” published at Tarragona, in 1587; and other treatises, chiefly on canon law, with skill in the law, he united purity of language. Nouv. Dict. 8vo.

AUGUSTIN, s.d. by contraction Austin, St. usually styled “the Apostle of the English,” was the first archbishop of Canterbury, and flourished about the close of the sixth century. He was originally a monk in the convent of St. Andrew at Rome, educated under St. Gregory, afterwards pope Gregory I.; and about the year 596, deputed by him on a mission to Britain, for the conversion of the English Saxons. Whilst Augustin, and forty monks, who were his associates in this mission, were pursuing their journey, they were discouraged by an apprehension of the dangers which they were likely to encounter; and Augustin was sent back from France to Rome, with a petition to be recalled from this hazardous undertaking. Gregory, however, was determined not to abandon his project; he therefore encouraged them to proceed, furnished them with recommendatory letters to the king and queen of France, and to the bishop of Arles, and instructed them to take with them some interpreters from the Franks, whose language still resembled that of the Anglo-Saxons. In the year 597, the missionaries landed in the isle of Thanet; and having informed Ethelbert, king of Kent; whose queen Bertha was a Christian, and who was disposed to give them a favourable reception, of their arrival, and of the design of their mission, they were introduced into the royal presence. The king, however, chose to receive them in the open air, from a superstitious notion that he would be thus more secure from the delusive influence of their magical arts, than within the walls of a house. Augustin, by means of his interpreters, opened his commission; and after stating to Ethelbert the leading doctrines of Christiinity, he allured him to embrace the religion of Christ by the assurance of an eternal kingdom in heaven. The king, after a candid hearing, hesitated in abandoning the religion of his ancestors; but with a liberality which reflects honour upon his memory, and under a due sense of the kind intention with which the missionaries had undertaken so long a journey, he allowed them to remain in the country, and to use their efforts for the conversion of his subjects. Accordingly, he aligned for their residence that part of the ancient Durovernum, or the modern Canterbury, which is now called “Stablegate,” and which had been formerly a kind of oratory or chapel for the royal family, where they worsthipped and offered sacrifice to their gods. The missionaries entered the city in procession, singing psalms. Their ministerial labours were at first confined to the precincts of the city, where the accession of new converts was inconsiderable; but as soon as the king himself was professed and baptized, they obtained liberty to extend their mission to every part of his dominions; and their success was so great that Augustin is said to have baptized 10,000 persons of both sexes in one day, in the river Swale, at the mouth of the Medway. In the commencement of his mission, he thought it expedient to refrain from coercive measures; and, as Bede informs us (Eccl. Hist. l. 2. c. 26.), he instructed Ethelbert, that the service of Christ must be voluntary, and that no compulsion ought to be used in propagating the gospel; nor does it appear that any violence was used in the first establishment of Christianity in England, besides that of demolishing idols, and converting Pagan temples into Christian churches.

Augustin, who seems to have been consecrated archbishop of Canterbury before his arrival in England, was actuated by his rapid success with the ambition of palliaging, under the function of the pope, the supreme authority in the English churches. For the purpose of soliciting this honour, or that of primacy of England, and also of obtaining instructions with regard to other subjects, which may now be deemed of very questionable or trivial importance, he deputed messengers to the pope, who speedily returned with a full answer to the archbishop’s inquiries. They also brought with them a pall (See PALL), as a badge of archiepiscopal dignity, and various other ecclesiastical vestments and utensils. The pope also gave Augustin directions for erecting twelve fees within his province, and particularly for appointing one at York, which, if the country should become Christian, he was to form into a province with twelve suffragans. Among the counsels communicated by the pontiff to Augustus on this occasion, was an admonition not to be elated with pride on account of the miracles which he had been enabled to perform in confirmation of his ministry, but to consider that this power was given him, not for his own sake, but for the sake of those whose salvation he was appointed to procure. Augustin, having fixed his fee at Canterbury, dedicated an ancient church, formerly built by some Roman Christians, to the honour of Christ; and king Ethelbert founded the abbey of St. Peter and St. Paul, afterwards called St. Augustin’s, and first converted into the archbishop’s palace. Such was the attachment of St. Augustin to the see of Rome, that he attempted to bring the British bishops in Wales under the authority of the Roman see. From the time when the ancient Britons, or Welsh, were first instructed in the Christian faith by Paganus and Damianus, who had been sent at the request,
request of Lucius, in the second century, as missionaries by
Eleutherius bishop of Rome, the churches had followed the
rules of their first fathers, without regarding the futile
alterations preferred by the church of Rome. But
pope Gregory, by appointing Augustin metropolitan of the
whole island, had claimed jurisdiction over the churches of
Wales; and Augustin was well inclined to support the
claim. Two conferences were held on this subject; both
of which were unsuccessful. At the second conference, fe-
ven British bishops attended, and many monks from the
monastery of Baugor, under the direction of their abbot Dinoch.
Dispossessed as they were to pay all due respect to the archie-
piscopal dignity of Augustin, they took measures, previ-
ously to their meeting, for preventing a termination of their content which would be unfavorable to their interest. Ac-
cordingly they confabulated a hermit of acknowledged under-
standing, and requested his opinion, whether they should
surrender their independence, and their ancient customs and
privileges, to the pretensions of Augustin. The hermit,
probably apprized of the dispositions and character of the
meeting, gave them the following instructions: "If
this man follows the example of his master, who was meek
and lowly of heart, he is a servant of God, and you ought
to obey him; if not, his claim is not to be regarded: let
Augustin and his brethren be first seated in the place of
meeting; if upon your entrance, he rise up to salute you,
honour him as a messenger from God; if he neglect to show
you this civility, reject his offers, for he has not taken upon
him the yoke of Christ." When the British bishops and
monks entered the hall, Augustin, who had taken the chair,
received them sitting. Upon which, conformably to the
advice of the hermit, they declined complying with the
proposals of the haughty prelate, and disclaimed all sub-
jection to the see of Canterbury, and virtually to that of
Augustin. Informed by such conduct, took leave of the
council, and denounced upon the British clergy this
menacing sentence: "If you will not accept of peace with
your brethren, receive war from your enemies; if ye will
not preach the way of life to the English, suffer death from
their hands." "The event corresponded with the menace:
Ethelfrid, king of Northumbland, soon afterwards
marched with a large army to Caerleon, and made a great
slaughter, in which year 1200 of the monks of Baugor
were put to the sword. The memory of Augustin has been
loaded with the infamy of having, to satisfy his revenge,
fulfilled his own prophecy. Bishop Godwin (De Praefil.
Angl. p. 43. ed. 1616.) exclaims, "Excellent prophet!
who could predict what he knew so well how to accom-
plish?" and he affirms, upon the authority of an anonymous
manuscript, and of an old French annalist, that Augustin,
refenting the rejection of his proposal by the Welsh bishops,
imitated Ethelbert to fall upon them, as a wolf upon a
flock of sheep, with a large army, borrowed in part from
Ethelred; and that the bishop himself joined the army of
Ethelred at Chester, and assisted him to gain a complete
victory. In opposition to this testimony, however, it is
urged by the learned Wharton (Angl. Sacr. t. i. p. 80.), on
the credit of an ancient book cited by William Thorpe,
that Augustin and pope Gregory both died in the same
year, that is, in the year 604, when it is certain Gregory
died; whereas the slaughter of the monks happened, ac-
cording to Godwin (ubi supra), in 625. Bede, who men-
tions this battle (l. ii. c. 2.) adds, that it was fought after
the death of Augustin; and though this passage has been
subjected to interpretation, the supposition has been founded
merely on the omission of it in Alfred's Saxon version,
though it is found in all the most ancient manuscripts; and
on Augustin's having signed a charter with Ethelbert, in
603; whereas the custom of signing written instruments is
not older than the year 700. It is not easy to decide
with any degree of certainty, whether Augustin allied in
the war against Wales; but however this be, he cannot
be excused from the charge of having entertained senti-
ments of revenge against the Wulf bishops, and he may
be justly suspected of having at least assisted the holl.
the opposition, and he at least meditated revenge. We can
only judge of the character of this apostle by his actions,

AUGUSTINE, Saint, a celebrated Christian divine of
the catholic church, the son of Patritius, a citizen of
mean rank, and Monica, celebrated for her piety, was born
at Tagaste, a small town of Africa, in the year 354. His
mother, anxious for his imbibing the principles of the Christi-
ian religion, placed him among the catechumens; and dur-
ing a dangerous illness, he expressed a desire of being bap-
tized; but upon his recovery, he postponed the ceremony,
from a superstitious notion that his committed after baptism
were more heinous than those committed before. By his
father he was sent for classical learning, much against his own
inclination, sent to a school in the place of his nativity, and
afterwards to Madaura. But he was idle and dissipated;
and guilty of deceiving his masters, and of pilfering from
his parents. To the study of Greek he was at this time
particularly averse; nor does he seem in mature life to have
made any great proficiency in it, as he confesst that he read
the Platonists in a Latin version. At the age of sixteen,
and in the year 371, he was removed to the schools of
Carthage; but, in the mean while, notwithstanding the coun-
sel and remonstrances of his mother, he acquired habits
of incontinence, which were not soon abandoned, and which
he ingenuously acknowledges and laments, in a book of
"Confessions," written by him at a subflequent period,
when he became sensible of his folly. At Carthage he
devoted himself to the study of rhetoric and polite literature;
and still poftelligence sentiments not wholly depraved, he
found great pleasure in perusing the philosophical writings
of Cicero, particularly his Hortensius, or "An exhortation
to the study of Philosophy," not now extant. Having been
betimes instructed in religion, he occasionally read the scrip-
tures; but not finding in them that kind of eloquence which
he met with in Pagan writers, he disdained their simplici-
ity, and threw them aside. However, during his continuance
at Carthage, he attached himself to the Manichees, and
from the nineteenth to the twenty-eighth or twenty-ninth
year of his age, he was a disciple and advocate of this sect.
When he was about eighteen, his mother, who was then
become a widow, visited him at Carthage, and made every
effort in her power for reclaiming him from debauchery and
heresy; and the persuaded him to return to Tagaste, where
he opened a school of grammar and rhetoric. Notwith-
standing the reputation he acquired, his mother had still
reason to bewail his conduct; and Augustine himself, in his
"Confessions," (l. iii.) expresses, with great tenderness, his
affections of the prayers which the prefented, and the tears
which the shed, on his account. About the close of the year 379,
Augustine removed to Carthage, and taught rhetoric in that
city. He was also at this time a frenious advocate for the
Manichæan system. But his love of pleasure, whatever were
his other engagements, continued to be his predominant
passion; and he formed a connection with a miscreant, by
whom he had a child, and to whom he remained constant.
Regardles of decorum, he named this child "Adoeanus,"
the gift of God; and he speaks of him, at the age of fifteen,
as a young perfon of extraordinary talents. Provoked by
the influence of his scholars at Carthage, Augufinus re-
moved with his miscreant and child to Rome, and taught
grammar and rhetoric in that city; but having reason to be
dissatisfied with his situation, he fought a new settlement
and, by the recommendation of Symmachus, prefec of
Rome, he was appointed, in the year 383, professor of
rhetoric at Milan. Here he had an opportunity of attend-
ing the sermons of Ambrose, bishop of this city, which led
him to waver between Manicheism and the Catholic faith.
In this state of hesitation his mother came to Milan, and
renewed her entreaties that he would forfake the Manichees,
and quit his irregular course of life. The entreaties of his
mother were enforced by the conversation of two worthy
men, Simplician and Patilian; and he was thus prepared for
the change which soon followed, both in his sentiments and
conduct. Whilst he was in a state of deliberation and
fusement, praying to God for illumination, he heard, as he
says, or imagined that he heard, a voice like that of a
singing-boy, addressing him in these words, "Tole, lege;
tolle, lege;" or, "Take, read; take, read;" and opening the
New Testament, he turned to this passage; "Not in rioting
and drunkenmefs, not in chambering and wantonness,
e&c." Accordingly, he immediately relented to become a
member of the Catholic church, and entered himself among
the catechumens; and further to testify the sincerity of his
conversion, he yielded to the perfufion of his mother, and
determined to marry. But before he had an opportunity of
executing this purpose, his character was reproached by an-
other connection of an illicit nature, (Confeff. i. vi. c. 15.)
At the close of the year 387, Augufinus relinquished his
profession, devoted himfelf to the study of theology, and em-
ployed the interval previous to his baptism, in explaining the
scriptures, and vindicating the Catholic faith. In compli-
ance with the advice of father Ambrose, he dedicated him-
felf to the ministry; and having difmiffed his new miscreant,
and abandoned his intended wife, and having received bap-
tism with his illegitimate fon, and his friend Alphius, on
Easter-eve, in the year 387, he consecrated the remainder of
his life to religion. In the year 388, his mother died at
Orfa; and Auguftin returned to Africa. Having spent
three years in his native city, where he exhibited an example
of abstinence and piety, and of diligent application to the
study of the scriptures, he visited Hippo; and by the re-
commodation of Valerius, the bishop, he was elected and
dominated prefbyter in the year 391. Here he founded a re-
ligious society, composed of persons who were required to
throw their property into a common flock, and to devote
themselves to the exercise of piety. In 395, he was ap-
pointed coadjutor, or joint bishop with Valerius, to the
church at Hippo. After his advancement to the epifeopal
office, he distingufified himfelf, on various occasions, by the
ardour of his zeal against heretics of every denomination;
and against the Manichees, Donatifts, and Pelagians, he
waged a perpetual controversy. From the time of his con-
version to that of his death, his manners were, in general,
pure and austere; although from one of his confeffions (l. x.
c. 31.) there is reason to infer, that he was addicted to
hard drinking. His enomials have indeed extolled his
moderation and urbanity; and the following inscription on
his table deferves being recorded:

"Quiquis amat diis abstinent redere vitam,
Hanc menem indignam novetis effe fihi."
"Far from this table be the worthless guest,
Who wounds another's fare, though but in jest."
printed at Paris in 1679, and reprinted at Antwerp in 1700; and fill eleven volumes in folio. This fact is said to have written a treatise on music, in five books, which are printed in the folio edition of his works at Lyon, in 1756. There is a MS. treatise of his writing in the Bodleian library at Oxford, entitled, "De Musica:" but it is merely a homily in praise of sacred music; nor do his six books contain any other rules than those of metre and rhythm. His remains were carried by the Catholic bishops of Africa into Sardinia, the place of their exile; and from thence, after an interval of 200 years, they were conveyed by Luitprand, King of the Lombards, to Paris, his capital.

In estimating the talents and learning, the disposition and character, and the value of the writings of Augustine, some have excited him far above, and others have degraded him as much below his just rank. Mosheim observes, that his fame filled the whole Christian world; and that, if not without reason, as a variety of great and striking qualities were united in the character of that illustrious man. A sublime genius, an uninterrupted and zealous pursuit of truth, an indefatigable application, and more in that pattern, a faith piet, and a faithfulness and liveliness, conforming to establish his name on the most hallowed foundations. It is, however, certain, that the accuracy and solidity of his judgment were by no means proportionable to the eminent talents now mentioned; and that, upon many occasions, he was more guided by the violent impulse of a warm imagination, than by the cool dictates of reason and prudence. Hence that ambiguity which appears in his writings, and which has sometimes rendered the most attentive readers uncertain with respect to his real sentiments; and hence also the just complaints which many have made of the contradictions that are so frequent in his work, and of the levity and precipitation with which he himself to write upon a variety of subjects, before he had examined them with a sufficient degree of attention and diligence. That he possessed a strong, capacious, argumentative mind, is generally allowed; but his style, though sometimes animated by the eloquence of passion, is usually clouded by false and affected rhetoric. "It has (says one of his biographers) more argument than oratory, more fluency than elegance; and so, in learning him to have a certain facility and inveterate involvement of ideas through long periods, which require in the reader acute penetration, close attention, and quick recollection. In fine, he is, as Erafimus has observed, a writer of obscurae subtleties, and unpleasant proportioin."

And, as many of his speculations are in themselves uninteresting, it is no wonder that his voluminous writings are now very much, and perhaps unduly, neglected. At the same time it must be so large that the doctrines of this father in the church, should have led men to adopt a gloomy system of religion, and to support it with all the vigour of persecution. Such particularly are those charged upon him by Le Clerc (Letter prefixed to Supplement to Hammond's Paraphrase), which take away goods and justice both from God and man; the one representing God as confining men to eternal torments, for sin which they could not avoid; the other, flinging up magistrates to persecute those who differ from them; in religion. It has also been regretted, that no writings, those of Aristotle excepted, have contributed more than Augustine's, to encourage the vogue of fabulous imitation, which disfigured the scholastic age. The learning of Augustine, and particularly his knowledge of the Greek language, have been disputed; and hence the importance of his scripture criticisms has been depreciated. But although it be allowed that his commentaries chiefly confine of popular reflections, spiritual and moral, or allegorical and mythical perviews of the literal meaning; yet the works of this father are not wholly deficient of remarks and critical inter-pretations, that are pertinent and judicious. To such, after a detail of extracts from the writings of Augustiue, the impartial and candid Dr. Lardner has referred. With regard to his knowledge of the Greek language, this excellent writer is of opinion, that he understood Greek letter than some have supposed; and he has cited several passages, from which it may be argued, that Augustine frequently compared his copies of the Latin version with those of the Greek original. M. Le Clerc in his book, that Augustine sometimes very happily explain Greek words: but on such occasions he subjected, without sufficient reason, that he had the assistance of another.

As to the character of Augustine, it must be acknowledged that his "Confessions," whatever claim they may have to the praise of ingenuity and honesty, must remain a perpetual memorial of disgrace. Besides, although this father of the church entertained, in the earlier period of his ministry, sentiments of mildness and charity towards heretics, he appears at a later period, and under the influence of passions inflamed by political disputes, the advocate of intolerance and persecution. In a letter to Vincentius (Ep. 93.), a Donatist bishop, written about the year 408, he alights several reasons for the coercive measures of secular authority against schismatics; and urges the good effects which the terror of the imperial laws had produced in the conversion of several whole cities. Having once thought, as he confesses, that no man ought to be forced, he at last yielded to experience. In another letter of the same date, he inures the proconsul of Africa to restrain the Donatists, but not to punish them with death; and yet in this letter, written professedly for urging the magistrate to persecution, Augustine, with an inconstancy, the reproach of which he too often incurs, thus liberally concludes (Ep. 190.): "it is a more troublesome than profitable labour to compel men to forsake a great evil by force, rather than by instruction." Upon this inconstancy Voltaire pleasantly remarks (Treatise on Toleration): "I would say to the bishop of Hippo, as your Reverence has two opinions, you will have the goodness to permit me to abide by the first, since I really think it the best." Although his conduct in procuring the first law to compel Christians to baptize their infants, in a council at Mela in Numidia, in the year 416, is altogether indefensible; and the writer of this article, abhorring every species of religious constraint and persecution, cannot attempt its vindication; yet he cannot adopt the severe statures of the spriagly writer that refers to this fact, in their whole extent and unqualified acrimony. "The name of Augustine (says he) had funk, before this time, below con-temn in every free country. He was an irritable man, often disappointed, and foiled by able opponents; passion for power was his ruling disposition, after his sensual appetites had spent their force in debauchery. Too insignificant to obtain distinction in the state, he reconnoitred the church, and felt himself excellently qualified to cast out of Solomon's song to unsuspecting Christians, especially single filters and monks. A superannuated bishop, to whom he made himself convenient, lifted him into preferment. From that day he became a merciless tyrant, and truckled to the bishop of Rome only for the sake of playing Jupiter in Africa. When he obtained the support of the emperor, and got his dreams tacked to imperial decrees, he became the scourge of all good men within his reach, whose confiscations, banishments, and death, with the ruin of their families, lay at his door. He considered himself as an oracle of God, emperors only as officers whom heaven had appointed to execute his decrees." Robin's History of Baptism, p. 217. Gen. Diet. Mosheim's Eccl. Hist. vol. i. p. 362. Dupin's Eccl. Hist. v. century, vol. ii. p. 125. Lardner's works, vol. x. c. 117. p. 8:123. Gibbon's Hist. vol. vi. p. 22. Gen. Biog.

Augustine, St. in Geography, a town of America.
the capital of East Florida, is situated on the sea-coast, about 80 leagues from the mouth of the gulf of Florida, 180 miles west from St. Mark's, and 316 south-west from Charleston, in South Carolina. Its figure is oblong, and it is intersected by four streets at right angles. It is well fortified, and has a church and monastery of the order of its name. N. lat. 30° W. long. 81° 30′.

Augustine, Cape St., lies on the coast of Brazil, in the Atlantic ocean, 300 miles north-east from the bay of All-Souls. S. lat. 8° 30′ W. long. 55° 40′. Also, a cape of the Minasauras islands in the Eastern ocean. N. lat. 6° 40′ E. long. 126° 20′.

Augustine's, St., a port and river on the coast of Labrador, near the straits of Belle Isle, and opposite to St. John's bay in Newfoundland. In the harbour are two small islands, and about two miles south-west, a chain of little islands, called "St. Augustine's chain." It is about 25 miles from Great Mecatina island. N. lat. 51° 10′ W. long. 58° 50′.

Augustine's, St., a number of small islands on the coast of Labrador, in the gulf of St. Lawrence, near its mouth.

Augustine's, Bay, St., is a commodious bay that lies on the west side of Madagascar island, near the south entrance of the Mozambique channel, between the east coast of Africa and the west coast of the island. It abounds with fish, and furnishes a plentiful supply of beef, mutton, goats, and fowls. S. lat. 23° 55′ 29″ E. long. 43° 8′.

Augustins, or Augustinians, in Ecclesiastical History, an order of religious; thus called from St. Augustin, whose rule they observe. The Augustins, properly also called Augusti Friers, were originally hermits, whom pope Alexander IV. first congregated into one body, under their general Lanfranc, in 1256. Soon after this aititution, this order was brought into England, where they had about 32 houses at the time of their suppression. The Augustins are clothed in black, and make one of the four orders of mendicants. From these arose a reform, under the denomination of Bare-foot Augustins, or Minorites, or Friars Minor.

There are also canons regular of St. Augustin, who are clothed in white, excepting their cope, which is black.

At Paris they are known under the denomination of Religious of Geneva; that abbey being the chief of the order. There are also nuns and canonesses, who observe the rules of St. Augustin.

Augustinians are also those divines who maintain, on the authority of St. Augustin, that grace is effectual from its nature, absolutely and morally, and not relatively and gradually. They are divided into rigid, and relaxed.

Augustobona, or Augustomana, in Ancient Geography, a city of Gaul, belonging to the Senones, called also Civitas Tricassium; now Troyes.

Augustobriga, or Augustobrica, a city of Hifpania Tarragonensis, in the country of the people denominated "Peledones," exit of Numantia, and north-west of Bilbilis.

Augustodunum, a famous city of Gaul, the capital of the Edui; now Autun.

Augustomagus, an ancient town of Belgic Gaul, placed, in the Itinerary of Antonine, between Cesaromagus and Sestum, now Sens. 

Augustonometum, a city of Gaul, the capital of the Averni; now Clermont en Auvergne.

Augustopolis, an episcopal town of Arabia.—Also, a town of Phrygia Salutaris.

Augustoritum, a town of Gallia Aquitanica, and capital of the Lemovices; now Limoges.

Augustow, in Geography, a town of Poland, in the latitude of Bielfk, fifty-six miles N.N.W. of Bielfk.

Augustulus, or Romulus Augustus, in Bi-
Upon his arrival, the Garrison of Brundunum, which was very numerous, and which consisted of veteran soldiers, went out to meet him, and introduced him by a kind of triumph into the city. Octavius thanked them for their assistance and respect; and having offered a solemn sacrifice to the gods, declared himself Caesar's heir, and assumed the titles of Caius Julius Caesar Octavius; avowing himself by the latter of these appellations to be of the Octavian family. Having supplied himself with money, arms, and provisions, he purged his route through Campania, and after paying a visit to Cicerone in the neighbourhood of Cuma, arrived at Rome, where the party of Antony and Lepidus, which, under a pretence of avenging Caesar's death, aimed at establishing its own power, had obtained an universal sway. As Octavius approached the capital, he was met by most of the magistrates, the officers of the army, and the people; but Antony declined shewing any token of respect. As soon as his adoption was publicly ratified in the forum, and duly registered, he waited upon Antony; and requested to have delivered to him, as Caesar's chief heir, the money which he had conveyed from Caesar's house to his own, that he might be enabled to discharge his legacies. Antony's behaviour at this interview, was haughty and imperious; his reply with regard to the money which he demanded, and of which part had been appropriated to the purposes of avarice and ambition, was unsatisfactory; and his address closed with reminding Octavius, in a style of authority and menace, that the favours of the people are, generally speaking, short-lived, and that popular affection is more inconstant than the waves of the ocean. Octavius retired, digusted and offended; and apprised, that the confidant withheld his father's money and estate from him in order to disable him from pursuing the favour of the people, he sold his own patrimony, and the estates of his mother and father-in-law, and with the produce of these sales, he paid part of Caesar's legacies; and by this act of generosity he so charmed the populace, that they unanimously exalted his interest, and broke out into bitter invectives against Antony, for withholding his father's estate. An attempt, however, was made towards reconciling these two contending parties for the public favour; and it was attended with a partial and temporary success. But new occasions of variance occurred; and at length Octavius was charged with a design of affalinating his rival. This furnished Antony with a pretence for drawing into Italy a considerable army. Octavius, alarmed by this hostile preparation, frowarded into Campania, and having collected 100,000 brave veterans who had served under Caesar, marched immediately towards Rome. But as he had no military title, nor any majesty which gave him a right to command the forces of the republic, especially against a confidant, he thought it advisable to halt at the temple of Mars, within two miles of the city, till he obtained the consent of the people for his entry, which was soon granted him. Antony was at this time at Brundunum, and as he was hourly expected with a considerable force, it was fully apprehended that the flames of a civil war would at last kindle within the walls of the city. Parties were formed for one and the other of these formidable rivals; and whilst many of the senators were deliberating which side to take, Cicero, probably, as it has been said, more with a view of procuring for himself a bountiful manner, than for rescuing his country from tyranny, declared for Octavius. At his motion, Antony, who had actually invaded the province of Cisalpine Gaul, and laid siege to Mutina, was declared an enemy to his country. Two new confidants, viz. Pansa and Hirtius, who had both served under Caesar, and who were the intimate friends of Cicero, were ordered to raise troops, and to march to the relief of Decimus Bruto, who was closely besiegued in Mutina. In two battles that were fought by the confidants and Antony in the neighbourhood of this town, both the confidants fell; and Octavius became commander in chief of the whole army. Pansa, when he was dying of the wounds which he had received, earnestly advised Octavius to compromise his difference with Antony, as the only means of saving his life and advancing his fortune; and the confidant's dying words made a deep impression on the mind of Octavius. The senate, conceiving Antony to be utterly ruined, began to flight Octavius, of whose services, as they thought, they should have no further occasion; and refused his demand of a triumph, which he granted to Decimus Bruto; heaping upon him various honours, and appointing him commander of all the forces in Cisalpine Gaul; charging him at the same time, without even mentioning Octavius, to pursue Antony, and treat him as a public enemy. While Antony, after experiencing some vicissitudes, and after having fled before Bruto and abandoned Italy, was ready to re-enter it with the command of twenty-three legions and above 120,000 horse, Octavius was at Bononia, where he had been endeavouring, by the interdict of Cicerone, to obtain the confidant. But being disappointed with regard to this object of his ambition he resolved no longer to defer his reconciliation with Antony. Accordingly, this business being settled, and a treaty having been concluded between them and Lepidus, of which the senate was wholly ignorant; Octavius being placed at the head of an army, for the purpose of conducting the war, in conjunction with Decimus Bruto, against Antony and Lepidus, marched towards Rome in order to demand the confidant. It was now too late to concert or to carry into effect any measures of resistance. Octavius was received in the capital with the loudest acclamations of the people; he was immediately joined by the legions stationed in the city; and he was unanimously elected first consul, though he had not yet completed his twentieth year. A.U.C. 711. B.C. 43. Immediately after his promotion to the confidant, he procured the confirmation of his adoption in a general assembly of the people; he confirmed the decree against Antony and Lepidus to be revoked; and he invited them into Italy. As they advanced, he went out to meet them; and their meeting took place at a small island formed by the river Reno, now Reggio, which falls into the Po, after having watered the territory of Bononia, or Bologna. Here was planned the famous system of power called the TRIUMVIRATE; which see. Having cemented and disfraced their new connexion by the delightful PROSPERITY, which was to cut off all their enemies public and private, and to fill their treasury by confiscations, and by the mutual sacrifices of some of their nearest friends and relations, among whom was Cicero; they proceeded to Rome, and filled the city with blood and rapine. In fulfillment of one article of the treaty, settled on this occasion, Octavius and Antony prepared for an expedition against Marcus Brutus and Cassius, who had made themselves masters of most of the provinces in the East. Accordingly they passed over into Macedon; and met the republican leaders on the plains of Philippi, where the contest was decided by two battles, the second of which terminated with the death of Brutus. (See BRUTUS.) On this occasion, Octavius, who was actuated by an implausible spirit of revenge against the authors of Caesar's death, was chargeable with a degree of cruelty which fixed an indelible stain upon his reputation. Before his return to Rome, he found a difficulty, and incurred considerable danger, in the distribution of the for-
feited lands among the soldiers. He was also involved in a civil war by the violence of Fulvia, and of Lucius the brother of Antony, which was terminated by the surrender and capitulation of Perusia. On this occasion, Octavianus exercised the most inhuman barbarity. See PERUSIA. After the conclusion of this war, a partition was made of the Roman empire between Antony (see ANTONY) and Octavianus: Rome and the west being allotted to the latter. The next and most important event that engaged the attention of the triumvirs, was the war with Sextus Pompeius. While Octavianus was preparing for this war, he was captivated by the personal and mental charms of Livia, then the wife of Claudius Tiberius Nero. In order to obtain possession of her, he divorced his own wife Scribonia, and caressed Livia to be divorced from her husband, though she was at the time far advanced in her pregnancy, and was, within three months after he married her, delivered of a son, who was named Tiberius, and who was afterwards emperor. The war with Pompey, though at first disastrous, was soon concluded by a general engagement, in which Pompey was entirely defeated.

Upon the deposition of Lepidus from his authority as one of the triumvirs, the Roman state was governed by a triumvirate, which was subject to great imm obility. Antony, growing old, and yet addicted to youthful follies, gave Octavianus advantages, which he had discernment to perceive, and of which he availed himself by his political wisdom. Whil it he ingratiated himself with the people by several popular acts, and was invested with the dignity of perpetual tribune of the people, which rendered his person sacred and inviolable, he contributed by various charges to degrade Antony in the public estimation. The commencement and termination of the civil war, in which Antony and Octavianus were engaged, have been already related under the article ANTONY. It will be sufficient here to say, that it was the succours gained by Octavianus, for which he was chiefly indebted to the conduct of his admiral Agrippa, at the famous battle of Actium, fought in the year B.C. 31, which made him master of the Roman world. Having followed his rival into Egypt, and there terminated the war, he remained in the east two years, and settled all the affairs of Egypt, Greece, Syria, Asia Minor, and the East, in a manner well known.

Upon his return to Rome, he triumphed for three successive days with great splendor. Having attained the summit of his ambition, it now remained with him to determine under what title, and in what mode, he should exercise the supreme authority which he had acquired. That he ever seriously intended to surrender the power which he possessed, and to which he had made such sacrifices, is not at all probable; and yet it is by no means unlikely that he should have conferred with his confidential friends, Maecenas and Agrippa, in a manner which historians have recorded. Agrippa, a man no less famous for his probity than his valour, recommended a general reformation; represented the inevitable dangers which attend monarchy, inapplicable to a free people and to men educated in a commonwealth; portrayed the examples of Sylla and Caesar; and closed his speech with exhorting Octavianus to converse the world, by restoring liberty to his country, that the only motive for his taking up arms was to revenge his father's death. Maecenas, a man of great penetration, and generally esteemed the most refined politician of his age, urged that he had gone too far to recede; that he could be safe only on the throne; and that it was absolutely necessary for the welfare and tranquility of the republic, that the sovereign power should be lodged in one person, and not divided among many individuals, whose ambitious views would still occasion a perpetual succession of murders to the public. Octavianus thanked them both for their friendly advice, but avowed his purpose, a purpose without doubt previously formed, of adhering to the opinion of Maecenas; upon which this sage councillor recommended his governing others as he would wish to be governed himself, if he had been born to obey and not to command; that he might then secure success in all his undertakings; happiness during his life, and reputation after his death; adding, that if he dreaded the name of king, so odious in a commonwealth, he might content himself with the title of 'Caesar' or 'Imperator,' and under that appellation, which was familiar to the Romans, enjoy all the authority of a sovereign. Dio. CAIUS, i. iii. p. 464.

Octavianus, having formed his purpose, began to annul and gratify the people, to adorn the city by public buildings, to new-model the senate by introducing his own partisans, by annulling many unjust and severe laws that had been enacted during the triumvirate, and by reforming a variety of abuses. At length, in his 7th consulate, B.C. 27, in the 36th year of his age, he went to the senate-house, and in a studied oration, which displayed his patriotism and dignified his ambition, he proposed to abdicate his authority. Those who were in the secret applauded; others were greatly embarrassed. But amidst this confusion of sentiments, the answer of the senate was unanimous and decisive. They refused to accept his resignation, and convinced him not to desert the republic which he had saved. After a decent refusals, the crafty tyrant submitted to the orders of the senate; and consented to receive the government of the provinces, and the general command of the Roman armies, under the well-known names of 'Proconsul' and 'Imperator.' But he would receive it only for ten years. At the motion of Munatius Plancus, he also assumed the title of Agustus. The powers which he united in himself, of which none, indeed, were not conferred immediately, were those of 1. 'Imperator,' or 'Emperor,' extended to signify commander-in-chief of all the forces of the state, arbiter of peace and war, and uncontrollable head of the executive power, as well over the citizens as soldiers; 2. Of 'Proconsul,' giving him the legal supervision in every province which he could employ his forces; 3. Of 'Tribune,' rendering his person sacred, and conferring upon him the right of veto on all public proceedings; 4. Of 'Censor,' or superintendent of manners; 5. Of 'Supreme Pontiff,' or the head of religion; 6. Of 'Dispensation' from observing the laws, when he should think fit to execute it. To the preceding privileges of an absolute prince was added the venerable and respectable character of 'Father of his Country,' implying a kind of paternal relation to his people.

Agustus, besides the limitation of ten years which he annexed to the polition of his authority, flattered the senate by sharing with it the government of the provinces, referring to himself those which were most liable to tumults and seditions, that he might thus have at his command all the forces of the empire. He also contrived to retain ancient names, forms, and institutions; and to commit a portion of real authority to the senate, the people, and officers of state; so that his government was rather a monarchy than a despotism.

The first and chief care of Agustus, after he had obtained the dignity of absolute master of the empire, was to satify his soldiers, and attach them more firmly to his interest. With this view he differed them all over Italy in 32 colonies, and thus they might easily be re-assembled in
in case of any sudden commotion. His land forces consisted of 25 legions, of which eight were on the Rhine, four on the Danube, three in Spain, and two in Marmatia. The others were sent into Asia and Africa, four being quartered in the neighborhood of the Emperors and in Syria, two in Egypt, and two in the province of Africa, confirming the ancient dominions of Carthage. The whole number of these, constantly maintained by Augustus, and for some ages by his successors, amounted to 170,560 men. In the vicinity of Rome were always quartered 12 cohorts, about 10,000 men, of which nine were called praetorian cohorts, and the other three city cohorts. They were established to guard the emperor's person, and to maintain the peace of the city. That the former might be faithful, and vigilant in their duty for the safety of the emperor's person, the Senate ordered their pay to be doubled. Besides these numerous and well-disciplined land forces, Augustus kept constantly at sea two powerful fleets; one riding at anchor near Ravenus, in the Upper or Adriatic sea, the other at Milenum, in the Lower or Mediterranean sea.

Augustus, having settled all affairs in the capital, passed into Gaul, towards the close of the year B.C. 27, with the design of proceeding to the reduction of the British islands; but on his arrival at Narbonne, he received information that the Salians at the foot of the Alps, and the Cantabrians and Asturians in Spain, had flanked off the Roman yoke: he therefore discontinued his progress, and marched into person into Spain, for the purpose of subduing those nations that had revolted. The conquest of the Salians he committed to his generals. In the year B.C. 23, Augustus married his daughter Julia to his nephew Marcellus; and in the course of the year he was feized with a dangerous disorder, which threatened his life, of which he was cured by his physician Antonius Musa, who deviated from the common practice in administering cooling potions, and recommending the use of the cold bath. His health was not only restored, but his constitution was rendered more firm and vigorous than it had ever been before. When his life was thought to be in danger, he delivered his ring to Agrippa, thus intimating that he deemed him to be a proper successor. Marcellus, who was generally regarded as his successor, was also at this time favored with this preference; but the death of this prince, which was greatly regretted by the Roman people, made way for the introduction of Agrippa to court, and from this time he continued the most confidential friend of Augustus. At this time the administration of the empire was conducted with great equity and moderation; and many instances are recorded, in which Augustus exercised lenity and self-denial, and recommended himself by the respect which he manifested to the senate and to the courts of justice. In the year B.C. 22, he declined the office of dictator and of censors, which were offered him by the senate, and in his general conduct he affected to appear no other than as a private citizen. To him, it is said, the title of "lord" and "master" was always an object of detestation, because its counterpart was that of a "slave;" and to those who behaved to him with disrespect, and who libelled him in their speeches or writings, he was singularly meek and forgiving. Nevertheles, mild and equitable as was the government of Augustus, several conspiracies were formed against him, during the course of his reign; that of Fannius Caepio and Linius Murens, which was detected, so that the principals were punished, gave occasion to two new laws in the administration of criminal justice; one of which was, that accursed persons might be fired and condemned, though they did not appear, as if they were present; and the other, that judges in criminal cases should give their opinions wantonly, and not by ballot.

Rome being now at peace, Augustus determined to visit the eastern part of the empire; but as it was necessary to invest some person with authority for keeping the city in order during his absence, he appointed Agrippa for this purpose; and in order to annex additional dignity to his character in the discharge of the trust that was committed to him, he gave him in marriage his daughter Julia, the widow of Marcellus. This was the respect with which Agrippa was treated, and so mild and yet so firm was his administration, that Rome hardly perceived that it was beclouded by the authority of Augustus. In his progress through the eastern provinces, during the years B.C. 21 and 20, the emperor recovered from Phraates, king of Parthia, the Roman standards and captives that had been taken from Crassus; he placed Tigranes on the throne of Armenia; and at Samos, to the inhabitants of which he granted the liberty and use of their own laws, he received ambassadors from the remotest part of India. A philosopher, who accompanied these ambassadors, attended the emperor in Athens, and committed himself to the flames in his presence. Augustus, after his return, directed his attention to various abuses which needed reform, and to the enactment of regulations that contributed to the perfection of government. He reduced the number of senators from one thousand to five hundred, and fixed at a higher rate the fortune that was requisite for qualifying a person to be elected of that body; and that no persons, who were eminently fit for the office, might be excluded, he made up their deficiencies of fortune by his own liberality. He also introduced some other regulations for restraining the licentiousness and depravity of morals that too generally prevailed; and particularly such as concerned the nuptial state, though rigour in this latter respect did not well become the emperor, who was known to have intrigues with the wives of several men of rank, and who had taken great licence in the privilege of divorce. Augustus increased the tax on celibacy, and granted privileges and rewards to married persons who had several children. See PAPIAN-PORR-ER. Sumptuary laws and regulations respecting the public spectacles, and the supplication of riots and disorders among the spectators, also occupied his attention. In the year of Rome 737, B.C. 17, he celebrated the featural games with extraordinary splendor. About this time he also adopted his two grandsons Caius and Lucius; the children of Agrippa and Julia. Having received from Gaul many complaints against the attendants whom he had appointed to levy the tributes and imposts and particularly against Licius, he visited that country; but the principal aggressor, Licius, contrived to lose his displeasure by giving him a great part of the treasures which he had amassed. Upon his return from Gaul, B.C. 15, the death of Lepidus afforded him an opportunity of alumming the office of supreme pontiff; and in the first exercise of this authority, he collected all books of divination and pretended oracles, of which more than 2000 were committed to the flames. The books of the Sibyl, however, were entrusted to the custody of the priests. The death of Agrippa was, at this time, a very distressing event to Augustus (see AGrippa); but it served to advance Tiberius in the family of the emperor, who by an unwarrantable act of tyranny caused him to be divorced from a wife to whom he was affectionately attached, and to marry the widowed Julia, of whose irregularities he was well apprised.

In the prosecution of the German war, Drusus distingushed himself by his successes, and extended his arms as far
far as the Elbe; but as he was returning to the banks of the Rhine, illnss or accident occasioned his death, B. C. 9. His brother Tiberius also reduced the Pannonians and Da-
cians, and completed the work which Drufus had begun. These events terminated in a general peace through the whole Roman empire, and the temple of Janus was shut, for the third time, in this reign, and remained in this state about 12 years. Before this time Augustus had lost his beloved sister Octavia, who never recovered the death of her son Marcellus; and this affrighted event was succeeded by the decease of his favourite minister Mæcenas, between whom and Augustus a coolness had subsisted, which is said to have been owing to the emperor's intrigues with his wife, Terentia. During this period, however, Augustus received many unequivocal testimonies of the attachment and affection of the people (Suet. Aug. 57—60); and after enjoying the imperial authority for 20 years, he was unanimously requested to accept it for 10 years more. The year 8 B.C. was rendered memorable by the reform introduced by Augustus into the calendar. (See Bissextile, and Calendar.) About the year B.C. 6, the ambition of the young Caesars, Caius and Lucius, the adopted sons of Augustus, began to give him uneasiness; and the jealousy which subsisted between them and Tiberius induced the latter to request the liberty of retiring to Rhodes, which was reluctantly granted, and whence he was not allowed to return for seven years. On occasion of Caius Caesar's assuming the toga virilis in the year 5 B.C.; Augustus accepted the confidate for the twelfth time; and this year (four years before the vulgar era), was rendered singularly illustrious by the birth of Jesus Christ. When Lucius Caesar took the toga virilis in the year 2 B.C.; Augustus became con-
ful for the thirteenth and last time. But this year was em-
bittered to him by the discovery of the very licentious and shameful conduct of his daughter Julia, which had been for some time known to every one but himself. After deliber-
ating whether her punishment should be death or exile, he determined to divorce her from Tiberius, and to banish her to the island of Pandataria on the coast of Campania, where she was allowed merely necessaries, and whence she was never recalled. Of those with whom he had criminal intercourse, some were exiled, and others put to death.

Augustus, having lost his two adopted sons; Caius having died A.D. 3, of a wound which he received in Armenia, and Lucius at Marseilles, A.D. 2; had no hopes of perpetuating any of his own family on the imperial throne. He therefore recalled Tiberius from Rhodes, and adopted him some months after the death of Caius Caesar. He also adopted the lioth of his grandchildren Agrippa Posthumus; but his untractable disposition and grofs manners induced him afterwards to annul his adoption, and to banish him to the isle of Planaria or Pianofa, on the south of the isle of the Elbe. The emperor likewise obliged Tiberius to adopt Germanicus, the son of Drusus.

In the year 4, Augustus, who was a fifth time continued as commander in chief of the armies, and in the government of the provinces in his department, prosecuted his labours for settling the civil administration of the republic. He again reviewed the senate, numbered the inhabitants of Italy, and established some other regulations for the benefit of the state. But of all the occurrences of this year, the most glorious for Augustus was the pardon of Cinna, Pompey's grandson; who was accused of a conspiracy against his life. Having admitted the criminal into his closet, he reminded him of the favours which had been conferred upon him, and charged him with the ingratitude of his design; and then closed an address of twelve hours with these words: "Again, Cinna, I give you your life: I spared you, though you were my enemy; I now forgive you, though to that name you have added those of traitor and parnicius. Let us from this day begin to be sincere friends; let us vie with each other; I, to support the good I have done; you, to make a suitable return; let us try to make it a doubt whether I am most generous, or you most grateful." The emperor named him confial for the next year; and from this time, Cinna, overcome by the emperor's goodness, became his faithful and zealous friend; and when he died, made Augustus his sole heir. The clemency of Augustus on this occasion interested the people so much in his favour, that no conspiracy was ever more attempted against him.

The conduct of Julia, the grand-daughter of Augustus, who copied after her mother's example, offended and griev-
ed him; and he banished her A.D. 5, to the isle of Trime-
tum, now Terni, on the gulf of Venice. The poet Ovid, who is supposed to have participated her guilt, was banished at the same time, to Tomi in Scythia, on the borders of the Euxine sea. The two Julias, and Agrippa Posthumus, sud-
ly interrupted the domestic felicity of Augustus, so that he used to call them his three enemies, his three alpaca; he never heard their names without a sigh, and often applied to them a verse of Homer, II. iii. 40.

"AimOLS 'E'AO 'T'OGV 'EIANI, 'EAO 'AIOV.'

i.r. "Would to heaven I had never married, but had died without posterity."

In the following year, A.D. 10, the destruction of Varus with three entire legions in Germany, in consequence of a confederaet formed by Arminius, the lofs of the standards of the legions, and two of their eagles, and the inoffence and cruelty with which the captives were treated by the conqueror, were the occasion of great disturb and terror at Rome. Augustus, accoustioned to glory and prosperity, in-
mented this humiliating and disastrous event with the excess of sorrow. He not only put on mourning, and suffered his beard and hair to grow, but often exclaimed in an agony, "Return me my legions, Varus." As long as he lived, the day of Varus's defeat was observed by him as a day of an-
ual regret and sorrow. Tiberius, however, by his military skill restrained the ravages of the Germans, re-established the reputation of the Roman arms, and relieved Rome amid its anxiety and fears. Augustus was highly gratified by his successes, expressed his approbation in very strong and affectionate terms, and raised him to an equal share of the imperial authority. Upon his return to Rome A.D. 13, he obtained a magnificent triumph. Towards the close of his life Augustus enacted several regulations, which under succeeding emperors became the means of extending and vindicating tyranny and despotism. As he was unable to go frequently to the senate, he caus'd his privy council to be invested with the authority of the whole body; he also weaken'd the power of the people, which his succes-sor actually annihilated, by nominating magistrates, whom they had been accustomed to elect, and by authoritatively recommending to the people such as he chose to have employed. He likewise revived and extended an old law, which was levelled against actions detrimental to the state, by enacting that all authors of defamatory libels should be guilty of high treason, and punished accordingly. As his health and strength declined, he devolved the principal cares of empire upon Tiberius. The accept of the complaint that terminated in his death has been, without sufficient reason, attributed to poison, ad-
ministered by his wife Livia, who was alarmed, on account of her own son, by his returning affection to his grandson, Agrrippa Posthumus. But the truth is, that his disorder

was
was owing to a weakness of the stomach and bowels; and he was filled with it, as he was conducting Tibullus towards Illyrnum. On his return towards Rome, his complaint increased and obliged him to flit to Nola, where he took to his bed, and impatiently waited the approach of death. On the last day of his life, he called for a mirror; he had his head decked, and something to be done which might prevent his checks from appearing fink; and then calling his friends to his bedside, asked them, whether they did not think he had acted his part pretty well in the comedy of human life? and then addressed them in a Greek verse, with which they generally closed their plays:

"...dote, nunc penitus, viri minor usque nux tua..."

i. e. "Clap your hands, and let all applaud with joy."

After this kind of comic adieu, he ordered every body to retire, and died in Livia's arms: saying, "Livia, ce fugi me moritem, vive et vale," i.e. Livia, farewell, forget not a husband who has loved you tenderly." His death happened on the 19th of August, A. D. 14, A. U. C. 767, and in the seventy-sixth year of his age. The duration of his power, if we reckon from the time of the triumvirate, of which he took possession the 27th of November, in the year of Rome 711, B. C. 43, was about 56 years. If we reckon from the battle of Actium, fought the 4th of September, in the year of Rome 721, B. C. 31, when his sole possession of the Roman empire properly commenced, Augustus will then appear to have enjoyed the sovereign power about forty-four years. Crever rates the true time of his becoming emperor to have been the 7th of January, in the year of his seventh consulship, which, according to his reckoning, was the 723rd of Rome, and referring his death to the 767th of Rome, he governed as prince and emperor forty years, seven months, and thirteen days. "All the rest (he says) was manifest usurpation and tyranny." Josephus (Ant. L. xvii. c. 2. § 2. D. Bell. ii. c. 9. § 1.), and others after him, compute the beginning of the reign of Augustus from the year in which Caesar was killed, A. U. C. 710, B. C. 44, and make its duration fifty-seven years, six months, and some odd days. Polyanus, in his canzon, and St. Clement of Alexandria (Str. l. i. i. p. 405. ed Potter.), date the commencement of his reign in the year after the battle of Actium, A. U. C. 724, and compute its duration to be forty-three years.

Before the funeral of Augustus, his will was presented to the female-honour by the veiled virgins, in whose custody it had been deposited, and read aloud by Polybius, one of his freedmen. By this will, made sixteen months before his death, Tibullus and Livia were appointed his first heirs, his grand-children and their children his second, and the great men of Rome his third heirs. Livia was adopted into the Julian family, and honoured with the title of Augusta. He bequeathed, as a legacy, forty millions of sesterces (about 5,000,000 livres) to the Roman people; three millions five hundred thousand (4,575,000 livres) to the tribes, that is an hundred thousand (12,500 livres) to each; to each of his guards a thousand sesterces (125 livres); to each of the soldiers appointed to guard the city 500 sesterces (62 livres); and to each legionary soldier 300 sesterces (37 livres). Augustus left also four memorials, written by his own hand, which were produced to the Senate by Drusus. The first of these contained regulations relating to his obsequies; the second was a journal of the most memorable actions of his life, which he ordered to be engraved on the pillars of brass which supported the frontpiece of his flaccus manufectum; part of which has been preserved in an ancient marble, found about 200 years ago in the city of Anzepa; the third contained a summary of the strength and income of the empire; and the fourth was a summary of instructions for the use of Tibullus, and the other governors and magistrates of the republic.

The funeral of Augustus was performed with very extraordinary magnificence. After a short eulogium by Drusus, and a funeral oration by Tibullus, fire was let to the pile in the Campus Martius, on which his body was laid, and at this moment an eagle was let loose from the top of it, to carry his soul to heaven. His ashes were collected by Livia, and enclosed in an urn of gold, which she deposited in the mausoleum erected by Augustus in a grove between the Tiber and the Flaminian way. After the funeral, divine worship was decreed to him, with a temple and priests; the house in which he was born, that in which he died, and most of the houses in which he had lived, were converted into funeraries. Livia assumed the office of chief priestess to the new deity; and made a present of a million of sicles to an old priest, named Numerius Atticus, who favored that he saw the soul of Augustus in its flight to heaven.

The character of Augustus appears under very different aspects in the various periods of his life and reign. In the outset of his career of ambition, he was crafty and dissembling (Gen. Biog.), violent and fanatical; but as he advanced in years, and after he had attained the object of his views, he was, in his general conduct, mild, affable, and conciliating. In the exercise of that sovereign and absolute power, which he acquired by means which none can attempt to justify, and which he contrived most effectually to secure by apparent moderation and false-deny, he seems to have been the most industrious for making the people contented; and happy; and in many respects he was entitled to the character of a wise and equitable governor. "As a compensation for liberty," says one of his biographers, "he gave his subjects security, ease, prosperity, and all the advantages of high civilization, with as little as possible of the severity of restraint and coercion. He filled Rome and all Italy with improvements of every kind; made highways, conduc- ed buildings for use and convenience, and could boast that he received a capital built of brick, and left one of marble. He encouraged letters, that one of the great ages of excellent human productions takes its name from him." (See Aggi.) Those whom he encouraged by his liberality, repaid him with an adulation, which was not honourable to themselves, and which made no addition to his reputation. The love of flattery, however, is not charged upon him as one of his predominant foibles. In private life he had many estimable qualities. Affectionate to his family and friends, condescending and indulgent to his domestics and dependents, frugal and sober with regard to every indulgence, one excepted, which regarded himself; he commanded affection and respect. But his disposition to gallantry and licentiousness in his conduct towards the female sex, exposed him to just censure and reproach; nor did the counsel of his friends (see Athenodorus), nor the wisdom of experience, avail to the due restraint of his criminal passions. Sometimes indeed, it has been said, his intrigues were the result of that policy which directed his general conduct, as they were to discover secrets of state, and to obtain information concerning any plot or sedition that might have been formed by the husbands of those wives with whom he was connected. In other respects he paid a high regard to external, decorum; and whatever might have been his sentiments with regard to religion in early life, he appears in mature and more advanced age to have been much inclined to superstition. He took great pains to establish order in every branch of the administration whom he lived and recommended it to his successors not to exceed the limits of an empire that was already
ready too large. — Upon the whole," says the biographer above cited, "if not entitled to rank among the greatest and best of mankind, he will be ever respected as one of those sovereigns whose personal qualities had a great influence in promoting the happiness of the people he governed."

A popular historian (see Gibbon’s Hist. vol. i. p. 114.) has given the following sketch of the character and history of Augustus. "The tender respect of Augustus for a free constitution which he had deified, can only be explained by an attentive consideration of the character of that subtile tyrant. A cool head, an unfeeling heart, and a cowardly disposition, prompted him, at the age of nineteen, to assume the mask of hypocrisy, which he never afterwards laid aside. With the same hand, and probably with the same temper, he signed the prostration of Cicero, and the pardon of Cinna. His virtues, and even his vices, were artificial, and according to the various dictates of his interest, he was at first the enemy, and at last the father of the Roman world. When he framed the artful system of the imperial authority, his moderation was inspired by his fears. He wished to deceived the people by an image of civil liberty, and the armies by an image of civil government. " Among the ancients, the principal writers who have portrayed the character and reign of Augustus, are Suetonius, Dio Cassius, Velleius Paterculus, and Tacitus. Julian (Caesar, p. 329.) says of him, that as Octavius advanced to the banquet of the Caesars, his colour changed like that of the cameoleon; pale at first, then red, afterwards black, he at last assumed the mild liveliness of Venus and the graces. Horace, in the introduction to the first epitile of the second book, gives the following feber and judicious summation of the emperor’s characteristic merits:"

"

"Cum tot fultines, et tanta negotia, folus:
Res Italas armis tuercis, moribus ornes,
Legibus emendes; in publica commoda peccem,
Si longo formone morer tua tempora, Cesar."


AUGUSTUS, Fort, in Geography, a small fortress seated on a plain at the head of Loch Nevis, in Scotland, between the rivers Tarf and Oich, just where they discharge themselves into the lake. The fortress consists of four small batallions; and now exhibits tokens of decay, though a governor constantly resides in it, and all the regulations of a garrison are observed in it. It was taken by the rebels in 1746, who, after doing it all the injury in their power, deferted it. Its distance from the sea prevents its being of any further service, in a tranquil climate of the country, than that of affording a retreat for a few invalid officers and soldiers. A small village lies behind the fort, and it serves as a kind of resting-place in the way to the isle of Sky, distant from it about 52 miles.

AUGUSTUSBURG, a town of Germany, in Upper Saxony, and circle of Erzgebirg, seven miles east of Chemnitz.

AUGUY-L’AN-NEUF, or AUGUILLANÈUF. See MULHOUSE.

AUHAF, in Geography, a town of Germany, in the archduchy of Austria, six miles south-fourth-welt of Ips.

AVIA, in Ancient Geography, a town of Hispania Tarraconensis, in the country of the Vaccares.— Also, a town of Italy, in the territory of the Velini. Potenxio.

AVIANO, in Geography, a town of Italy, belonging to the state of Venice, in the province of Friuli, twenty-eight miles west of Udina, and fifteen E. S. E. of Belluno.

AVIARY, formed of avi, bird, a house or apartment kept for the keeping, feeding, and propagating of birds.

AVICENNA, in Beloei called after the famous oriental physician Avicenna. Lin. g. 1237. Stræb. 1073. Jacq. Amer. 1778. t. 112. Jul. 118. Claus. de hæmatiwm angioperm. Nat. Ord. Perseae. Fil. Jul. Gen. Char. Gen. perinnat five-parted, permanent, leafless subulate, oblong, concave, erect; increased by three faiths. Calyx, monopetalous; tube bell-shaped, short; border bilabiate; upper lip square, crenarurate, flat; lower divided, divaricate ovate, equal, flat. Stem. filaments four, subulate, erect, the two front ones rather shorter, bent back to the upper lip; anthra roundish, twin. Piper. germ ovate; style subulate, erect, the length of the flower. Vigna bifida, acute; the lower division bent down. Per. calycis coriaceous, rhomboidal, compressed, one-celled, two-valved; seed one, large, the form of the calyx, contracted of four fleshy folds, garnetizing.


Species. 1. A. tom. major. Jacq. l.c. Botia gemmata, Brown Jan. 205. Mangia. Sloane Jan. 2. 66. Popula, Rhed. Mal. 4. t. 45. "Leaves cordate, ovate, tomentofoe, underneath." This tree is like the mangrove, rising about sixteen feet high. Its trunk is covered with smooth, whitish green bark, and the twigs from the stem propagate the tree like those of the mangrove. The leaves appear at the base of the branches, on very small petioles, opposite, smooth, soft, having a large dark-green rib; flowers many, at the tip of the branches, white, four-petalled. A native of the East and West Indies. 2. A. nitida. Jacq. Amer. 1778. t. 112. f. 1. Pict. t. 169. "Leaves lanceolate, shining on both sides." Height forty feet; leaves sharp, entire, opposite, on short petioles; peduncles racemose, a little branched, terminal; flowers yellow, white, with a brown mark on the middle segment of the under lip. A native of Martinique. 3. A. p. major. Forl. "Leaves ovate-lanceolate, tomentose, underneath." The leaves of this tree are opposite, petiolate, coriaceous, entire, sharp, shining above, and having a yellowish sap beneath; peduncles terminating, subfusiform, loaded with a head of flowers. A native of New Zealand. The much esteemed green-coloured gum used by the natives of New Zealand, is supposed to be the produce of this tree.

AVICELLA, in Cancology, a name affixed by Rumpius, to that species of Myrtus since called Myrtillus Hung. Lin. and Gmel. AVICULARIA, in Entomology, a species of Araeae or spider that inhabits South America. The thorax is oblong and convex, with a transverse excavation in the centre. This is the largest species of its genus known; and is such a formidable creature that it not only attacks insects, but even small birds, dropping from the branches of trees into their nests and sucking their blood. The fangs are as large as the talons of a hawk; body brown; abdomen oblong; legs with brown rings.

AVICULARIA, a species of Hipsosca, with obtuse wings and thorax of one colour, or immaculate. Infigures the body of birds, and particularly swallows. Dasyge. Donov. Brit. Inf. &c.

AVIDA, a species of Phalæna (Noctua), that inhabits India. The wings are shining brown; ligament spot, and band behind, ferruginous; posterior wings white. Fabricius. This is the middle race, and blackish.

AVIENUS, Rufus Fertus, in Biography, a Latin Vol. III.
their altars and their fants, were left in a state of poverty and decay; and Rome was often painted under the image of a desolate nation. But it was alleged, that the cloud which hung over the seven hills, would be dispelled by the preference of their lawful sovereign; eternal fame, the prosperity of Rome, and the peace of Italy, would be the recompense of the people who should dare to embrace this generous resolution. Of the five popes to whom Petrarca addressed his exhortations, the three first, John XXII., Benedict X., and Clement VI., were important or amiable by the boli

The growing奢望Gregory P., 1612, 1445, the pretence

be all the repairs of the city, but the memorable change, which had been attended by Urban V., between the years 1357 and 1379, was finally accomplished by Gregory XI. A.D. 1377, who did not survive his return to the Vatican above fourteen months. His decease was followed by the "Great Western schism," which began after the decree of Gregory XI., A.D. 1378, by the election of Clement VII. In opposition to Urban VI., and continued for about forty years, till the council of Constance, A.D. 1414—1418, when the elevation of Martin V. was the era of the restoration and establishment of the popes in the Vatican. During this interval, there were two popes, one residing at Rome or in Italy, and the other at Avignon. See SCHEM.

This city is about three miles and two furlongs in circumference, and is in general irregular and badly built; but it is surrounded by walls and turrets with battlements, not unlike those of Rome, and its public edifices are large and grand, according to the taste of the fourteenth century. The church of Notre Dame is ancient, and is one of the best adorned in the city; the archiepiscopal palace overlooks the Rhone, the city, and the fields. These buildings, together with the mint, adorn a large square, which is the common walk of the inhabitants. The church of the Cordeliers is very magnificent, and is full of fine monuments. The university has four colleges; the place in which the Jews have been accustomd to live is a distinct quarter; and those who pay tribute are forbidden to leave it without yellow hats, and the women also wear something yellow about their heads; and they are thus distinguished from the Christians. Their number is considerable, though the district of their residence is very confined. Near the Rhone is a large rock, within the circuit of the walls, upon which is a platform, whence the whole city and the places about it may be seen. The bridge, about a quarter of a mile in length, that crossed the Rhone, was demolished by an inundation in 1669. The fountain of Vaucluse, which is the source of the river Sorgues that waters the city, and whither Petrarca often repaired to indulge his grief and hopeless love, is situated in a winding valley, forming the figure of a horse-shoe, about five miles from Avignon. The fountain is a hafon of water, several hundred feet in circumference, very deep, and clear as crystal, but overshadowed by an incumbent rock. The water discharged from this fountain, by a narrow passagé, forms a cascade, which is precipitated along a rocky channel. The rocks, which invest this romantic spot, are worn by time and the inclemency of the weather, into a thousand fantastic forms. And on one of the pointed extremities, in a situation almost inaccessible, are seen the remains of an ancient castle, projecting over the water, called by the peasants "Il Castello di Petrarca;" and they add, that Laura lived upon the opposite side of the river, under the bed of which was a subterraneous passagé, by which the two lovers visited each other. The residence of the poet was much lower down, and nearer to the banks of the Sorgues, as appears from his account of it, and from his relation of his contests with the naiads of the stream, who during winter encroached on his small adjoining territory: but no remains of it are now to be discovered. Below the bridge is an island, where the Sorgues joins the Rhone, in which are several houses of pleasure. The inhabitants of Avignon were establisht before the revolution at 30,000, 1000 of these being ecclesiastics, and some hundreds of the former includes 321, and that of the latter 421 kilomètres, and they both comprehend one commune. N. lat. 45° 56' 58". E. long. 4° 48' 10".

AVIGNON-Berry, called also French Berry, in Botany, is the fruit of a shrub, by some authors called lycium; growing plentifully near Avignon, and other parts of France. See LYCUM.

AVIGNONET, in Geography, a town of France, in the department of the Upper Garonne, and chief place of a canton in the district of Villefranche, twenty miles south-east of Toulouse, and four miles south-east of Villefranche.

AVILA, Gilles Gonzales, in Biography, a Spanish ecclesiastic and historian of the seventeenth century, was a native of Avila, and acquired at Rome, where he studied, a great knowledge of sacred and civil history. On his return to Spain, he had an ecclesiastical benefice at Salamanca; and in 1612, he removed to Madrid, and was appointed historiographer to the king. He died in 1658, at the age of 80 years. His principal works, published in Spanish, were "The History of the Antiquities of Salamanca," and "The theatre of the Churches of the Indies, &c." Nouv. Dict. Hist.

Avila, in Geography, a city of Spain, in Old Castile, seated on the river Adaja, on a large plain surrounded with mountains and plantations of fruit-trees and vineyards, and having a manufacture of cloths, that are said to be equal to those of Segovia. It is fortified by nature and art, having a wall 9075 feet in circuit, with twenty-six lofty towers, and ten handsome gates. It has seventeen principal streets, containing several good and stately houses; nine squares, 2000 houses, nine parishes, and as many monasteries, seven nunneries, two colleges, nine hospitals, eighteen chapels, and an annual allowance of 10,000 ducats for the maintenance of orphans and other poor people. The university was founded in 1445, confirmed by pope Gregory XIII. in 1538, and afterwards enlarged; and its cathedral has eight dignitaries, twenty canons, and the same number of minor canons. N. lat. 40° 33' W. long. 4° 13'.

This city has been rendered famous by the deposition of Henry IV. A.D. 1615. The indignation of the Castillian nobility against the weak and frivolous administration of this prince, led them to combine against him, and to execute the right, which they arrogated as one of the privileges of their order, of trying and of passing sentence on their sovereign. For this purpose they erected a spacious theatre in a place without the walls of the town, and having prepared an image, clad in royal robes, representing the king, they placed it on a throne, with a crown on its head, a sceptre in its hand, and the sword of justice by its side. The accucion against the king was then read, and the sentence of deposition was pronounced in presence of a numerous assembly; and whilst the several charges were delivered, they proceeded to tear the crown from the head of the image, to snatch the sword of justice from its side, to wrest the sceptre from its hand, and, at the close of the whole, to tumble it headlong from the throne. When this ceremony was fulfilled, Don Alfonso, Henry's brother, was proclaimed king of Castile and Leon in his stead. Robertson Hist. Ch. V. vol. i. p. 179.

Avila, or Alaba, a town of Spain, in Altoria, near the bay of Biscay, nine leagues from Oviedo.
AVILA. A city of South America, in the province of Quito, and government of Quixos, situate in S. lat. 2° 44', and about 2° 20' E. of Quito. It is less than Archidona, a small city lying in S. lat. one degree and a few minutes, and about one degree fifty minutes E. of Quito. Like this latter place, its houses are of wood covered with straw; and as the whole number of inhabitants in Archidona is reckoned at 650 or 700, confints of Spaniards, Indians, Melitoreos, and Malatoes, those of Avila scarcely amount to 300 of both sexes. Like the other it has one priest; and his ecclesiastical jurisdiction comprehends fix towns; viz. La Conception, Loreto, San Salvador, Motte, Costa Phil, and Santa Rosia.

AVILA Fuente, a town of Spain, in old Calilie, fix leagues from Segovia.

AVILIER, Augustin-Charles D', in Biography, an eminent French architect, was born at Paris in 1653, and from his youth devoted himself to the study of architecture. In his way to Rome, whither he was sent for improvement by the royal academy, at the age of twenty, he was carried into slavery by an Algerine corsair, and in this situation he manifested his talents by making a design for a grand mosque at Tunis. After sixteen months he was liberated, and pursued his studies at Rome for five years. On his return he was placed under Mansart, first architect to the king, and had a principal concern in the conduct of all public works. His "Courte de Architecture" was founded on the work of Vignola; but by the enlargement of that writer's plan, was rendered a complete treatise of the art. It has been much enlarged: the first edition was that of 1691, 2 vols. 4to. and it has since passed through several other editions. Being invited to Montpellier, he superintended the construction of a grand triumphal arch to Louis XIV., was afterwards appointed architect to the province of Languedoc, and besides other buildings in which he was employed, he erected the archi-episcopal palace at Toulouse. He died at Montpellier in 1700. Moreri. Gen. Biog.

AVINO, in Geography, a town of North America, in the province of New Galicia, where the Spaniards have a silver mine; between Durango and Elerrema.

AVINO, La Panca, a town of North America, in the western part of the kingdom of Leon, between two of the head-branches of the Nafis river.

AVIORA, a town of Atlaic Turkey, in Caramania, sixty miles north-east of Tocot.

AVIOTTH, a town of France, in the department of the Meafe, and chief place of a canton in the district of Stenay, three miles north of Montmeday.

AVIRA, in Ancient Geography, a town of Asia, in the Palmvrene, Prolemly.

AVIS Indicus, in Astronomy. See AVUS.

AVIS, or AVIOTH, in Geography, a town of Portugal, in the province of Alentejo, giving name to an order of knights; three leagues west of Elremos. The land surrounding it is covered with cactus, which is usually cut down once in eight years and burnt, and the ground foun with corn. N. lat. 38° 45’. W. long. 7½.

AVIS, in Heraldry, a military order of knighthood, instituted by Alphonfo Henriques king of Portugal, in 1142, in testimony of the great services done for him at the siege of Lisbon, by the nobility led to his assistance by Don Ferdinand Rodriguez de Monteypio, whom he appointed to be their grand master. For some years after they were called Nouvelle Miace, or the new military; which appellation continued until the year 1166, when they having taken Evora by surprize, the king conferred on them the government of that town, and commanded that they should henceforth be called Knights of Evora; lastly, the same king, having in the year 1181, taken from the Moors a place very advantageously situated, and called Avis, granted the same to the before-mentioned knights, on condition that they should build a fort in that place, and reside therein. The knights accordingly transplanted themselves thither, and from that time took the denomination of Evord d’Avis. In the year 1204, pope Innocent III. confirmed this order. The badge of the order is a croq, flory, encamelled vert, between each angle a fleur-de-lys or; which they wear pendant to a green ribbon round the neck; and the same badge is embroidered on the left shoulder of the robe of flate, which is of white furb.

AVIS, Bird. Aves, Birds, among Naturalists, the second class of animals; a race of creatures sufficiently distinguished from the others in having the body covered with feathers, two feet and two wings, formed for flight. Birds have the mandible protracted and naked, and are deficient of external ears, lips, teeth, scrotum, womb, urinary vesicle or bladder, epiglottis, corpus callosum, or its fornix (covering the two lateral ventricles of the brain, or its arch) and diaphragm. In the Linnean system, birds are divided into fix orders; viz. accipitres, pice, auvres, galura, gallina, and paffere. See Ornithology.

AVIS, Longis, in Ornithology, a name given by Nieremberg to the hoitlattotl of the Americans, a bird remarkable for its swiftness in running. The hoitlattotl appears to be the phaianus mexicanus of Gmelin, and courter phaeon of Latham.

AVIS Nirea, a name under which Nieremberg has described an American bird of the size of a thrush, of a brown and black colour on the back, and yellow under the belly; it imitates the human voice, and is called by the natives caoa.

AVIS Pennipulchra, the name of an American bird described by Nieremberg, and called by the Indians quato altolotl. It is the size of a pigeon, and is said to be all over the body of the more beautiful colours of the peacock. The species alluded to is not accurately known; and Ray has arranged it with some others, as doubtful kinds.

AVIS Scira, or Hoadli. See ARDEA HOACTLI, Gmelin, and Hoalt, Buffon.

AVIS Tropicorum, and avis rubas forcentas, the name of a bird, among old authors, called in English the tropic bird; and by Gmelin PHAEON AETHEREUS.

AVIS Tenti, "the bird of the wind," or heathhtotl, ecutadotl, f. avis venti altera, Ray, &c. obidate names of the Mergus Engulcus, or bondet margener, of America.

AVIS Paradisi, bird of Paradise. See Paradisa.

AVIS Mexicant, grandis rubra, Sbba. See LORIX MEXICAN.

AVIS Quarta piperin, Gfex. See EMERIZA NIVALIS.

AVIS Americana cristata rubatra, Sbba. See PIPA RUB.

AVIS Mexicana altera, Sbba. See PIPA ERTHROCH.

AVIS, in Geography, a town of Piedmont, in the duchy of Aoila, in the grand Doria, eight miles west of Aoila.

AVISO, a town of Italy, in the kingdom of Naples, and country of Lavora, six miles east of Sora.

AVIS, Italian, adviso, chiefly used in matters of Commerce, denotes advice, piece of intelligence, or advertisement, to notify some event or matter worthy of knowledge.

AVISON, Charles, in Biography, organist of New-calk, was an ingenious and polished man, esteemed and respected by all who knew him; and an elegant writer upon his art. He had visited Italy early in his youth, and at his return, having received instructions from Gem الخارك, a bis
in his Compositions for Violins, and in his Essay on Musical Expression, towards that matter, is manifest. Ramoneus was likewise his model in harpsichord music; and Marcello's complaints were much over-rated by him, in order to depreciate Handel, whom he censured more by implication than open hostility. We find in his book, which is elegantly written, and in the prefaces to his musical compositions, many prejudies, particularly against German symphonies; ascribing to them the corruption and decay of music. His compositions for the harpsichord, when played by the late lady Milbanke, and accompanied by Giardini, had a pleasing effect. They were formed on the plan of Ramoneus's concertos, as those for violins were on the concertos of Geminiani; and there was the same difference between them in point of excellence, as is always discoverable between an original production, and an imitation.

His violin concertos were revived, after they became of age, at the concert of ancient music; where 20 years are the period which renders musical compositions venerable. Here they are still played in turn with those of Corelli, Geminiani, Handel, and San Martini; with those productions, however, they but ill support a parallel: they want force, correctness, and originality, sufficient to be ranked very high among the works of masters of the first class.

AVITUS, SEXTUS AULUS ECEIDICUS, a Christian divine, bishop of Vienna in France, was nephew to Marcus Marcellus Avitus, emperor of the West, and flourished at the beginning of the 5th century. He succeeded his father Lupus in the see of Vienna, in the year 490. He was the friend of Clovis, the first Christian king of France, and contributed to his conversion. As a zealous opponent of the Arians, he reclaimed Gondealb, king of the Burgundians, from his connection with this sect, to the Catholic faith; he prefided in the council of Epaon in 517, and in that of Lyons in 523, in which year he died. He wrote 87 letters on subjects that formed the disputes of the age in which he lived, sermons, and poems on the Mosiac history, and in praise of virginity. His style is said to have been harsh, obscure, and intricate. His works were published by Simmond in 8vo. with notes, in 1643. His poems have been printed separately at Frankfurt, in 1507, at Paris in 1509, and at Lyons in 1530. Cave Hill. Lit. vol. i. p. 461. Nouv. Dict. Hill.

AVIUS, in Entomology, a species of Papilio (Hesperia, Fabr.), with entire wings, above and beneath brown, with two blue streaks near the tip. This insect inhabits India.

AVIUS, in Geography, a town of France, in the department of Arques, in the region of Aisne, and chief place of a canton in the district of Epernay, 6 leagues south of Rheims. The place contains 1296, and the canton 5761 inhabitants: the territory includes 190 square kilometres and 19 communes.

AUK, or AWK, in Ornithology. See ALE.

AUKEB, the Arabic name of the great eagle.

AUKLAND, or Bishop Aukland, in Geography. See AUCKLAND.

AUL, or Saw.

AULA, in our Ancient Law Books, signifies a court baron.—Aula ibidem tanta quarto die Augus., &c.

Aula ecclesiæ is sometimes used for what we now call novis ecclesiis. See NAVE.

Aula regis, or regis, a court established by William the Conqueror in his own hall, composed of the king's great officers of state, who resided in his palace, and were usually attendant on his person. These were the lord high constable and lord marshal, who chiefly presided in matters of honour and of arms, determining according to the law military and the law of nations; the lord high steward, and lord great chamberlain; the steward of the household; the lord chancellor, whose peculiar office it was to keep the king's seal, and examine all such writs, grants, and letters, as were to pass under that authority; and the lord high treasurer, who was the principal adviser in all matters relating to the revenue. These high officers were allied by certain persons learned in the laws, who were called the king's juricici or juricices; and by the greater barons of parliament, all of whom had a seat in the "Aula Regia," and formed a kind of court of appeal, or rather of advice, in matters of great moment and difficulty. All those, in their several departments, transmitted all secular business both bilateral and civil, and likewise the matters of the revenue; and over all presided one special magistrature, called the chief juricic; or "capitalejuricicariototiusAngley," who was also the principal minister of state, the second man in the kingdom, and by virtue of his office guardian of the realm in the king's absence. This great officer principally determined the vast variety of causes that arose in his extensive jurisdictions; and from the plenitude of his power, he became obnoxious to the people, and dangerous to the government which employed him. This formidable tribunal, which received appeals from all the courts of the barons, and decided in the last resort on the estates, honour, and lives of the barons themselves; and which, being wholly composed of the great officers of the crown, exercizable at the king's pleasure, and having the king himself for president, kept the first nobleman in the kingdom under the familiar control as the minister fubject.

This great universal court being bound to follow the king's pleasure in all his prerogatives and expeditions, the trial of common causes was found very burdensome to the subject; and, therefore, king John, who also dreaded the power of the juricice, very readily consented to that article, which now forms the 11th chapter of Magna Carta, and enacts, "that communia placita non sequantur carent regis, sed tenentur in aliquo certo loco." This certain place was established in Westminster-Hall, the place where the "aula regis" originally sat, when the king resided in that city; and there it hath ever since continued. The court being thus rendered fixed and stationary, the judges became not too, and a chief with other juricic of the Common Pleas, was thereupon appointed; with jurisdiction to hear and determine all pleas of land, and injuries merely civil between one subject and another. The "aula regia" being thus deprived of its considerable a branch of its jurisdiction, and the power of the chief juricic being also considerably curbed by many articles in the Great Charter, the authority of both began to decline apace under the long and troublesome reign of king Henry III. In pursuance of this example, the other several offices of the chief juricic were, under Edward I. (who new modelled the whole frame of our judicial polity), subdivided and broken into distinct courts of judicature. Blackf. Com. vol. i. p. 38-40. De Lohn in the Constitution of England, p. 14. See the articles Court of Common Pleas, of Exchequer, and of King's Bench, &c. &c.

AUL, in Geography. See AULS.

AULA, in Ancient Geography, a place of Peloponnesus, in Arcadia, where was a temple dedicated to the god Pan.

AULADIS, a town of Aes, in Megapotamia. Plut.)

AULIE, a part of Aes, in Cilicia, between Tarsus and Anchialae. Simias.

AULI S MANIA, the walls of Auleis, a maritime place of Thrace, upon the Euxine sea, not far from Apollonia, and at some distance north from Salmydonis.

AULANA, a town of Pailecini, 30 stadia distant from Jordanas, Hecaleppus.

AULAS, in Geography, a town of France, in the department of the Gard, and chief place of a canton in the district of Le Vigan, near Le Vigan.

AULAX,
AULAX, in Flor. See Protea.

AULICER. See Aulicester.

AULENDORF, in Geography, a town of Germany, in the circle of Swabia, and barony belonging to the family of Königsegg, seated on a hill near the Hohen, eight miles north of Rauenburg. N. lat. 57° 46'. E. long. 9° 35'.

AULEN SINS, in Ancient Geography, a gulf of Thrasos, near Byzantium.

AULÉRUCI, Branchovices, a people subject to the Adiabani, who are supposed to have inhabited that part of Gaul, where is now the canton called Brieinom, near the Loire, in the diocese of Magon.—A. Chermomani, a people who inhabited that part of Gaul which now forms the diocese of Mans.—A. Eburiales, a people who occupied the country which is now the diocese of Lyon: their capital was Mediolanum.

AULÉTES, sester, in Antiquity, denotes a flute-player. One of the Ptolemies, king of Egypt, father of Cleopatra, bore the surname or denomination of Auletes.

AULÉTTA, in Geography, a town of Italy, in the kingdom of Naples, and province of Principato Citera, four miles N.W. from Cagnano.

AULI, in Ancient Geography, a people of Europe, in Macedonia, who occupied a town to which they gave their name.

AULIC, Aulicus, an act which a young divine maintained in some foreign universities, upon the admission of a new doctor of divinity. It is so called from the Latin aula, a hall: it being in the hall of the university that this act is usually held.

The person who presides at the disputation, is the same that is to take the doctor's cap.

Aulic, Aulus, is also an appellation given to certain officers of the emperor, who compose a superior court of council, which has an universal jurisdiction, and without appeal, over all the subjects of the empire, in all causes entered therein.

All causes relating to points of feudal right or jurisdiction, together with such as respect the territories which held of the empire in Italy, belong properly to the jurisdiction of the aulic council. This tribunal was formed upon the model of the ancient court of the palace instituted by the emperors of Germany. It depended not upon the fates of the empire, but upon the emperor; who has the right of appointing, at pleasure, all the judges of whom it is composed. Maximilian, in order to procure some compensation for the diminution of his authority, by the powers vested in the imperial chamber, prevailed upon the diet A. D. 1512, to give its consent to the establishment of the aulic council. Since that time it has been a great object of policy in the court of Vienna, to extend the jurisdiction, and support the authority of the aulic council, and to circumcise and weaken those of the imperial chamber; for which the tedious forms and dilatory proceeding of this chamber have furnished the emperor with pretext. "Lites Spira," according to the witticims of a German lawyer, "spiraunt, fed nunquam expirant." Such delays are unavoidable in a court composed of members named by fates, jealous of each other. Whereas the judges of the aulic council, depending on one manner, and being responsible to him alone, are more vigorous and decisive. Puffendorf, de Statu Imper. Germ. c. v. § 26.

The aulic council is established by the emperor, who nominates the officers; but the elector of Meutz has a right of visiting it.—It is composed of a president, who is a cardinal; a vice-chancellor presided by the elector of Meutz; and of eighteen assessors, or counsellors, nine whereof are Protestant, and nine Romanists. They are divided into two benches, one of which is occupied by the nobles, and the other by the lawyers. They hold their assemblies in the presence of the emperor; and for that reason are called "judicium imperatoris," the "emperor's judgment:" and "aulic council," because theirs follows the emperor's court, aula, and has its residence in the place were he is.—This court claves a little with the imperial chamber of Spire; as they are preventive of each other; it not being allowed to move any cause from the one to the other. Nor can the emperor himself hinder or suspend the decisions of either court; much less call any cause before himself, which has been once before them, without the consent of fates of the empire. Yet, in some cases, the same council forbad making any peremptory conclusion, without the emperor's participation; and only decretizes, "Fiat votum ad Cererem," that is, make a report hereof to the emperor in his privy-council.

AULICA, in Entomology, a species of Phalena (Bombyx) that inhabits Europe and Siberia. The anterior wings are greyish dotted with yellow; posterior ones fulvous, spotted with black. Lin. Pin. Succ.

AULICK, in Geography, a town of Germany, in the circle of Upper Saxony and bishopric of Naumburg; five miles north of Zitzewitz.

AULICUS, in Entomology, a species of Conus, marked with brown reticulated veins, and interrupted bands of the same colour. It is a native of Asia, and may be only a variety of the conus textile, being extremely variable in its colours and marks. Cewin mentions seven different kinds, with references to different figures in the works of Martini, Knorr, and Scalz: the most remarkable is the fourth variety, the shell of which is yellowish-brown instead of white, and marked reticulately with heart-shaped spots, disposed in a perpendicular direction.

Aulicus, in Entomology, a species of Cerambix (Cylindria Fab.) Thorax smooth and shining; body opake, black; wing-cases smooth; antenna short. Inhabits Europe.

AULICUS, a species of Cimex, that inhabits South America; the colour is red and black, varied, with a black band on the upper wings; lower wings black with a white line at the base. This is cimex irritatus of Thumberg, N. F. or at least a variety of it.

AULICUS, a species of Cryptocoephalus (Cylidea) found in Africa, especially at the Cape of Good Hope. It is black, with a rufous thorax, and azure-blue wing-cases. Fabricius.

AULICUS, in Zoology, a species of Culbber, having 184 abdominal plates, and sixty fulcral caudal scales. It is of a greyish colour with numerous linear white bands which bifurcate on the sides; on each side behind the head is a triangular white spot, and these almost unite at the nape. The length of this kind is about six inches, and its diameter one third of an inch. It inhabits America, and is deemed a poisonous snake.

AULIS, in Ancient Geography, a sea-port town of Boeotia, situate at the bottom of a small gulf, opposite to Chalcis of Euboea; and famous for being the place where the Grecian chiefs resolved upon the destruction of Troy. The district belonging to it, and called "Aulide," lay toward Eupirus, in that part which separated Beotia from Euboea. Diana had a temple in this territory, with a statue of white marble holding a flambeau in the hand.

AULLENE, in Geography, a town of the island of Corsica, four miles north of Talano.

AULNAGER, in Commerce. See Alnager.

AULNAY, or Aunay, in Geography, a town of France, in the department of the Calvados, and chief place of a canton in the district of Vire, 8 leagues south-west of Caen. The place contains 1620 and the canton 12,928 inhabitants.
the territory includes 1,824 kilometres and 19 communes. See AUNAY.

AULO, a Grecian long measure. See MEASURE.

AULONCENE, in Ancient Geography, a mountain of Phrygia, towards the north-east of Amanza-Cibotes.

AULON, a valley of Palestine, extending along the banks of Jordan, from Libanus to the defont of Pharan. Sceythopolis, Jericho, and Tiberias were situated in this valley. —Alfo, a town of Meffenia, upon a river of the same name, north of Electra.—Alfo, a town and port of the Macedonian sea, in the country of the Thaïlanst. Ptolemy.—Alfo, a town of Peloponnesus, in Laceda. —Alfo, another in Arcadia. —Another ancient town in the isle of Crete. —Alfo, a hill of Italy, near Tarentum, which was fertile in vines, and said by Horace not to be inferior to that of Palermum.

AULOS, in Caneology, a name by which several of the ancient writers call the julea, or as it is rather improperly named the rose-foil.

AULPS, or AUPS, in Geography, a town of France, in the department of the Var, and chief place of a canton in the district of Draguignan; 84 leagues W.N.W. of Fréjus. The place contains 2,949, and the canton 55,885 inhabitants; the territory includes 253 1/4 kilometres and seven communes.

AULT, a town of France, in the department of the Somme, and chief place of a canton in the district of Abbeville, five leagues west of Abbeville. The place contains 11,324, and the canton 10,018 inhabitants; the territory includes 150 kilometres and 19 communes.

AULUS GELLIUS, or AELLIUS, in Biography, a Roman grammarian and critic, flourished at Rome, where he was born in the second century, under the emperors Adrian and Antoninus Pius; and died in the beginning of the reign of Marcomannus Antoninus. He studied grammar and rhetoric at Rome, and philosophy at Athens, where he enjoyed the society of Byzantium, Pergamineus Protes, Hercules Atticus, and other learned personages. Having travelled through Greece, he returned to Rome, devoted himself to the study and practice of the law, and was appointed a judge. From the frequent citations of his works by writers on Roman law, it may be inferred, that he attained to considerable reputation in his profession. His "Noctes Atticae," or "Attic Nights," the only work extant, and the greatest part of which was written at Athens, furnishing an amusing occupation for many long winter evenings, is a collection of incidents, and anecdotes, historical and biographical, with critical observations and reflections on various authors and topics, originally compiled for the instruction and entertainment of his children, and rendered valuable by many fragments of ancient authors, that are not elsewhere to be found. It was edited in folio, at Rome, in 1469, by Svinhelm and Parnitz; a second edition was published in 1472, by Jenon at Venice; and in the sixteenth century were found the editions of Aldus, 8vo. at Venice, in 1521; of Paris, in folio, 1519, 1524, 1536; of Basle, 8vo. in 1526; of Paris, 8vo. in 1535, with the critical notes of H. Stephenson. Editions of a later date are those, in ufum Delphiæ, 8vo. 1681; of the Elzevirs at Amsterdam, 1651, 1800; at Leyden, cum notis variisum, 1660; by Crotonius, 4to. in 1705; and at Leipsic, in 2 vols. 8vo. by Guararius, in 1762. An elegant translation of this amusement, but frequently obscure and difficult author, with valuable notes was given in English, in 3 vols. 8vo. by Mr. Beloe, in 1795. Pref. to Beloe's translation. Fabr. Bib. Lat. i. i. c. 1. tit. p. 1. &c.

AUMA, in Geography, a town of Germany, in Upper Saxony, and circle of Neudaldt, forty-four miles S.S.W. of Leipsic, and fix E.S.E. of Neudaldt.

AUMA WENNEN, a town of Germany, in Upper Saxony, two miles S.E. of Auma.

AUMALE, a town of France, in the department of the Lower Seine, and chief place of a canton in the district of Neufchatel, nine leagues S.E. of Dieppe, and eleven N.E. of Rouen. The place contains 1,715, and the canton 7,720 inhabitants; the territory includes 1,692 kilometres, and 19 communes. N. lat. 49° 46°. E. long. 1° 38'.

AUMONE, or ALS. See ALS.

AUMONT, in Geography, a town of France, in the department of Lozère, and chief place of a canton in the district of Marrajos; five leagues north-west of Mende. The place contains 916, and the canton 5,560 inhabitants; the territory includes 259 kilometres and seven communes. AUN, a town of Peru, in the province of Segeslaut, forty-four leagues S.E. of Zareng.

AUNALASKENSIS, in Botany, a species of Orielus that inhabits the island of Oolalatchka. The length of this bird is eight inches; it is of a brown colour, with a spot under the eyes, and chin white; throat and breast ferruginous brown. Gmelin. The beak and legs are brown.

AUNAY, in Geography, a town of France, in the department of the Nievre, and chief place of a canton in the district of Chateauneuf; nine miles north of Meaulns.—Alfo, a town of France, in the department of the Lower Charente, and chief place of a canton in the district of St. Jean d'Angély; eight miles north-east of St. Jean d'Angély. The place contains 1,250, and the canton 11,810 inhabitants; the territory includes 317 kilometres, and 26 communes. See AULAY.

AUNSEL-WEIGHT, called Handsile-Weight, an ancient mode of weighing by a kind of balance, consisting of scales hinging on hooks fastened at each end of a beam or staff, which a man lifts up by his hand or forefinger, and does discover the equality or difference between the weight and the thing weighed. There being great deceit practised in these weights, they were prohibited by several statutes; and the even balance alone commanded. The word is still used in some parts of England, to signify meat sold by pausing in the hand, without putting it into the scales. See STYARD.

AUNCESTOR. A Think of Morit a. See ASSIZE.

AUNCESTREL HOMAGE. See Homage.

AUNE, in Commerce, a long measure used in France and other countries of different lengths in different places. See Ell.

AUNE, in Geography, a river of England, which runs into the sea near Plymouth.

AUNEAU, a town of France, in the department of the Eure and Loire, and chief place of a canton in the district of Chartres; four leagues east of Chartres.

AUNEUL, a town of France, in the department of the Oise, and chief place of a canton in the district of Beauvais; five miles S.S.W. of Beauvais. The place contains 1,727, and the canton 10,325 inhabitants; the territory includes 1,821 kilometres and 19 communes.

AUNGERVY, Richard, or Richard of Burgi, in Biography, an English bishop, was born at St. Edmundsbury, in Suffolk, in 1281, studied at Oxford, and became a Benedictine monk at Durham. He was tutor to prince Edward, afterwards Edward III.; and upon his accession to the throne, he was loaded with honours and prefaces, in 1323, he was consecrated bishop of Durham; in 1334, he was appointed a bishop and 1336, treasurer of England. He was himself eminently learned, and a great patron and encourager of learning. Petarch, with whom he corresponded, calls him "virum ardentis ingenii." He was a great collector of books, and possessed, it is said, more
mor books than all the bishops of England together. Not
withstanding the expense which he incurred in this way, by
employing persons to collect books for him abroad, and also
binders, illuminators, and writers in his several palaces, he
was distinguished by his charity and benevolence. He does
not seem to have competed himself merely with the possi-

AVOI, in Ornithology, a species of Recurvi-
rostra that is distinguished from two other birds of the
same genus, in being variegated only with black and white.
Linus, Gmel. &c.

The length of this bird is from eighteen to twenty inches;
it has a small body, and legs remarkably long; irides haz-
el; crown black; front of the neck, back, belly, and outer
pad of the wings white; legs blueish-black, beak black; about
three inches and a half in length, and like the rest of the
genus, slender, flexible, turning upwards towards the end,
and terminating in a point.

"This bird is common in winter on the eastern coasts of
England, particularly those of Suffolk and Norfolk; and
sometimes on the lakes of Shropshire. They are found in
great plenty in the breeding season, in the fens about Fusi-
dyke Wash in Lincolnshire, and in the fens of Cambridge-
shire. They feed on worms and insects, which they fetch
out of the mud and sand; and are sometimes observed to
wade or swim, but always close to the shore.

"They lay two eggs, which are about the size of
those of a pigeon. Pennant says they are white, tinged
with green, and marked with large black spots. In the
definition of them given by Latham it is observed, they
are of a cinereous grey, whitely marked with deep
brownish-black patches of irregular sizes and shapes,
before under markings of a dusky hue.

The avocet is far more frequent in some other parts of
Europe than in this country. Albin says, in Rome and
Venice they are common; and, according to Salero, they
are so plentiful on the coasts of Bas Poictou, that the pea-

AVOISI, in Geography, a town of Peruia, in the
province of Ardirbeitzan, eighteen leagues south-east of Tau-

AVIDOPOIS, or AVEROPOIS Weight, a kind of
weight used in England; the pound thereof contains
fifteen ounces. See Weight.

The proportion of a pound avoirdupois to a pound troy
is as 17 to 14; or the avoirdupois pound contains 7000
grains, and the Troy pound 7560.

All the larger and coarser commodities are weighed by
avoirdupois weight; as groceries, cheese, wool, lead, hops,
&c.

AVOISE, in Geography, a town of France, in the
department of the Sarte, four leagues from La Fleche.

AVOLA, or AULA, a town of Sicily, in the valley
of Noto, six miles from Noto, and sixteen from Syracuse.
This city, which formerly stood on a hill, boasted of being
the "Hybla Minor," so celebrated for its honey; but the
juifite of its claim, in common with many other cities,
cannot be easily decided. After its destruction by the
earthquake of 1693, the inhabitants rebuilt it more com-
monly in the plain, in a fertile territory, luxuriant in corn
and fruits, and principally in almonds, a considerable article
AVO

AVODE, in Ornithology, a name given by Cetti to some birds of the Volturn genus; as for example, volurrus fischeri is called by that writer avoluris Grifone; and vulurr viger, avoluris aero.

AVON, or AYRON, in the British Language, signifies a river generally; but in its present application designates only a few of the streams in Great Britain. The principal are the Warwickshire Avon, and the Wiltshire Avon. The former is sometimes called "The Upper Avon." It brings a great influx of waters from the north-west, rising on the borders of Leicestershire, and adds great beauty to the delightful territory of Warwick called, as it flows beneath the cliff on which those lofty towers are situated. It then glides through a charming country, to the celebrated spot of Stratford-on-Avon, the birth-place of our immortal Shakspere, and the repository of his boxes. Hence it traverses the great level of Warwickshire, by Eelham, having received the river Stour at Stratford, and turning to the south at Perithure, meets the Severn at the Ramilling town of Tewkesbury. Ireland's picturesque Viciss on the River.

The Wiltshire or Lower Avon derives its source from various springs in the north of Wilts, and becomes a considerable river at the ancient town of Marlborough. In this part of the country, we are informed by Etherhard, that it formed a boundary line between the West Saxons and Mercian kingdoms, and was often stained with the blood of murdered soldiers during the direful warfare between those two powers. Leaving Malmsbury, it meanders through a level tract of fine pastoral land to Great Somerford, Duntney, and Chippenham, where its stream becomes expanded by many contributory rivulets. Quitting Chippenham, its windings are numerous, from the hilly nature of the country through which it flows. Having passed the clothing towns of Malmiham and Bradford, it moves slowly through the gay city of Bath, thence passes on to Bristol, and soon afterwards unites its waters with the Severn. It is navigable for small vessels up to Bristol, and some considerable barges come up as high as Bath.

The Upper Avon, another Wiltshire river, rises among the hills near the centre of that county, and flows southward through a number of small villages to Amesbury and Salisbury, where it receives the united streams of the Wilton and the Nadder; and, running through Downton, crosses the county of Hants, and discharges itself into the British channel at Christchurch.

Another Avon rises in the north part of Glamorganshire, and running south, falls into the Severn at Aber-Avon, south-west of Neath.

Avon, or Avon Vale, a river in Merionethshire, rises among the high mountains of that county, and after passing by the small town of Dolgelly, soon discharges itself into the Irish sea at the town of Barmouth. Avon gives name to two rivers in Scotland. Britton's Beauties of Wiltshire, vol. i., and Skirres General Account of Rivers.

Avon is also the name of a river of Nova Scotia, which discharges itself into the Atlantic ocean, east of Halifax. It is navigable as far as fort Edward for vessels of 400 tons; and for vessels of 60 tons, two miles higher.

AVORTON, Fr. in Midwifery, an abortive child.

AVOSTOLA, in Geography, a river of Picquemont, which runs into the Cervo; 24 miles west of Barossa, in the Vercellios.

AVOWEE, ADVOCATUS, in Law. Avowee is the person to whom the right of advowson of any church belongs, so that he may present to it in his own name; thus called by way of distinction from those who sometimes present in another man's name, as a guardian, who presents in the name of his ward; as also from those who only have the lands to which an advowson belongs for term of life or years, by intrusion or donation. See AVOWEE, and ADVOCATE.

AVOWRY, is one where one takes a diffusire for rent, or other thing, and the other fuses replying. In which case the taker shall futures in his plea, for what cause he took it; and if he took it in his own right, he is to shew it, and to avow the taking; which is called his avowry. If he took it in the right of another, when he has avowed the cause, he is to make cognizance of the taking, as being a half or servent to him in whose right he did it. See REPLEN.

AVOYER, in Ecclesiastical Antiquity, was originally the advocate of a monastery; and in times of confusion the avoyers became captains and protectors of convents, to whom the said convents gave lands in consideration of their protection; but when those monasteries erected themselves into principalities, the avoyers became noblemen; and the title was connected with great dignity. Thus we find, that when Athos was elected to the empire, A. D. 1204, and his election was approved by pope Innocent III., who invited him to Italy to be crowned, he appointed Rodolphus, count of Hapenburg, prefect, vicar of the empire, and principal avoyer of all Upper Germany, with power to maintain the imperial rights, inspect the finances, levies tributes, tolls, and taxes, and, in a word, to represent the person of the emperor in his absence.

AUILLARTOK, in Geography, an island of Greenland, near Bear Island, about eight or ten leagues long, and very high. These two islands, which are about the same form and extent, divide the channel, in which they are situated, into two bays.

AU-PIX-ALLER, a French phrase, sometimes used among English writers, signifying, at the exct.

AUPS, in Geography. See AUPS.

AURA, in Chemistry, a certain fine and pure spirit, supposed to be found in every animal and vegetable body, but to sublimate as only to be perceptible by smell and taste. This term was much employed by the ancient alchimists, and even some of the most eminent chemists, but is now disused. It is nearly equivalent to spiritus nitricus, concerning which see the article AROMA.

AURA, in Greek 1,g,A, a species of VULTU, of brownish grey colour, with black wings, and white bill. This bird is described by authors under several different names. In Herandal, Mex, it is called tspotoplotf aura; by Williamby, uruba, tspotoplot, or aura; by Uloa, gallinazo; vultur Brani-ensis by Ray; vautour du Breil by Buffon; Turkey buzzard by Catesby; carrion-crow by Sloane; and carrion vulture by Pennant and Latham. Inhabiters Breil.

AURA, among Physiologus, an airy exhalation or vapour.

The word is derived from the Greek αέρα, gale.

AURACII, in Geography, a town of Germany, in the circle of Swabia, and county of Waldburg; nine miles E.N.E. of Warzach. Also, a river of Germahy, in Frankonia, which runs into the Rednitz; three miles south of Erlang.

AURE, in Mythology, a name given by the Romans to the nymphs of the air. They are mostly to be found in the ancient paintings of clicings; where they are represented as light and airy; generally with long robes, and flying, veils,
AURAGRO, in Entomology, a species of Phalaena (Melitaea) that inhabits Austria. The wings are brownish; pulch at the base, and broad hand in the middle, yellow. Hyber, Gmel. &c.

AURAINVILLE, in Geography, a town of France, in the department of the Meurthe, and chief place of a canton in the district of Touli; two leagues north of Touli.

AURAN, a town of Arabia, sixty miles south of Damascus.

AURANA, in Entomology, a species of Phalina (Toxrix), with brown wings, and two golden-yellow spots in each. Fabrissius. Donov. Brit. Inf.

AURANA, Laurana, or Bruna, in Geography, one of the most delightful places of Dalmatia, in the county of Zara, on a lake of the same name. It had formerly a rich convent of Benedictines, whose revenues were, about the year 1217, allotted in favour of the knights templars, by Andrew II. king of Hungary, who substituted a commander in this place. About this time the place was fortified. The suburbs are large. It continued for some time in the hands of the Turks; but, in 1684, they were dispossessed of it.

AVRANCHES, Abriantia, or Africe, or Africanae Epistium, a city of France, and principal town of a district in the department of the Channel, seated on an eminence near the river Se. Before the revolution, it was the fee of a bishop, suffragan of Rouen. Besides the cathedral, which stands on a hill, terminating abruptly, it had three parish churches, a convent, a college, a public school, and an hospital. This is a very ancient town, and, before the county of Bretagne was united to the crown of France, it was called the "Boulevard of France"; but when the Béxons made themselves masters of it, they destroyed its fortifications, in 1620. They were rebuilt in the reign of St. Louis. Here, it is said, Henry II. of England received abdication from the pope's nuncio for the murder of St. Thomas à Becket, in 1172; and the stone on which he kneaded during the ceremony is still shown to strangers; and on it is engraved a choice, in commemoration of the event. The ruins of the castle are extensive, and near it is an extent of fertile country, abounding in grain and orchards, which produce the belt cider in this part of France. The place contains 5413; and the canton 14,146 inhabitants; the territory includes 129 kilometres, and 16 communes. N. lat. 48° 41' 18". W. long. 1° 22' 38'.

AURANTIA, in Conchology, a species of Voluta, of a tapering shape, and orange colour; the first four whorls are lacerated with white; lip denticulated, and four plats on the pillar. Gmelin.

AURANTIA, a species of Patella, the shell of which is ovate, culd, citron colour, with brown waves; elevated, crowded, wrinkled dix, and white bottom. Native country unknown. Schott. n. Litt.

AURANTIA, a species of Ostrea. The shell is subro-tund, plated, and finely fructed longitudinally, with a semi-circular white band near the hinge. Native country unknown. Regem. Conch.

AURANTIA, a species of Venus, with an orbicular orange-coloured shell. This shell is two inches long, and two inches and a quarter in breadth. Its native country is unknown.

AURANTIA, in Ornithology, a species of Loxia, of an orange colour; crown black; wing and tail-feathers black, edged with orange. Gmelin.

The length of this bird is four inches and a half; bill darkly; some of the inner quill-feathers edged with white; legs pale-red. In the female, the whole of the head and fore-part of the body are white; the red dull orange. Inhabits the Isle of Bohmon.

AURANTIA, a species of Muscicapa, called by Latham orange-breasted fly-catcher, and given under the genus Muscicapa, by Buffon. The crown and tail, tinctured in parts with green; beneath white; breast and beak greenish brown; quill-feathers black, edged with russets. Gmelin. Length of this kind four iues and three quarters; bill red and broad; tail russet; legs pale. Dr. Latham informs us, in his Gen. Orn., that it frequents the skirts of woods and the fastnesses; and is perhaps a scarce species, only a single specimen of it having been brought to Europe.

AURANTIA, a species of Motacilla that inhabits the cape of Good Hope. It is brown above, beneath orange; chin whitish, varied below with black; larger wing and tail ever white; tail-feathers brown, lateral ones tipped with white. This is the orange-breasted weaver of Latham.

Length six inches.

AURANTIA, a species of Certhia, called by Latham the orange-browed creeper. It is green; beneath yellowish, breast orange; wings and tail black. Length four inches; bill black; legs dusky. Inhabits Surinam, and was first discovered by Mr. Meadman.

AURANTIA, in Zoology, a species of Rana, described by Dr. Shaw, as being of an orange-colour, with very slender body and limbs. This is a native of South America, and is of a smaller size than the European tree-frog; Rhabditis.

AURANTIA, in Botany, a species of Citrus, called by Latham the orange-browed creeper. It is green; beneath yellowish, breast orange; wings and tail black. Length four inches; bill black; legs dusky. Inhabits the Cape of Good Hope, and is probably a species of the genus Citrus, which is employed in pharmacy.

The outer yellow rind of the fruit is a grateful aromatic bitter, highly esteemed as a galenick. It is kept in the shops, dried with a gentle heat. It contains a large portion of aromatic essentail oil, which admirably increases the galenick power, and renders it highly grateful to the taste. The virtue of the orange-peel is readily extracted by proof spirit; and accordingly this is the form in which it is usually employed. The London college have ordered a simple tincture of this substance (tinctura aurantiicæ rictis), in the proportion of three ounces to a quart of proof spirit. It is also employed in several of the compound Tinctures, such as Huxham's tincture of bark, to give an agreeable flavour, and to add to the galenick virtue. A syrup of a very grateful flavour is also prepared, by distilling the requisite proportion of sugar in a strong infusion of the peel. See Citrus Aurantium.

AURANTIA, in Botany, See Citrus Aurantium.

AURANTIA, in Natural History, a species of Aschidia, of a somewhat globulo-shape, with a scarlet pouch, and covered with rough hardish dots; papilla terminal, ciliated, and rugose. This kind is described by Pallis; it inhabits the sea about the Kurile islands, adhering by its base to shells and stones; and is about the size of an orange.

AURANTIUS, the specific name assigned by Pallis to that species of Alcogium, called by Gmelin Alcogium aurantiius.

AURANTIUS, in Entomology, a species of Cimex found in China and Java. It is of an orange colour; head, anterior margin of the thorax, spots on the margin of the abdomen, and the legs, black. Stoll. Fabr. Donov. Inf. China, &c.

AURANTIUS Piceus, in Ichthyology, a name given by Niesnerberg to a fish of the Cyprinidae genus, called the aurante, and supposed to be of the species Cyprinus Gmelin; or perhaps Hoplias.
AURANTIUS, in Ornithology, a species of Falco that inhabits Surinam, the bill and legs of which are lead colour; body above dusky brown, with decussating narrow whitish lines; chin with long narrow whitish feathers; throat and breast orange; belly and tail brown, with interrupted streaks. Gmelin. This bird is about fifteen inches in length; bill three quarters of an inch long, and whitish at the base; on the throat a round white spot; lower coverts of the tail ferruginous; tail near the base lined with white; legs long, slender, with black claws.

AURANTIUS, a species of Picus or wood-peaker, about ten inches in length. It inhabits the cape of Good Hope; is of an orange colour above, with the nape, rump, and tail black. Gmelin. Bridfon calls bird picus capitis Bona Spie; and Latham the orange wood-peaker.

AURATUS, in Palaeontology, a species of Trichilius, called by Latham the orange-throated humming-bird. It is of a brown colour, with the head orange; chin and breast yellow; wings purple; tail ferruginous. Gmelin. Native place unknown.

AURATUS, a species of Turdus, of a blackish brown colour, with the chin and abdomen whitish; hack and legs orange. Gmelin. This is the white-chinned thrush of Latham; melura Jamaicensis of Bridfon; and _meri bru de Janique of Buffon._ This kind lives in the woods in Jamaica. Of this species Gmelin mentions three varieties; namely, (1.) _melura gula fulva_ (with the chin brown) that has been discovered in New Caedonia; (2.) _melura nigra_ (with the body black), a native of Surinam; and _melura Americana_ of Brid. and which, as its name implies, is an inhabitant of America.

AURARIA junco, pretio, or prettio, in Antiquity, a tax or tribute to be paid in gold. The collector of it was denominated palpeo aurarius, or chryseopedes.

AURAS, in Geography, a town of Siklin, in the principality of Breflaw, situate near the Oder; twelve miles north-west of Breflaw.

AURASIUS Mons, in Ancient Geography. See Audus.

AURATA, in Entomology, a species of _Buprestis_ of a large size, that is found in America. This kind is golden; wing-cases ferrated; thorax brassy. Fabricius, Olivier, &c.

AURATA, a species of Mutilla that inhabits New Holland. It is bluish, with a large golden spot on the abdomen. Fabricius.

AURATA, a species of Musca found in Europe. This insect is shining; thorax brassy; abdomen abrufus and golden. Fabricius, &c.

AURATA, a species of Phalena (Geometra), described by Linnaeus as a native of Europe. The wings are yellow, and without spots.

AURATA, a species of Phalena (Geometra) that inhabits Surinam; and is figured by Cramer under the name of _phalaena aurata._ The wings are fuscous, with a dot and posterior fuscous golden. Fabricius, &c.

AURATA, a species of Vespa, of small size, that is found in Sierra Leonia. The colour is black; abdomen golden and polished. Fabricius, &c.

AURATA, in Ichthyology, a species of Sparus, called in England the _lunated._ It inhabits the Mediterranean and American seas.

AURATA Elateri, Catesby's name of the fish called _Sparus chrysops_ by Gmelin.

AURATUM, in Zoology, a species of Lacerta found in the island of Jersey. When living, it is said to be of a fine golden colour, but after death its splendid colour disappears. It has a round and rather longish tail; scales rounded and glabrous; sides brownish. Gmelin. The body is round, and apparently corpulent, and the ears are concave. This is _lacerta bartarana_ of Muf. Ad. Fr.

AURATUS, in Entomology, a species of Scarabæus (Cetonia Fabr.) that inhabits Europe. This insect is golden, with a single tooth on each side of the first segment; wing-cases spotted with white. Fabricius. The colours in this species are variable. From the vent, it emits a fetid liquor when handled. Degeer calls it _scarabæus funaragris._

AURATUS, a species of Carabus, of the aperous kind; wing-cases golden and furrowed; antennae and legs rufous. Fabricius. Found in woods in Europe.

AURATUS, a species of Carambyx that inhabits America. It is green, bronzed, with a lateral depressed tooth on the thorax; antennae black, and posterior thighs blue. Gmelin. _Auratus_, a species of _Curcurius_, of a green-gold colour; antennae and dilated tip of the beak black. A native of Italy. Scopoli.

AURATUS, a species of Elater that inhabits China. The colour is green-gold; legs black. Fabricius.

AURATUS, in Ichthyology, a species of _Sparus_, that inhabits the Mediterranean and European seas, and is called in England the _lunated._ It is distinguished by having a semilunar golden spot between the eyes. Linne. Muf. Ad. Fr. This kind feeds chiefly on worms and shell-fish, the latter of which it grinds with its teeth before it swallows them. The back is greenish, sides rather pale and gilled with gold; on the upper part of the gills is a black spot, and beneath that another of purple; inside of the mouth fine red; dorsal fin extending nearly the whole length of the back; tail much forked.

AURATUS a species of _Cyprinus_, well known in England by the name of gold-fish. Authors are by no means agreed on the specific characters by which this fish ought to be distinguished; some think the trifurcated tail is a striking character of the species; but this is rather accidental, for it is sometimes found with a bifurcated tail; and the telescope _carp cyprinus baphilbimus_ of Dr. Shaw, has a trifurcated tail likewise; the anal fin is sometimes single, and sometimes double; so that the Linnaean definition in the Fauna Suec. is equally liable to objection. The specific character alligned by Bloch is taken exclusively from the brilliant, or golden red colour, by which, as he observes, this fish is distinguished from all the other species of the _carp_ or _Cyprinus_ genus.

This fish is, without dispute, the most superb creature of the many tribes at this time known. It was originally confined to a certain lake, on or near the mountain Tienking, at a small distance from the village of Tchzhang Sue in the province of Tchau-Kiang in China, from whence it was transported to other parts of the empire, and Japan; and afterwards brought to Europe. The Chinese have completely domesticated this fish, and they are now generally kept in ponds, basins, or vellts of porcelain, as ornaments in the gardens of the rich; and afford one of the few amusements the ladies are allowed to enjoy in that country by their jealous husbands. One writer has observed that the fish is no larger than a pilliard; but in this he is mistaken, for we know instances of its increasing to the size of a herring. The male is said to be of a bright red colour, from the top of the head to the middle of the body; the rest of a bright gold
gold colour, superior to the rich gilt gilding with that metal; the female white, with the tail and half the body emulating the fond silver. Du Halde observes that the red and white colours are not always the distinguishing marks of the male and female; but that the female is known by several white spots which are seen round the orifices that serve them as organs of hearing, and the male by having these spots much brighter. Gmelin, in his description of China, says, great care is necessary to preserve them; for they are extremely delicate, and liable to the least injuries of the air; a loud noise, such as that of thunder or cannons; a strong wind; a violent shaking of the vessel; or an even single touch, will oftentimes defray them. Their fish live with little nourishment; those small worms which are engendered in the water, or the earthy particles that are mixed with it, are sufficient for their food. The Chineses, however, take great care from time to time to throw to the fishes and refer- vours where they are kept, small balls of paste, which are very fond of, when diffus'd; they give them also lean pork dried in the sun, and reduced to a fine and delicate powder, and sometimes wine; the flame which these insects leave at the bottom of the vessel is a great delicacy for them, and they eagerly feed on it. In winter they are removed from the grounds or open air to a warm chamber, where they are kept generally in vessels of porcellain. During this season, they receive no nourishment; but however in the spring, when they are carried back to their former basins or rears, they sport and play with the same strength and vivacity as they did in the preceding year. In warm countries these fish multiply fast, provided care be taken to collect their spawn, which floats on the water, and which they almost entirely devour. This spawn is put into a particular kind of vessel, exposed to the sun, and preferred there until vivified by the heat; gold fish, however, seldom multiply when they are kept in cloze vases, because they are then too much confused. In order to render them fruitful, they must be put into rears of considerate depth, in some places at least, and which are continually supplied with fresh water. At certain times of the year a prodigious number of barns may be seen in the great river Yangtse-Kiang, which go thither to purchase the spawn of these fish. Towards the month of May, the neighbouring inhabitants put up the river in several places with nets and hurdles, which occupy an extent of almost nine or ten leagues, and they leave only a place in the middle sufficient for the passage of barns. The spawn of this fish, which the Chinese can distinguish at first sight, although a stranger could perceive no traces of it in the water, is stopped by these hurdles. The water mixed with spawn is then drawn up, and after it has been put into large vesseis, it is sold to the merchants, who transport it afterwards to every part of the empire. This water is sold by measure, and purchased by those who are desirous of stocking their ponds, and rivers with gold-fish.

Notwithstanding the tenderness of this fish in its native climate, it is now naturalized in England, France, Holland, several parts of Germany, and other countries of Europe. They are said to have been first introduced into Great Britain about the year 1693, but were not generally known, according to Pennant, till 1728, when a great number were brought over, and presented first to Sir Matthew Delacker, and by him cultivated round the neighbourhood of London, from whence they were distributed to most parts of the country.

"Nothing" says one writer, (Enc. Brit.) "can be more amusing than a glass bowl containing such fishes; the double refractions of the glas and water represent them, when moving, in a shifting and changeable variety of dimensions, shades, and colours; while the two mediums afflux by the concavo-convex shape of the vessel, magnify and distort them vastly; not to mention that the introduction of another element and its inhabitants into our parlor casts upon the scene an agreeable manner. Some people exhibit this sort of fish in a very fanciful way; for they cause a glass bowl to be blown with a large hollow space within, that does not communicate with it. In this cavity, they put a bird occasionally; so that you see a gold-fish or a heart-shaped fish as it were in the midst of the water, and the fishes swimming in a circle round it. The simple exhibition of the fishes is agreeable and pleasant; but in so complicated a way becomes whimsical and unnatural, and liable to the objection due to him, quod nescire captivum prodiere potest." One circumstance that has been remarked of the fish, deserves particular mention. It is laid when young, but not unfrequently of a deep black colour, and that after a time little silver specks begin to appear through the black; these increasing in size very gradually, till the black entirely disappears, the whole fish becomes of a fine and reptilate silver; from which it at times changes to red. Sometimes, however, it appears of a beautiful golden-red in the first influence.

Auratus, in Ornithology, a species of Cuculus, about seven inches in length, that inhabits the cage of Good Hope. Buffon calls this bird coucouvert dor et blanc. H. D. Old in his Pl. Enlum. coucouvert du cap de Bona Esperence. The tail is wedge-shaped; body above golden-green, beneath white; on the head five laces; wing-covers, secondary quills feathers, with those of the tail, white at the tips. By Latham, it is named in English the gilded cuckoo.

Auratus, a species of Picus or wood-pecker, called by Buffon picus Canarum floris cipri; picus regis de Canade et bis arcades dorés by Buffon; picus major altis aureis by Kalm; cuculus auratus, Linn. Syll. Nat. X.; and gold-winged woodpecker by Catley and other English writers. Forster and Gmelin describe it as being tranverseley streaked with grey and black; chin and breast black; nose red; tume white.

The length of this bird is eleven inches; bill an inch and a half long, black, and rather bent; and contrary to others of the same genus, is rounded and ridged only on the top, with the point sharp. The female differs from the male in having the crown and neck behind grey brown; the red of the bird head less vivid; greater quill feathers not spotted on the edges, and being defilitive of the black stripe on the throat. It inhabits Virginia, Canada, and other parts of North America. Alber, New Jersey, and New York, it is called by some bustax or pile, and by others high-hole; the two former, from the sound of its note, and the latter from the situation of its nest. It is almoat continually on the ground, and is not observed to climb on the trees like other birds of the same genus.

The food of this bird is chiefly insects, and berries of the red cedar; it is very fat, and in esteem for the table. Forster, in the Philosophical Transactions, informs us that it is a bird of passage in the northern parts of America, visiting the neighbourhood of Albany in April, and leaving it in September; that it lays four, five, or six eggs in hollow trees, and feeds on worms and insects. It is called by the natives uvetki-pam-nunow.

Auratus, a species of Turdus, the general colour of which is violet; back and wings golden-green; band on the inner margin of the wings, tail, and upper tail-coverts, blue. Gmelin. This beautiful bird is rather larger than tucus merula, or common black bird, and inhabits the kingdom of Whidah, in Africa. Buffon calls it le merle violet du regne de juida; and Latham the gilded thrush.

Auratus, a species of Trochilus, called by Latham the garnet-throated humming-bird. The colour is golden-green;
AUR

AURELIA. In Entomology, a term employed by naturalists, about the middle of the last century, to express that intermediate state in which all lepidopterous, and most other insects, remain for some time, between the caterpillar form and the period in which they are furnished with wings, with antennae, and other organs appertaining to the perfect insect. Aurelia and chrysalis are synonymous words, both alluding to the metallic or golden splendor of the case in which the creature, during that state, is contained. This brilliant appearance, it must be observed however, seems confined alone to insects of the papilio or butterfly tribe; and it is even peculiar only to certain kinds of those; so that the terms aurelia and chrysalis are altogether inapplicable, in a general manner, to insects in that state. Among entomologists of the higher class, these terms have been long since discarded in favour of the more expressive one pupa, which Linnaeus had adopted in their stead; a term implying that the insect, like an infant, yet remains in its swaddling clothes; and nothing can be more applicable than this comparative allusion, while the tender insect yet remains involved in the drapery of its membranaceous covering; a creature now exposed to every danger, and yet unable to defend itself from the slightest harm; in helpless infancy it must wait the more complete formation of its limbs, and new acquirement of strength, ere it can burst from thee, its tumults of youth, and appear what nature had ultimately designed it for— a mature and perfect creature. See Entomology, and Pupa.

The term aurélias is still retained by some few practical entomologists in this country; or, in other words, by those who amuse themselves with collecting and breeding insects, without regarding them scientifically; and persons engaged in this agreeable pursuit, occasionally denominate themselves Auréliens. The word chrysalis is in more general use than its precise meaning can justify; that of aurélias, as before remarked, is nearly obsolete. The current denominations of an insect in the pupa state among the French naturalists, are nympha, or nymphae, and chrysalis.

"The Aurelian" was likewise the title which Moses Harris gave to his well-known folio work on Insects: a wretched plagiarist from the beautiful etchings of Ammiral, which had been published a short time before in Holland; and in which Harris, by a frugal good fortune, not only escaped detection, but actually acquired that very celebrity as a delineator of insects, which attaches an importance to his memory in the present day.

Aurelia, in Natural History, a species of Paramecium (versus inferiores), of an elongated form, placed longitudinally on the anterior part. Mill. Herrmann, &c. Hill describes it thus: paramecium corpore fab. H. 20 medio versus angula. It is found in great abundance in ditch water, and vegetable infusions, about the month of June; it is membranaceous; breadth one-fourth of the length; anterior part obtuse, hyaline; posterior part filled with molecules of various sizes; longitudinal fold extending from the middle to the front of the head.

AURELIAN, in Biography, a Roman emperor, was a native of Sirmium, in Pannonia. His father cultivated the lands which a Roman senator, called Aurelius, possessed in the country where he lived; and his mother was a priestess of the sun, and pretended to divination. Aurelian was from his youth distinguished by his strength and courage, and devoted to military exercises and achievements. On this career he entered before; and, finding himself like a lion and lioness, he obtained, by way of distinction from another Aurelian, the name of "Aurelianus manu ad ferrum," or "Aurelian sword in hand;" as he was ready on all occasions to draw his sword, and encounter the enemy.
Aurelian, having secured the person and the provinces of Tetricus, turned his arms, A.D. 272, against Zenobia, the celebrated queen of Palmyra and the East. Upon his arrival in Asia, he advanced at the head of his legions, and took possession of Ancyra and Tarsus; and as he approached Antioch, it was deserted by the inhabitants; but by a signal edict he recalled the fugitives, and granted a general pardon to all, who, from necessity rather than choice, had been engaged in the service of the Palmyrene queen. This unexpected milder act of clemency, on the part of the emperor, conciliated the minds of the Syrians; and as far as the gates of Emesa, the wishes of the people foimd the terror of his arms. Zenobia attempted to check his further progress; but the fate of the sable was decided in two great battles: the first of which was fought near Antioch, and the second near Emesa. In both these battles, Zenobia animated the armies by her presence, but the veteran troops of Aurelian, whose valor had been severely tried in the Alamanian war, prevailed. After the defeat at Emesa, Zenobia found it impossible to collect a third army. As far as the frontier of Egypt, the nations subject to her empire had joined the standard of the conqueror, who detached Probus, the bravest of his generals, to poffefs himself of the Egyptian provinces. The queen retired within the walls of her capital, Palmyra; and for some time resisted, with the intrepidity and firmness of a heroine, the armies of the emperor, who invested the city. But disappointed of adequate succours, and alarmed by the return of Probus with his victorious troops from the conquest of Egypt, she at length resolved to fly. She mounted the fleet of her galleon, and had already reached the banks of the Euphrates, about sixty miles from Palmyra, when she was overtaken by the pursuit of Aurelian's light war vessels, and was brought back a captive to the feet of the emperor, A.D. 273. To the coniuls of her friends she imputed the guilt of her obbligation to the empire, and on their heads, and particularly on the celebrated Longus, she directed the vengeance of the crown Aurelian. (See Zenobia.) Soon after her capital surrendered, and was treated with clemency. By a war thus terminated, those provinces that had renounced their allegiance to the empire of Valeria, were restored to the dominion of Rome. Aurelian, on his return, received the dominion of the East, but already crossed the straits which divided Europe from Asia, when he was suddenly recalled by the news of the revolt of the Palmyrenians, who had murdered the governor and garrison, and proclaimed a new emperor. Without...
Aurelian, having thus completely reduced Palmyra, and having also suppressed a rebellion in Egypt, excited by Firmus, a wealthy merchant, and a friend and ally of Odenathus and Zenobia, who had taken possession of Alexandria, and assumed the purple, and whom he first tortured and then put to death; returned to Rome; congratulating the senate, himself, and the people, that in little less than three years he had restored universal peace and order to the Roman world.

Since the foundation of Rome, no general had more nobly deserved a triumph than Aurelian; nor was any triumph ever celebrated with superior pride and magnificence. It is thus described by Gibbon: "The pomp was opened by twenty elephants, four royal tigers, and above two hundred of the most curious animals from every climate of the North, the East, and the South. They were followed by 1500 gladiators, devoted to the cruel amusement of the amphitheatre. The wealth of Asia, the arms and ensigns of so many conquered nations, and the magnificent plate and wardrobe of the Syrian queen, were disposed in exact symmetry or artful disorder. The ambassadors of the most remote parts of the earth, of Ethiopia, Arabia, Persea, Bactriana, India, and China, all remarkable by their rich or fantastic dwarfs, displayed the fame and power of the Roman emperor, who exposed likewise to the public view the presents he had received, and particularly a great number of crowns of gold, the offerings of grateful cities. The victories of Aurelian were attended by the long train of captives who reluctantly attended his triumph; Goths, Vandals, Sarmatians, Alemani, Franks, Gauls, Syrians, and Egyptians. Each person was distinguished by its peculiar insignia; and the title of Amazon was bestowed on ten maternal heroines of the Gothic nation, who had been taken in arms. But every eye, disregarding the crowd of captives, was fixed on the emperor Tetricus, and the queen of the East. The former, as well as his son, whom he had created Augustus, was decked in Gallic troupers, a saffron tunic, and a robe of purple. The beautiful figure of Zenobia was confined by fetters of gold; a diadem supported the gold chain which encircled her neck, and the almost fainting under the intolerable weight of jewels. She preceded on foot the magnificent chariot, in which the once hoped to enter the gates of Rome. It was followed by two other chariots, filled more pompously, of Odenathus, and of the Persian monarch. The triumphal car of Aurelian (it had formerly been used by a Gothic king) was drawn, on this memorable occasion, either by four flags or by four elephants. The most illustrious of the senate, the people, and the army, closed the solemn procession. Unsignified joy, wonder, and gratitude, swelled the acclamations of the multitude; but the satisfaction of the senate was clouded by the appearance of Tetricus; nor could they suppress a rising murmur, that the haughty emperor should thus expose to public ignominy the perfidy of a Roman and a magistrato."

But, however, in the treatment of his unfortunate rivals, Aurelian might indulge his pride, he behaved towards them with a generous clemency, which was seldom exercised by the ancient conquerors. Princes, who, without success, had defended their throne or freedom, were frequently strangled in prison, as soon as the triumphal pomp ascended the Capitol. These usurpers, whom their defeat had convicted of the crime of treason, were permitted to spend their lives in an honourable retirement. The emperor prefeted Zenobia with an elegant residence in Tiberius, or Tivoli, about twenty miles from the capital: the Syrian queen infamously fink into a Roman matron, her daughters married into noble families, and her race was not yet extinct in the fifth century. Tetricus and his sons were re-inflated in their rank and fortunes. They erected on the Celian hill a magnificent palace, and as soon as it was finished, invited Aurelian to supper. On his entrance, he was agreeably surprised with a picture which represented their filigree history. They were dedicated offering to the emperor a civic crown and the sceptre of Gaul, and again receiving at his hands the ornaments of the senatorial dignity. The father was afterwards invested with the government of Lucania; and Aurelian, who soon admitted the abdicated monarch to his friendship and conversation, familiarly asked him, whether it were not more desirable to administer a province of Italy, than to reign beyond the Alps? The question continued a respectable member of the Senate; nor was there any one of the Roman nobility more esteemed by Aurelian, as well as by his successors.

"The festival was protracted by theatrical representations, the games of the circus, the hunting of wild beasts, combats of gladiators, and naval engagements. Liberal donations were distributed to the army and people; and several institutions, agreeable or beneficial to the city, contributed to perpetuate the glory of Aurelian. A considerable portion of his oriental spoils was consecrated to the gods of Rome; the Capitol, and every other temple, glittered with the offerings of his obsequious piety; and the temple of the gods alone received above 15,000 pounds of gold."

The arms of Aurelian vaunted the foreign and domestic fees of the republic; and we are assured, that by his salutary rigour, crimes and factions, mischievous arts and pernicious connivance, the luxurious growth of a feeble and oppressive government, were eradicated through the Roman world. Nevertheless, a few short intervals of peace were insufficient for the arduous work of reformation; and even his attempt to restore the integrity of the coin was opposed by a formidable insurrection, which originated with the workmen of the mint, and terminated by a bloody battle, in which the emperor lost 7000 of his troops. Of this insurrection, the real cause was disguised, and the reformation of the coin furnished merely a signal pretence to a party already prepared for a revolution. The emperor, who was himself a plebeian, and who always expressed a peculiar fondness for this order, had excited the jealousy, and incurred the hatred and suspicion of the senate, the equestrian order, and the Praetorian guards; and it was a conspiracy of these several orders that procured a breach capable of containing a party already prepared for revolution. The emperor was assassinated, in 275, at the age of 40, at a distance of five years from his death. He was succeeded by his son, who was named Aurelius, but who died in the following year. The empire was divided between his sons, and the civil war continued for a considerable time."

Some of the concluding months of Aurelian's reign were occupied...
occupied by a visit to Gaul, where he rebuilt the ancient city of Génoh, called after his own name "Aurelium," now Orleans, and by an expedition against the barbarians who had made an incursion into Visigothic. But the object, which engaged his principal attention, was an expedition against Peitha; in the prosecution of which he advanced as far as the Iberian which divide Europe from Asia. Here a conspiracy was formed against his life by one of his secretaries, who was accused of extortion. This criminal, dreadizing the effects of the emperor's displeasure, determined to involve some of the principal officers of the army in his danger, or at least in his fears. With this view he artfully counterfeited his master's hand, and slewed them in a long and bloody list their own names devoted to death. Without inspecting or examining the fraud, they resolved to secure their lives by the murder of the emperor. On his march, between Byantium and Heraclea, Aurelian was suddenly attacked by the conspirators, and after a short refinance, fell by the hand of Mucapor, a general whom he had always loved and trusted. Accordingly he died, A.D. 275, regretted by the army, detested by the senate, but universally acknowledged as a warlike and fortunate prince, the useful, though fever, reformer of a degenerate flat.

As to his general disposition and character, it has been observed by Didierian, that the only fagacious of the Roman princes, that the talents of his predecessor Aurelian were better suited to the command of an army, than to the government of an empire. His temper was haughty and vindictive. Trained from his youth in the exercises of arms, he transferred the discipline of the camp into the civil administration of the laws; and his love of justice often became a blind and furious passion. Ignotor or impotent of the restraints of civil institutions, he disdained to hold his power by any other title than that of the sword, and governed by right of conquest an empire which he had saved and fubdued. Aurelian has been reckoned by several Christian historians among the persecutors of the church; and it is said that he not only increased persecution and framed cruel edicts for this purpose just before his death, but did actually persecute. His persecution, however, reckoned by Augustine the ninth, was short; as he died soon after the publication of his edicts, and before they could reach the more distant provinces. Mohein is of opinion that many Christians did not suffer at this time; but considering Aurelian's cruel temper, and how much he was addicted to the Gentile superstitions, he thinks that if he had lived, his persecution would have exceeded all the former persecutions in severity.


AURELLAN, in Botany. See Panax.

Aureliopolis, in Ancient Geography, an episcopal city of Aisamor, in Lydia. — Auto, another episcopal city of Aisamor, in Aisamor properly so called.

AURELIUS, Ambrosius. See Ambrosius.

Aurelius, Marcus. See Antonius.

Aurelius Victor, Sextus, in Biography, a Roman historian, flourished in the 4th century, probably from the reign of Constans to that of Theodosius; was born of mean and illiterate parents, perhaps in Africa, and notwithstanding the obscurity of his origin, was advanced by his talents to distinction. In 361, he was appointed by Julian, prefect of the second Pannonia; afterwards prefect of Rome; and in 369, consul with Valentinian. The abridgment of the Roman history, intitled "Libellus de origine Gentis Romanae," and by some ascribed to Aurelius Pedanius, though it bears the names of Victor and Livius, professes a history of the whole period, from the uncertain time of Janus and Saturn to the 12th consilium of Constantius, but really closes in the first year of the city. This treatise was published, together with the works of Dionysius Halicarnassus, by George, in 1505; and with a collection of ancient historians, by Gathofes, in 1840. At Lyons, in 1546.

The biographical treatise under the title "De Viris Illustribus Urbis Romae," received by many as the work of Aurelius Victor, commences with Probus king of the Alani, and terminates with Pompey; it was published in 410, with notes, by Machamerus, in 1556, and with those of Lycellhens, in folio, at Balil, in 1561. "The History of the Caesars from Augustus to Constantius," the unquestionable production of Victor, was first published by Schurrs at Strasbourg, in Svo., in 1555; at Venice, by Aldus, in 1507; by Schottus, at Antwerp, in 1579, in Svo.; and at Balil, in folio, in 1546, with Quintus and other Augustan writers. The first general edition of all the writings of Aurelius Victor was printed at Antwerp, in 410, with the commentary of Schottus, in 1555, by Plantin, and in 1571, again by Gruter, at Hanovia, in the 2d volume of the "Historia Augustae Scriptorum," in folio, in 1610. An enlarged edition, with heads, "cum notis variisurum," was printed in 410, in 1571; another by Pietius, at Utrecht, in Svo. 1676; and a third by Arthusius, in 410. At Amsterdam, in 1673.

Aurelius Victor is reckoned an industrious and faithful historian, but his style is much less elegant than that of the earlier writers of the Roman history. Fabr. Bibl. Lat. i. iii. c. 9. 1. 2. p. 79. &c. See Augusta Historia.

Aurelius, in Entomology, a species of Papilio that inhabits India. The wings are brown, black at the tip, and spotted with white; two eye-shaped spots on the posterior ones beneath. Fabricius, &c.

Aurelius, in Geography, a military township of New York, in Onondago county, on the Oentral lake, having the Cayuga reservation lands on the west, and Marcellus to the east, nine miles east of the ferry on the Cayuga lake. By the late census of 1796, 123 of the inhabitants are electors.

Aurella, in Entomology, a species of Phalana (Tinea), wings golden, posterior ones black, with a stripe of silver on the first pair. A minute insect that inhabits Europe, and feeds on apple-trees.

Aureng-Zeb, Aureng-Zeb, or Aurung-Zeb, denoting "Ornament of the throne," in Biography, the great mogul, was the third son of Shah Jehan, and born in the year 1618. His disposition was ferous and thoughtful; and in order to prevent jealousy and suspicion, he laminated the authority of a religious mendicant. Dara, however, his elder brother, discovered his real character through this disguise; and as he had contrived to gain the cheel and confidence of his father, Dara used to lay of him, "I fear none of all my brothers but this teller of heads!" Shah Jehan, who thought it most prudent and safe to remove all his foes from court, sent Aureng-Zeb to govern the Deccan, where he made an unsuccessful attempt against the king of Golconda. Towards the close of the year, 1656, Dara, endeavouring to gain possession of the empire, confined his father Shah Jehan; upon which Aureng-Zeb began to make preparations, and with the professed design of securing the throne to his brother Morad, who was then at Akmedabad, requested that he would join him with his forces at Eugene, the capital of the province of Malav. In the beginning of the year 1658, he marched from
from Aurungzeb to the Deccan, and the two brothers joined at Agra, near which place they encountered and defeated the troops which Dara had sent to oppose them. They afterwards marched towards Delhi; and in the fields of Kojouil, near Agra, obtained a complete victory over Dara and his army; so that Dara himself fled towards Latur, and Aurung-Zobe entered the castle of Agra. After this victory he took possession of the throne, July 20, A.D. 1658, and was proclaimed emperor at the town of Ernabah, about six miles from Delhi. On the 13th of May 1659, he was proclaimed a second time, and he then issued a decree, that on the first the beginning of his reign should be dated from the 1st Ramazan, in the year 1659 of the Hegira, or the 12th of May 1659. For the security of his throne, he confined his father at Agra; and his brother Morad, in violation of the solemn oath of fidelity, he imprisoned in a fortress near Delhi, where he was afterwards beheaded. During the civil war which commenced at the time of his accession to the throne, and which was continued till his power was completely established, his brother Shah was first defeated at a place called Kuvra, in the province of Bengal, and compelled to fly; but being concerned in a plot for detaining him, he was put to death, and his whole family was extirpated. Dara was taken prisoner, and brought in triumph to Delhi, and sent from thence to Kherabad, a place at the distance of about 118 miles, where he was murdered by Aurung-Zobe's order, Augstul 28th, 1659. In 1660, Aurung-Zobe confirmed his own son Mahommed, and the son of Dara, in the castle of Gualiar, where the former died, as some say, in consequence of confinement, and the latter was d-e, at have by poison. Aurung-Zobe, after his accession to the throne, found some difficulty in perfuading the chief cadi to acknowledge his sovereignty, because the old king, Shah Jehan, was still living. But another cadi being appointed in his room, the ceremonial of coronation was performed, and Aurung-Zobe obtained undisputed and peaceable possession of the throne. The recollection, however, of the crimes by which he had gained the sovereignty, was an occasion of remorse; and in order to quiet his mind, he imposed upon himself a rigorous penance; eating only barley bread, herbs, and fruits, and drinking nothing but water. This abstinence, diet brought on an illness, which endanged his life; and during the agitation which ensued at court, he had an opportunity of displaying that resolution and firmness of mind for which he was always distinguished. Although he had deposed his father, his behaviour to him was respectful and submissive, that he at length obtained, before his death in 1666, his forgiveness and general blessing. When Aurung-Zobe became emperor, he assumed the titles of "Mohy o'dhu," i.e. the reviver of religion; and "Alaungquir," or the conqueror of the world, of which his ignorance and vanity led him to believe that he possessed three parts in four.

From the year 1660 until the year 1678, there prevailed, through Hindostan in general, the most profound peace that had ever perhaps been known; but Aurung-Zobe disdained to have any other boundary on the south besides the ocean. Accordingly, the conquests of the remote part of the Deccan employed a very considerable part of his leisure, during the latter part of his reign, when the whole of that region, with the peninsula, was annexed, and inaccessible tracts excepted, was either entirely subdued, or rendered tributary to the throne of Delhi. Aurung-Zobe was particularly desirous of subduing the Deccan, by the determined spirit and growing power of Bavarje, the founder of the Maharattas, who, by his conquests in Visapour, appeared under the character of his rival. Soon after he had quelled his personal preheme a rebellion of the Patans beyond the Indus, in 1678, his persecution of the Hindus stirred up the Rajpoot tribes in Agimore. This war he also undertook in person; but he and his whole army were shut up between the mountains, and the empress herself was taken prisoner. She, however, and also the emperor, were permitted to escape. This diftper did not discourage him from carrying the war into the Rajpoot country again, in 1681; when he took and destroyed Chistore, the famous capital of the Rana, as well as all the objects of Hindoo worship which he found in this place. Nevertheless the spirits of these gallant people were still lambi, and Aurung-Zobe was under a necessity of gaining them peace. In Mr. O'ree's "Historical Fragments of the Mogul Empire," we have a letter written by Jefavom Singrijah of Jondypou, to Aurung-Zobe, expatiating with him on the amiable measures he was pursuing with respect to the Hindoos. This letter breathes the most admirable spirit of philanthropy, and of toleration in matters of religion, together with the most determined resolution to oppose the meditated attack on the civil and religious rights of the Hindoos. While Aurung-Zobe was engaged in his contests with the Rajpoots, confining of several of the most warlike tribes among the Indians, his son Sultan Mahommed Akbar, revolted from him, and joined them; but he was pursuued by the emperor to Deccan, from whence he found means for escaping to Peria. In the year 1682, upon the death of Sevajee, the rising state of the Maharattas devolved on his son Bambyees, who was afterwards betrayed into the hands of Aurung-Zobe, and barbarously put to death. Still, however, the mountainous parts of Baghiana were unsubdued, and although the kingdom of Vifapour was reduced in 1686, and Golconda in the following year, he found it very difficult to prosecute his conquests towards the west, as we may infer from his camp's being fixed on the Kifra river, about 200 miles to the north-east of Goa, in 1695. But we have no regular history of any later period than the 56th year of Aurung-Zobe, or the year 1670, when Mr. Dow's history terminates. It is said, that Aurung-Zobe was employed in the Deccan from the year 1678 to the time of his death, and was actually in the field during the greatest part of the last fifteen years of his life. This description of his original empire and capital for nearly thirty years, was the occasion of various disorders. To this circumstance were owing the second rebellion of the Rajpoots in Agimore, that of the Patans towards the Indus, and also that of the Ietas, or Iates, in the province of Jorjagh. Besides the conquests of Vifapour, Golconda, and the Carnatic, to the south; and those in the kingdom of Afam to the north, Aurung-Zobe reduced Bengal, and reduced the mouths of the Ganges from the Portuguese pirates, who had long infested them. Under his reign the empire attained its full measure of extent. His authority reached from the 10th to the 35th degree of latitude, and nearly as much in longitude; and his revenue, says major Rennell, exceeded thirty-two millions of pounds sterling, in a country where the products of the earth are about four times as cheap as in England. Prior estimates the whole revenue of the empire from 21 fowas, or provinces, at 12,071,875,680 duns, which at 320 duns to a pound sterling, amounted to 37,724,615/. 25. 6d. Such an idea was the reputation for power and wealth which Aurung-Zobe acquired, that embassies were sent to him from all the neighbouring nations, as well as from the European powers, who wished to obtain commercial advantages in his dominions. But under an apprehension of the designs of his foes both against himself and against each other, he was obliged to tax most of his time
in his camp, which formed a kind of moving city. It is
described by the curious traveller Bernier, who followed it
from Delhi to Cathmim. The guard of cavalry consisted of
35,000 men, that of infantry of 10,000. The number of
horses, mules, and elephants, was computed at 150,000; of
camels and oxen at 50,000 each; and of perfumes between
300,000 and 400,000. Almost all Delhi followed the court,
while magnificence supported the industry of its traders and
artisans.

Aureng-Zebe fixed his residence, when in winter-quarters,
at Ahmednagar in the Deccan; and here he died, February
214, 1707, in the 90th year of his age. According
to the directions of his will, he was buried in the cell of a holy
dervise near this city; and as he professed great zeal for
Mahometanism, the votaries of this religion deem it a mer-
itorious pilgrimage to visit his tomb, particularly on the
28th of the month Zecadsab, the day on which he died.
Aureng-Zebe foreflew the contests that would arise between his sons for
the empire; and it has been asserted that he made a partition
of it among them. His will expressly intimates, that
he had made a division among his children, for preventing
confusion and bloodshed; and he says, that as there were
two imperial feats, Agra and Delhi, whoever settled in
Agra might have the provinces thereof, Deccan, Malwa,
and Guzerat; and he who resided at Delhi, might have
Caulb and the other provinces. Nevertheless, two letters,
written by Aureng-Zebe to two of his sons a few days be-
fore his death, cited by major Renell, indicate no intention
of dividing the empire, but express in doubtful terms his ap-
prehension of a civil war. These letters furnish this striking
lemon to real mortality, that however men may forget
themselves during the tide of prosperity, a day of recollec-
tion will inevitably come sooner or later. Here we
are presented with the dying confession of an aged monarch,
who made his way to the throne by the murder of his bro-
then, and the imprisonment of his father, and who, after
being in peaceable possession of it, percutted the most in-
offensive part of his subjects, either through bigotry or hy-
ponasty. Here we behold him in the act of resigning that,
to obtain possession of which he incurred his guilt; and pre-
ferred to us as a mere deluded man, trembling on the verge of
eternity; equally deplozing the past, and dreading the fu-
ture. How awful must his situation appear to him, when
he says, wherever I look, I see nothing but the Divinity.

Aureng-Zebe left four sons: Mauzum, afterwards em-
peror, under the title of Bahader Shah; Azem, and
Kaum Bukhsh, who severally contested the empire with their
elder brother; and Akbar, who had rebelled against his
father, and fled to Persia. The death of their father was
the signal of hostility between Mauzum and Azem; the
former approached from Cabul, and the latter from the
Deccan, and disputed the possession of the whole empire
(for Azem had proposed a partition of it), with armies of
about 300,000 men each. Near Agra it was decided by a
battle, and the death of Azem. Mauzum was pro-
claimed emperor, and reigned between five and six years.
In the course of fifty years after the death of Aureng-Zebe,
a succession of weak princes and wicked ministers annih-
iliated the extensive and mighty empire which he had elab-
oblised.

Aureng-Zebe possessed many talents which qualified him

for governing a large empire. He was sober, averse,
and resolved, and though he was not ferocious as to the means
by which he acquired power, he was generally mild in the
exercise of it; but he allowed his subordinate governors
and omans to oppress the people with impunity. In the ob-
serverance of the outward ceremonies of religion, he was ri-
gidly exact; and his zeal for making profits, whatever
were the views in which it originated, led him to adopt
measures of violence and persecution. In his deeds, he was
plain; in his mode of living, abhorrent; in his ordinary
occupations, when his military enterprises afforded him
intervals of leisure, he could descend to employ himself in
making caps, which he distributed among the great lords of
his court. The traveller Gemelli Carreri, who saw him in
1695, gives the following description of his person.
"He was of a low stature, with a large nose, a white beard,
and olive complexion. He was slender, and stooping with age,
and supported himself on a staff; yet he adorned petitions
without spectacles, and by his cheerful countenance seemed
pleased with doing business at a public audience." Frazer's
of a Man of Hindoostan, introd. p. 61—64. Modern Hist.
vol. v. p. 426—442.

AUREOLA, the crown of glory, given by painters and
statuaries to saints, martyrs, and confessors, as a mark of the
victory which they have obtained.

F. Sirmond says, this custom was borrowed from the
heathens, who used to encompass the heads of their deities
with such rays.

AUREOLARIA, in Entomology, a species of Phala-
nax (Gramma) of a small size, that inhabits Germany.
The wings are deep yellow, with three streaks and the mar-
gins brown. Fabricius.

AUREOLUS, Manius Aciarius, in Biography, a na-
tive of Dacia, was advanced from the humble occupation
of a shepherd, by enlisting in the Roman army, to the com-
mand of a body of cavalry, and distinguished himself by the ser-
vice he performed to the emperor Gallician, in a battle
against the rebel Ingenious. Whilst he commanded in Illy-
ricum, he defeated Macrianus, who assumed the purple, and
continued to maintain a partial attachment to Gallicius.
At length, A.D. 263, a considerable army, stationed on
the Upper Danube, invested with the imperial purple their leader
Aureolus; who, dreading a combined and barren reign over the
mountains of Thracia, passed the Alps, occupied Milan,
threatened Rome, and challenged Gallicius to dispute in the
field the sovereignty of Italy. "Defeated by the emperor in
a battle near Milan, Aureolus retired into the city; and dur-
ing the siege, he contrived to form a conspiracy in the be-

Aureolus, in Entomology, a species of Scarabaeus,
a depressed and somewhat angulated shape, and powdered
with gold: thorax and shells dotted with black. Inhabits
Dauria. Pallus.

Aureolus Pont, now Pontirolo, in Geography, a
bridge of Italy over the Adige, 13 miles from Bergano, and
32 from Milan, near which the usurper Aureolus was de-
feated by the army of the emperor Gallicius. Near this
place, in 1703, the obstinate battle of Caffano was fought
between the French and the Austrians.

AURESS, AUREZ, or EURES, Jibeal, the same given

Vol. III.
to the mons Aurosus of the middle age, and the mons Aureus of Ptolemy, being a part of the Atlas, extending southward from Icaria, quite to Bithynia. See Auros.

AURETTE, a river of France, which runs into the Eure, near Bourges.

AUREUS, in Entomology, a species of Staphylinus, that inhabits Spain. The head, thorax, and wing-cases, are covered with yellowish or golden down; abdomen black, fuscated with ash-colour. Fabricius, &c.

AUREUS, Mons, in Geography, a mountain of Media Prima, near the Danube. And also, a town of the same name at the foot of it on the same river. Also, a mountain of the northern part of the island of Corfu, the ridge of which runs out to the north-east and south-east, and forms a kind of elbow. The emperor Probus planted vines on this mountain. Ptolemy.

AUREUS, in Ichthyology, a very splendid species of Che! todon, figured and described by Bloch in his History of Fishes, under the title of C. aureus, and la bandoulere doree. This author acquaints us, that he found the drawing of this species amongst the designs of Father Pluemer, and that it inhabits the Antilles, but of its history he is entirely ignorant.

The body is of an oval form, golden-yellow colour, and covered with hard denticulated scales; the mouth is small, lips strong, and jaws furnished with falcatec teeth; gill-cover of a single piece; lateral line rather arched; fin yellow, green at the end; pectoral and tail fin rounded, the others filed; in the dorsal fin twelve rays. It is specifically distinguished by being of a golden colour, and having a spine near the cheek bone. Gmelin, Bloch, &c.

AUREUS, in Natural History, a species of Limax, that inhabits trees in Denmark and Norway, and described by Mili. as being yellow, and without spots. This creature is an inch and a half in length; beneath white, feelers, and a line between them, black.

AUREUS, in Ornithology, a species of Oriolus in the Linnean system, and Paradise bird in that of Latham. A bird that is supposed to inhabit New Guinea. General color tymew yellow, with the frontlet, chin, edges of the wings, and tail black. Oif. The length of this bird is eight inches; bill an inch long, and rather bent; shafts of the tail feathers, and fringe, near the tip yellow. This is the golden paradise bird of Latham; le troupeau des Indes of Buffon; and le rolier de paradis of Buffon.

AUREUS, a species of Psittacus, that inhabits Brazil, and is called by English naturalists the golden-crowned parakeet. This kind is green, with the cere and orbit blue-yellow; eye colour; crown golden; an oblique blue band on the wing-coverts. Gmelin. Briff. calls it psittaca Brasiliensis; and Buff. Perruche couronne d'or.

AUREUS, in Zoology, the species of Canis usually called the Jackal; an animal about the size of a middling dog, and specifically distinguished by having a short tail, and body pale fulvous. Schreber Saugth. —Gmel. &c. Kampf er calls it lupus aureus; Valant. vulpes Indiae Orientalis; Briff. adi; Buffon, chel, adze; Vosmier, chien sauvage Indien; and Gmel. and Penn. schakal, &c.

This animal inhabits the warmer parts of Asia and Africa, lurking among the woods and mountains in the day-time, and venturing out in search of prey only during the night; when they assemble together in herds to the amount of two or three hundred, and indiscriminately attack and devour the lesser kinds of animals and birds; and will occasionally eat also certain kinds of vegetable. The voice of the jackal is described as peculiarly hideous, confounding of a kind of howling and indescribably barking; and when they hunt in troops, by their dreadful yells alarming and put to flight deer, antelopes, and other timid quadrupeds; while the lion, intrenchively attending to the clamour, is said to follow till the jackals have hunted down the prey, and having satisfied himself, leaves only the mangled remains to be devoured by the jackals. It is for this reason, Dr. Shaw observes, that the jackals is popularly termed the lion’s provider. When prowled by hunger, jackals have been frequently known to enter towns, and devour indiscriminately whatever animal substance they can find. They commit ravages among the flocks, kill fowls, &c. and have been known to attack mankind.

There is great reason, according to Dr. Shaw, for supposing this animal to be the real origin of the dog, since almost all its manners and propensities are the same. When taken young, it is easily tamed; attaches itself to mankind, distinguishes its master, comes on being called by its name, shews an attachment to dogs instead of flying from them, and has all the other peculiarities of character by which the dog is distinguished; amongst others, the important observation of professor Goldenstadt, who has given an accurate description of the jackal in the Peterburg Transactions, should by no means be omitted, viz. that the jackal and dog agree in the structure of the cocum or short intestine, and differ in that respect both from the wolf and the fox.

Dr. Pallas has favoured the world, with an accurate description of this animal. In external figure, he remarks, the jackal resembles the wolf more than the fox. It is also larger and stands higher on its legs than the fox. The head is of a fox-red colour above, mixed with ash-grey hairs, which have each a blackish ring and tip; the upper lip is white on each side of the nose, and the throat is of the same colour; the whiskers, the long hairs on the chin, and those above the eyes, which are five in number, are black; the ears are fox-red externally, and white internally; the neck and back are all over grey-yellow, and both, and especially the latter, are dished with a shade of duney, owing to the tips of the long hairs on those parts; the under part of the body, and the legs, are of a light reddish yellow, but the shoulders and thighs are externally of a fox-red; the claws are black; the thumb claw stands higher than that of the dog, and is crooked; the tail is straight, somewhat longer and more hairy than in the wolf, and is of a greyish-yellow, more inclining to fox-red towards the end; the long hairs have black tips, and consequently the tip of the tail appears black; the hair of the jackal is coarser and stronger than that of the wolf, and is longest on the shoulders and tail, where it measures four inches; on the neck and back it is shorter by an inch; between the hairs is situated a woolly fur of a grey colour; the four middle front teeth are of a truncated form, or, as if cut off, flat, not perceptibly notched or indented; the two exterior larger ones in the upper jaw are somewhat larger than the under; the grinders are six on each side, the first being the smallest, and of a conical shape; the next grinders, to the number of two in the upper, and three in the lower, are gradually larger, and divided into three points; the fourth of the upper jaw and the fifth of the under are the largest, and have two points; the remaining ones stand deeper in the jaw or more inwards, and are smaller than the preceding; the tongue has, on each side, a border or row of small verrucous or warts.

Mr. Pennant describes the usual length of the jackal to be about two feet and a half; the female rather smaller than the male, and with from six to eight paps. Dr. Pallas counted in a young jackal three teats on one side, and four on the other.
on the other, of which the foremost one was situated near the side of the breast.

The more we consider the nature and manners of this animal, says Dr. Shaw, the more reason we shall find to coincide with professor Goldschmidt in opinion, that the jackal is the real origin of the dog (nimbly, indeed, we allow the wild dogs of Africa to be the dog in a state of nature). M. Goldschmidt very properly observes, that the natural skin of the wolf does not seem to fit it for the supposed origin of the dog; since it is generally confined to the frigid zone; its hair is also against the supposition; for the natural law of any species of animal appears to be between that of the large and small species. The fox is still more unlike the dog, as to some particulars, in the structure of the tail; the latter country of the jackal, which is properly Asia Minor, is inhabited where we should naturally suppose the primaeval domestic dog to have originated. The jackal, according to M. Goldschmidt, has a natural propensity to follow mankind, instead of flying from him, like the wolf and the fox.

The whip, he adds, is very readily tamed, and when grown up, assumes all the habits of the domestic dog. That the jackal and dog readily intermix, appears from various testimonies, according to Buffon. M. Goldschmidt cannot consider the reconstituted tail as a specific character of the dog, but it may be considered from evaporation. The general colour of the jackals, which this author has seen, is a dirty fulvous, rather black on the back, and yellowish-white beneath; on each knee in general a black patch, and the tip of the tail of the same colour.

Aureus, in Antiquity, the Roman gold coin, equivalent to 25 denarii, or 100 sestertii. Suet. in Oth. c. iv. Tacit. Hist. lib. i. Beveria, de Ponder. p. 33, seq.

In Modern and Middle Age Writers, it is called fluidus, or folius aureus.

The aureus, according to Arbuthnot, generally weighed double the denarius; whence it must have been worth, according to the first proportion of coining mentioned by Pliny, 1 d. 3d. sterling. — According to the proportion that now obtains among us, 10 c. 9d. Plin. lib. xxxiii. c. 3.

Arbuth. tab. 25. — Andworth, however, makes the aurei (denarii) of the higher empire, weigh only five pennyweights; and under the lower empire, little more than half so much.

The weight of the aureus was gradually diminished by the emperors. The common aureus weighed at a mean 126 grains, 52 of them being contained in the Roman pound; the imperial aureus, being 45 to the pound, weighed 112 grains; and the solidus, being 72 to the pound, weighed 70 grains. 

Alexand. Severus coined pieces of one-half and one-third of the aureus, called fimmens and tremisses; whence the aureus came to be called solidus, as being their integer. Phil. Trans. vol. lxi. part ii. art. 42. See Coins, and Denarius.

Auria, Vincent, in Biography, an Italian historian, was born at Palermo in 1625, devoted himself to the profession of the law, and was admitted doctor of laws at Catania, in 1652. He afterwards relinquished this employment, and pursuing a liberal fortune, dedicated himself to literature. His works were chiefly Italian, and partly Latin, on subjects of history and antiquities. Those in highest estimation are "An History of the Great Men in Sicily," 4to, Palermo, 1704; and "An History of the Viceroys of Sicily," fol. Palermo, 1697. Now. D. C. Hill.

Auricella, in Entomology, a species of Phalana (Timea) found in France. It is fioy-white, with tellaceous streaks on the wings, and a projecting tuft of hairs on the first joint of the antennae.
and well mixed; the eye of the flower large, round, and of a good white or yellow, with the tube or neck not too wide. Such flowers as want any of these properties are constantly rejected by experienced florists; and as the varieties every year increase from seeds, the bad ones are turned out to make room for such as are good. The proper time for sowing the feed is commonly about August; but a month or two later will answer the purpose. The moist proper soil for it is a good light, fresh, sandy mould, mixed with very rotten farm-yard dung, or well rotted dung from the bottom of old hot-beds. The manner of propagating these flowers, when thus obtained, is by offsets or slips, taken from the old roots in April, when the flowers are in full blow. As these plants which have strong single heads always produce the largest clusters of flowers, the curious florists pull off the offsets as soon as it can be done with safety to the plant, in order to encourage them to flower stronger. But in order to have them to flower in the greatest perfection, they should be preferred from too much wet in winter, and have free air, and not too much sun. And in the beginning of February, if the weather be mild, the earth in the auricular pots should be taken off as far as it can be without disturbing the roots, and such as is now and fresh laid in its place. The pots must then be well covered with mats in the night to defend them from frosts while the plants are budding. When the flalks begin to become long, they should be defended from hasty rains, but not kept too much under cover, as it is apt to draw up the flalks too long, and make them weak. They should likewise be watered frequently, a little at a time, care being taken that none of the water falls on the plant. When the flowers begin to open, the pots should be removed to flages, formed with shelves, one above another, placed under cover, but open to the morning sun, and sheltered from the mid-day sun. They may remain in this situation till their flowering is over, and then be set out to have the benefit of the rains and free air, for the ripening of their seeds, which should be carefully preferred and spread on paper to dry before they are put up.

Auricularia, in Natural History, a species of Lucernaria, of a shape resembling a flalk, with a round neck; the lower part is very large, and encircled with eight tufts of tentaculi or fingers. Fabr. Groom. Mill. calls this species holothuria lagenaria reference tentaculi octos faciebilius. It inhabits the Greenland seas, adheres firmly to the leaves of the largest urine, and rarely moves; feeds on marine infests, particularly on oniches, and is about an inch and a half in length. The body is black or reddish, and sometimes, though rarely, chequered, glistened with gold; the mouth is white; the tufts of tentaculi on the body black, with white tips.

Auricularia Judas, or Jesus's ear, a kind of fungus or mushroom, somewhat resembling, in figure, a human ear. It grows on old, dried trees, the tree on which, as some pretend, Judas hanged himself; and hence, they think, the name is derived.

This fungus fleeted in water, and applied to the eyes, is said to free them of inflammations; but its chief use is under the form of a garel in decoctions, against inflammations of the throat, or swelling of the tonsils.

Auricularia. See Altarium.

Auricularia, primus, musculus, in Anatomy, the name given by Gallopinnus to the auricula auricular. He also calls the retroflexa auricula the facinus musculus.

Auricularia Retroflexa. See Retroflexiae.

Auricularia, something that relates to the ears.

Thus we say, an auricular wind, auris iufis, a wind that enters by the ear.

Auricularia Confession, is that made in the ear privately.

Auricularia, in Medicine, are such as are suited to the cure of diseases of the ear.

Auricularia, in Botany. See Hedyotis.

Auricularia, in Conchology, a species of Helix, or fresh-water snail, found in stagnant waters in Europe. This shell is imperforate, obtusely-ovate, with a short and acute spine, and capacious aperture. Lin. Fam. Suec. Mill. Zool. Dan. Donov. Brit. Shells, &c. It is very thin and brittle shell, rather pellicled, and of a brown or whitish colour; length from half an inch to an inch and a quarter, and easily known by the very ventricose appearance of the fold which.

Auricularia, in Entomology, a species of Forticula, that is perfectly known in England by the name of common ear-wig, or ear-piercer, from an opinion generally prevalent that it creeps into the ears, and thence into the brain, of people who inadvertently lie down to sleep in fields, gardens, and other places where these creatures inhabit. It is specifically distinguished from other insects of the same genus by having the wing-cases white, and fourteen joints in the antennae. Lifer calls it tearabrus fabrus, and ear-piercer; and Frisch, vermis auricularius.

The ear-wig is a very destructive creature, both in the orchard and flower-garden, and especially to wall-fruits, carnations, and roses. In order to prevent the mischief attending them, it is usual to erect hedges supporting unions of water, or to hang the hollow claws of cats or hares, tobacco pipes, &c. on sticks in different parts of the garden, for them to creep into in the day-time, in order to catch and destroy them. Reeds open at both ends, and placed among the branches of fruit-trees, are also a good trap for them, as they crowd into their open channels, and may be easily collected and thrown into a tub of water.

That the ear-wig or ear-piercer will creep into the ears of such as sleep in the open air, in those places where they inhabit cannot be denied; but those who are acquainted with the anatomy of the head, assert that it is impossible it can ever enter the brain, because, they say, there is no open communication between the ear and the brain, and the jaws of the insect are too weak to effect one. In France the same prejudice prevails against this creature, among the lower orders of people, as in England; and, as with us, it is called from that circumstance the ear-piercer (perce-oreille). Its most formidable weapon, in their opinion, is the pair of forceps at the extremity of the body, a character peculiar to the genus, and not to this particular species. "C'est cette arme," says Degeys, "qui a fait donner a cet insecte le nom de forficule, et en françois le nom reconable de perce-oreille, parce qu'on l'a imaginé que cet insecte s'introduit dans les oreilles, que de là il pénètre dans le cerveau & failit perir. Ceux qui voyant l'anatomie, connaissent l'impossibilité d'une pareille introduction dans l'intérieur du crâne, attendent qu'il n'y a point d'ouverture qui y communique; mais la fraîcheur de quelqu'un, à qui un de ces insectes sera par hasard entré dans la conduite de l'oreille, aura pu donner lieu a cette faible, &c." But the use of the fore-paws, with which the ear-wig is furnished, is to defend itself against other small insects, and when touched it never fails to display them in a threatening posture, by turning up the extremity of its abdomen. The larva differs very little from the complete insect, and runs with great agility.

Auricularis Abductor, in Anatomy. See Abdurcator.

The finger next the little finger is also called auricular, by the Greeks auris, because used in picking the ear.
AURICULATA, in Natural History, a species of Vorticella that inhabits the fresh waters of Denmark. It is naked, with two small bristles at the tail. Mill. Hist. Vern. This kind is pellucid, cylindrical; the aperture dilated into a small ear on each side.

AURICULATA, a species of Doris, of a white colour, with dorso-falciform papilae of a red colour tipped with white. This kind inhabits the north seas. Gmelin.

AURICULATED Leaf, in Botany, is a leaf which has a lobe on each side towards the base.

AURIENSIS, in Ancient Geography, an episcopal city of Africa, in Mauritania.

AURIFER, in Entomology, a species of Curculio, with a ferocious body spotted with gold. Fabricius, Sp. Inf. Inhabits America, and has the front legs long.

AURIFER, a beautiful species of Buprestis that inhabits Cayenne. The wing-cases are green, with numerous impressed golden dots, and each terminating in two teeth; legs azure. Fabricius, Oliver.

AURIFLAMMA, in the French History, properly denotes a flag or banner, belonging to the city of St. Denis, suspended over the tomb of that saint, which the religious, on occasion of any war in defence of their lands or rights, took down, with great ceremony, and gave to their protector or advocate, to be borne at the head of their forces. Du-Cange.

AURIFLAMMA is also sometimes used to denote the chief flag or banner, in any army.

AURIFLIA, in Entomology, a species of Phalana (Bombyx), that infects the apple-trees in Germany, and bears a strong resemblance to phalana chryiformis. The wings are white, with a brown rib on the under side of the anterior pair; tail bearded and yellow. The larva is hairy, black, with red lines, and white dots on the sides; a prostateen on the neck, and another near the tail. Gmelin.

AURIGA, in Astronomy, the Waggoner; a constellation of stars in the northern hemisphere: whose stars, in Ptolemy's catalogue, at 14; in Tycho's, 27; in Hevelius's, 43; in the British catalogue, 66. This is one of the 48 afterwards, mentioned by all the ancient astronomers; and represented by the figure of an old man in a kind of sitting posture, with a goat and her kids in his left hand, and a bridge in his right. Besides the Heodi, this constellation includes another of the stars which the ancients distinguished by peculiar names; that is, Capella, the goat Capra, and Anthea, Capra, which is the bright one near the shoulder, and supposed to be the mother of the Heodi, and the nurse of Jupiter. The Heodi, or the two stars in the arm of Auriga, were regarded by the ancients as affording preages of the weather; and they were so much dreaded on account of the storms and tempests that succeeded their rising, that they were said to fix up the navigation of the sea. When the day of their peculiar influence was past, they celebrated a festival with sports and games, under the denomination of "Natalis Navigationis." Germanicus calls them unfriendly stars to mariners; and Virgil joins them with Arcturus, mentioning their setting and rising as circumstances of the most important preage. To the same purpose all the ancient critics represent a part of the constellation Auriga, if not the whole of it, as deferring particular attention, and as much an object of terror as the blazing Arcturus.

AURIGA, in Ichthyology, a species of Chetodon, found in the Arabian seas. It is whitish, obliquely fuscated with brown; and the fifth ray of the dorsal fin, siliform. Forik. Fin. Arab.

The length of this fish is five inches; form nearly rhombic; whitish colour tiaged with blue; the brown oblique bands sixteen in number, and diploed nearly parallel to each other. The scales are rhombic; head banded, above flat, scaly, of a reddish white colour, with four transferful bands; iris black; mouth comice and compressed; lip rostrate and equal; posterior margin of the dorsal fin black; and its varied with black and yellowish-white; tail truncate and fulvous; lateral line bent.

AURIGNAC, in Geography, a town of France, in the department of the Upper Garonne, and chief place of a canton in the district of St. Gaudens, 53 miles south-west of Toulouse, and 10 north-west of St. Gaudens. The place contains 1225 and the canton 10,439 inhabitants; the territory includes 192.4 square kilometres and 23 communes.

AURIGNY, Hyacinth Robillard, in Biography, a French historian, was born at Caen, in 1675, became a member of the society of Jesuits in 1691, and died in 1719. His works, comprised in four volumes 12mo. printed at Paris in 1725 and in 1757, are "Memoirs, chronological and dogmatical, for Ecclesiastical History, from 1650 to 1716," with critical remarks; and "Memoirs for the Universal History of Europe," for the fame period. They are much valued for variety of materials, accuracy of dates, and elegance of style; but are not deemed impartial. Nouv. Dict. Hist.

AURIGRAPHUS, from aurum, gold, and graphe, I write, in Middle Age Writers, a copyist, or calligrapher, who wrote in gold letters.

AURILLAC, in Geography, a town of France, and principal place of a district in the department of Cantal, and, before the revolution, the capital of Lower Auvergne. It is situated on the river Jorde, in a fertile valley; and the castle, which is high, commands the town. The place contains 11,947 and its two cantons 29,224 inhabitants; its whole territory includes 350 square kilometres, and the north canton 9, and the south canton 11 communes. N. lat. 44° 55'. E. long. 2° 27'.

AVRILLE, a town of France, in the department of the Mayne and Loire, and chief place of a canton. In the diocese of Angers, one league north of Angers.

AURINIA, in Ancient Geography, a town of Italy, in Etruria.

AURIOL, in Geography, a town of France, in the department of the Mouths of the Rhone, and chief place of a canton in the district of Aix, four leagues south-east of Aix, and four N.N.E. of Marseilles.

AURIPIGMENT, called also Orpiment. See ARSENIC, Ores of, p. 3, var. 2.

AURIS, the ear. See EAR.

AURIS DIANA, in Conchology, a species of Strombus, adopted by Linnaeus and Gmelin, after Argenville. The lip projects to a sharp point; back muriicated; tail erect and pointed. Linnaeus. Inhabits the southern coasts of Africa; is about three inches long; thick; seldom of one colour, but variegated; on the back are generally three, and sometimes four, rows of tubercles, with the interstices transversely ribbed; and the outer whorl cancellated; mouth flesh-colour; pillar white. Gmelin, Sc.

AURIS HIRSUTA, a name given by Rumphius to the shell, since called marex anat by Linnaeus, and Gmel and grimaltze by Argenville.

AURIS JUDE, a species of Voluta, with a contracted oblong shell, having a smooth spire, and tridentated pillar-lip. Linnaeus. Mull. describes it as helix tetra cylindrica subgranulata, apertura lancolata, labro ad axin tridentato. This shell inhabits the seas in India, and resembles voluta auris midae, but is smaller, and narrower. The colour is brown, or white with brown waved spots; whorls of six spires, the first and exterior ones very finely fluted. Gmelin.

AURIS MALGHI, a species of Voluta, about three inches in length, and is native of New Caledonia. The
shell is fusiform, granulated, with an ovate aperture; pillar-lip cut and much spedent. This is called hekel auris medii by Mull. vern. fic. et terr. Chemnitz figures it, and two varieties of the same species, tab. 121. Conch.

AURIS MIDE, a species of Voluita, found in India, where it inhabits marshy woods and swamps, and in its manners resembles an helix. The shell is contracted, oval-oblong, spire rugose, pillar-lip bidentated. This is Helix tella fulliform granulata, aperture lanceolata, labro ad axin bidentato of Mull, vern. fic. et terr. — Auris mide of Rumphius; and auricula mide of Angereville. Liller figures one variety of this species by pl. 577. Conch. and Chemnitz another, tab. 149. f. 1597, 1598.

The length of this kind is four inches; it is brown, solid, rugose, or triated; spire large; whorls from six to nine, each terminating in a granulated band; the outer ones cancellated; aperture long, and widest beneath.

AURIS FORCI, a name synonymous with Crista galli, &c. and given by Argereville to the species of Mytilus called by Gmelin, M. crista galli.

AURIS SILENSI, a species of Voluita, about two inches in length; of a ventricose form, and short; colour brown, with longitudinal undulated striæ of a chestnut colour; aperture ovate, and spire obtuse. It is specifically described as being an oval, gibbous, umbilicated shell, with a thick black mantle on the pillar-lip. Born. Mut. This is found in England Silenus's ear-shell. Its country is unknown.

AURIS MARIANA, or sea ear-shell, a vague term for several shells of the Halioitins genus, but chiefly for the species tuberculata, which is common in the Mediterranean, and is found, though rarely, on the western coasts of England. Donov. Brit. Shells, &c.

AURISCALPIUM, a species of Turbo, that inhabits the Mediterranean sea. This shell is white, and very smooth; aperture with an advanced flat, concave, obtuse lip. Gmel. &c. This kind is milky-white and fusible; whorls of the spire seven or eight; aperture dilated, and resembling an ear-picker; with a margin.

AURISCALPIUM, an instrument wherewith to pick and cleanse the ear from wax; and also serving for some other operations relating to that part.

The word is compounded of auris, ear, and scalpo, I scratch, or pick.

AURISPA, John, in Biography, was born in 1369, at Noto, in Sicily. He studied the Greek language at Constantinople; and, having made use of Greek MSS. chiefly of Pagan writers, which were more easily obtained than the writings of Chriftians; after a second visit to Constantinople in the train of the emperor John Palaeologus, he taught the Greek and Latin languages at Bologna, Florence, and Ferrara. He was secretary to pope Eugenius IV. and Nicholas V. and enjoyed benefices in Sicily. After the death of the latter, who was his patron, he returned to Ferrara, and continued to teach and write till the time of his death in 1460. He translated some of the writings of Archimedes, and the commentaries of Hierocles on the golden verses of Pythagoras; and published poems and letters. His version of Hierocles was printed at Bazel in 1543. Nouv. Dict. Hist. Gen. Biog.

AURIST, in Medicine and Surgery, one whose profession it is to cure diseases of the ear.

AURICA, in Conchology, a species of Balanus, that inhabits the North Seas, and is described by Ellis. This shell is membranaceous, ventricose, fastened on a tube, and eared; mouth with eight valves, and dentated. Gmel. &c. — Ellis calls this lepas nudus conofo auris.

AURIS, a species of Anomia, with a shell of a somewhat ovate form, inflated, and slightly eared; beak perforated. Gault. Inhabits the seas about Norway, and bears some affinity to another species of the same genus, called by Linn. and Gmel. caput perpendiculis.

AURIS, a species of Mya, that inhabits New Zealand. The shell is ovate, compressed, and closed; hinge with two lateral teeth. Chemnitz. Colour fordid ochraceous.

AURIS, in Entomology, a species of Pemelia, with the thorax margined, dilated in front; one side on the wings-case bicarinated. Inhabits Siberia, and is entirely of a black colour. Pallas, &c.

AURIS, a species of Calantera, that inhabits Europe. The thorax is dilated into the form of two ears; shield of the head spreading, and rounded. Geoffroy calls this cedra thomae obtuse bicornis. It feeds on the oak and nut trees, and is entirely of a chineerous colour. Gmel. &c.

AURIS, in Natural History, a species of Medusa, having four cavities beneath. Linn. Fn. Svec. This kind inhabits the Baltic and other seas; is of an hemispherical form; eyelids; from two to four inches in diameter; and when floating on the sea in sunshine, reflects a beautiful splendor. The margins are fringed and yellow. Aldrovandus calls this aurita festa.

AURIS, in Zoology, a species of Lacerata; that inhabits the sandy parts of Siberia about Naryn, and the desert of Coman. It is described by Pallas as having a tail of a moderate size, round, with callous dots on each side, dilated into a semiorbicular, soft, scabrous, dentated crest. This animal is rather larger than lacerata geck; the color above is cinereous and yellowish, clouded, and thickly speckled with brown; beneath whitish; spot on the cheek, and tip of the tail beneath, black. The head is retuse; crest of the animal, when alive, turgid with blood; body ventricose and depressed, and with the legs and tail rough, with acute prominent dots; toes five, each furnished with a claw, and the three middlemost ones ferrated, the inner one having a single notch, and the others two notches each. Gmelin, &c.

AURITA, called also Hyrsos, and Shepherds, in Ancient History, the denomination of a large body of adventurers who migrated into Egypt at a very early period. Ancient and modern writers have not agreed in their conjectures concerning these enterprising and fortunate people. Many have supposed the Aurites to have been the Arabsians; but the learned Bryant maintains that they were Arkites, who had been expelled from Babylon by the sons of Shen, at the second dispersion. Unwilling to remain at home indigent and inarticulate, or unable to reftit the shock of some powerful foe, they abandoned a region which they could no longer hold in tranquillity, precipitated themselves into Egypt, drove the dispersed tribes of Ham from the most fertile part of their territories at the upper end of the Delta, and settled there. This invasion happened soon after the Syrians had become formidable by the conquests of Ninus; for we are told that the Aurita fortified the eastern borders of their new settlements towards Arabia and Chaldæa. About this time, as all the ancient historians affert, the Delta had acquired the fertility of a moras. Drained by the shepherds, it soon became a temperate and beautiful, as it was naturally a fertile, region. For the space of two centuries and a half, this bold and enterprising race kept possession of Middle and Lower Egypt. In the course of this period they discovered, we are told, many useful arts and inventions, and from time to time sent out colonies in quest of new settlements. Two hundred and sixty years after their arrival in Egypt, the poverty of the original nations, not finding
AURITUS, in Natural History, a species of Echinus that inhabits the Persian seas. The colour is yellowish-grey, with the upper margin chestnut; base flat; punctured and marked with radiated streaks; anus oblong and situated near the mouth. It is specifically described by Lekef apud Klein ediconis, as having a waved margin, the lower one rounded, upper one nearly square, and twice divided, and a gaping pore between every two avenues.—Georoede romphart. Philel. Zeceg., &c.

AURITUS, in Ornithology, a species of Turdus that inhabits Cayenne, and is called *Fournieria auricoriblanches* by Buffon; and white-eared thrush by Latham. Above, it is variegated with rufous and olive; beneath white; crown and posterior band reddish-black; chin and throat black; streak behind the eye descending on the neck, and consisting of elongated, white, glossy feathers. Gmelin, &c. Length four inches and three quarters.

AURITUS, a species of COLUMBUS, with a black head, and ears cradled with a tuft of feathers. Linn. F. Suec.

The length of this species is twelve inches. In England, they inhabit the fens near Spalding, where they breed; they are found in the northern parts of Europe, and in the temperate parts of Siberia in Iceland. It is said by Bougainville to be met with in the Falkland Islands, where it is called the diver with speckled.

The neck, like those of most other birds in this genus, is composed of twigs, roots, and flakes of aquatic-plants, and is usually found floating among the reeds and flags nearly filled with water. The female lays four or five small white eggs, which are hatched in the nest while it remains thus immered in water. Donov. Brit. Birds, &c. A. auritius, eared grebe.

Gerfin calls this species mergula genus alterum; and Buffon l' petit grebe huppé. Gmelin speaks of a variety of this species cylindus cornutus minor of Drifton; and cylindus feu pediceps minor of Will. Orr. Ray, and Albin.

AURITUS, a species of TROCHILUS, of a green-gold colour above, and white beneath; below the eyes a band of black; and in the male two tufts of feathers of a violet colour on each side of the head under the ears; legs downy. This is *mellifuga Cayenensis* of Buff. and *Parsu mouche à oreilles* of Buff. Latham describes it under the name of violet-eared humming-bird. There is a variety of this bird with a purple stripe below the eyes; near the ears a black spot, and beneath it another of blue. This species inhabits Cayenne, and is about four inches and a half in length.

AURUM ABBESSION, in Antiquity, cutting off the ears, was a punishment inflicted by the Saxon law on those who robbed churches; and afterwards on every thief; and at length on divers other criminals.

AUROBZMUNSTER, in Geography, a town of Germany, in the circle of Bavaria, 16 miles south of Passau.

AUROCAPILLA, in Ornithology, a species of MOTACILLA, found in St. Domingo, Jamaica, and other islands in the American seas. It is olive, beneath white; crown golden; eye-brows black; breast spotted with black. Gmelin. This is *fledula Prupeflexa auro capilla* of Buff. grivellute de S. Domingue of Buff. and golden-crowned throstle of the Arctic Zoology.

AUROGALLUS, MATTHEW, in Biography, a grammarian of the 16th century, was a native of Bohemia; and became professor of languages in the university of Wittenberg. Besides the affilience he gave to Luther in translating the Bible, he wrote in Latin a "Compendium of Hebrew and Chaldean Grammar," printed at Wittenberg, in 1525, and at Batif, in 1529; and a treatise on the geography of the Holy Land, intitled "De Hebraeis Urbium, Regionum, Populorum, &c. Nominibus," printed at Wittenberg, in 1526, and at Batif, in 1529. 8vo. He died in 1543. Gen. Diet.

AUOR, in Geography, a town of France, in the department of the Cher, 21 leagues north-west of Saconcs.

AUORG, a river of France which runs into the Eure, near Bourges.

AUORINTENS, in Entomology, a species of CARABUS of the austerous kind. The hells are green and rough, with raised lines; thighs rufous. Inhabits Saxony. An intermediate species between carabus auritus, and nitens.

AUORANZA, in Geography, a town of Italy, belonging to the state of Venice, in the Cadoria, seven miles north of Pieve di Cador.

AUORRA, in Astronomy, the morning twilight; or that faint light which begins to appear in a morning, when the sun is within eighteen degrees of the horizon.

AUORA, in Conchology, a very rare species of CYPEREA, discovered on the coast of Oatheite by Captain Cook. It is rather ovate; margin white; back fine orange, and without spots. Among collectors of exotic shells, it is known by the name of cypraea aurora, or morning-dawn cowry.

AUORRA, in Entomology, a species of PHALANA, in Abbot's Insects of Georgia. The upper wings are yellow; base and margin speckled with red. Smith.

AUORRA, the specific name under which Papilio Caramines is described by Linn. in F. Suec. I. n. 801.

AUORRA, a species of Papilio (Dun. Cand.) found in Siberia. The wings are fulvous; beneath, an ocular dot on the anterior wings, and a silvery dot, with a conspicuous one still smaller in the middle of the posterior pair. Fabricius, Gmelin, &c.

AUORRA, a species of LAMPÆUS (Pyrchro Fab.), given by Herbst, as a native of Pomeraia. It is black; thorax red and cancelled; wings-cases chestnut, with four elevated lines, and the intermediate spaces dotted in rows.

AUORRA, in Geography, an island belonging to the Archipelago of the New Hebrides, in the South Pacific ocean, discovered by Bougainville, in 1768. It is about twenty leagues long, and two broad, and lies nearly north and south. Its eastern shore is steep, but it has a small bay on the north-west coast. It abounds with wood and fresh water; and is inhabited. The vegetation of this island is luxuriant. The middle of it lies in S. lat. 15° 8'. E. long. 168° 17'.
AURORA, in Mythology, the goddess of the morning, was, according to Hebh, the daughter of Thes and Hyperion, and sister of Sol and Luna; but according to others, she was the daughter of Titan and Terra. Under this title the ancients defined the light which precedes the rising of the sun above our hemisphere. The poets represent her as rising out of the ocean in a chariot, drawn by two rofe-coloured horses, called by Homer, Lampus and Phloxon, with rosy fingers dropping gentle dew. The large wof on her head was folded backwards, to denote that the brightness of day was already advanced, so as to dispel the darkness of the night. Virgil describes her as ascending in a flame-coloured chariot with four horses.

AURORA, in Ornithology, a species of Psittacus that inhabits Brazil. It is yellow; arm-pits, margins of the wings, and outer great quill-feathers in the middle, red. This is psittacus latus of Brill. perrouet jaune of Satt. Or. amiancja jaune Buffon, and aurora-parrot of Latham.

The length of this bird is twelve inches; bill, cere, legs and claws white; eye-brows and irides red; tail rounded, the four exterior feathers red within from the base to the middle. Gmelin.

AURORA, in Zoology, a species of Coluber with 179 abdominal plates, and thirty-seven subcaudal scales. This is a native of America, and is of a livid colour, with the back yellow. Gmelin.

Dr. Shaw describes it as an orange-coloured snake, with yellow dorsal band and abdomen. Length about two feet and a half, and moderately thick in proportion; head rather large, and covered with very large scales; tail short, and tapering to an obtuse point.

AURORA Borealis, or Aurora Septenralis, in Physiolog., the northern dawn or light, sometimes called fireemars, is an extraordinary meteor, or luminous appearance, hurling itself in the night-time, in the northern part of the heavens; and most usually in frosty weather.

It is usually of a reddish colour, inclining to yellow, and sends out frequent coruscations of pale light, which seem to rise from the horizon in a pyramidal undulating form, and shoot, with great velocity, up to the zenith. This light sometimes appears remarkably red, as it happened Dec. 5, 1737, of which we have very full accounts from divers parts of Europe, in the Phil. Trans. No.459. sect. 7. p. 583—606.

The aurora borealis appears frequently in form of an arch; chiefly in the spring and autumn; after a dry year. The arch is partly bright, partly dark; but generally transparent. And the matter of which it consists is also found to have no effect on the rays of light which pass through it. Dr. Hamilton observes, that he could plainly discern the smallest speck in the Pleiades through the denseness of those clouds which formed the aurora borealis in 1763, without the least diminution of its splendour, or increase of twinkling. Phil. Essays, Efl. iii. p. 166.

Sometimes it produces an iris.—M. Godin judges, that most of the extraordinary meteors and appearances in the skies, related as prodigies by historians, e. g. battles, and the like, may be probably enough reduced to the class of aurora borealis. Vide Hilt. Acad. R. Sc. acad. an. 1762. p. 425.

This kind of meteor, which is more uncommon as we approach towards the equator, is almost constant during the long winter, and appears with the greatest lustre in the polar regions.

In the Shetland isles, the "merry dangers," as the northern lights are there called, are the constant attendants of clear evenings, and afford great relief amidst the gloom of the long winter nights. They commonly appear at twilight, near the horizon, of a dun colour, approaching to yellow; they some-
times continue in that state for several hours, without any perceptible motion; and afterwards they break out into streams of brighter light, spreading into columns, and altering
drily into 10,000 different shapes, and vying their
colours from all the tints of yellow to the most obscur rubbish. They often cover the whole hemisphere, and then exhibit the most brilliant appearance. Their motions at this time are most amazingly quick; and they astonish the spectator with the rapid change of their form. They break out in places where none were seen before, skimming briskly along the heavens, are suddenly extinguished, and are succeeded by an uniform dusky tract. This again is brilliantly illuminated in the same manner, and as suddenly left a dark space. In some nights, they assume the appearance of large columns, on one side of the deepest yellow, and on the other, gradually changing till it becomes undistinguishable from the sky. They have generally a strong tremulous motion from one end to the other, and this continues till the whole vanishes. As for us, who see only the extremities of these northern phenomena, we can have but a faint idea of their splendor and motions. According to the state of the atmosphere, they differ in colour; and sometimes assuming the colour of blood, they make a dreadful appearance. The ruflic fages, which observe them, become prophetic, and terrify the spectators with alarms of war, pestilence, and famine: nor, indeed, were these superflitious prefaces peculiar to the northern lights; appearances of a similar nature are of ancient date; and they were distinguished by the appellations of "phasmata," "trabes," and "bolides," according to their forms and colours. In old times they were either more rare, or less frequently noticed; but when they occurred, they were supposed to portend great events, and the timid imagination formed of them aerial conflicts.

In the northern latitudes of Sweden and Lapland, the aurora borealis are not only singularly beautiful in their appearance, but afford travellers by their almost constant effulgence a very beautiful light during the whole night. In Hudson's bay, the aurora borealis diffuses a variegated splendour, which is said to equal that of the full moon. In the north-eastern parts of Siberia, according to the description of Gmelin (Reife durch Siberien, vol. iii. p. 135.), cited and translated by Dr. Blagden (Phil. Trans. vol. lxxiv. p. 228.) these northern lights are observed to "begin with single bright pillars, rising in the north, and almost at the same time in the north-east, which gradually increasing comprehend a large space of the heavens, rush about from place to place with incredible velocity, and finally almost cover the whole sky up to the zenith, and produce an appearance as if a vast tent was expanded in the heavens, glittering with gold, rubies, and sapphire. A more beautiful spectacle cannot be painted; but whoever should see such a northern light for the first time, could not behold it without terror. For however fine the illuminations may be, it is attended, as I have learned from the relation of many persons, with such a hissing, crackling, and rushing noise through the air, as if the largest fire-works were playing off. To describe what they then hear, they make use of the expression "spue- leit chabiat," that is, the raging hoft is passing. The hunters, who pursue the white and blue foxes in the confines of the Icy sea, are often overtaken in their course by these northern lights. Their dogs are then so much frightened, that they will not move, but lie obstinately on the ground till the noise has palled. Commonly clear and calm weather follows this kind of northern lights. I have heard this account, not from one person only, but confirmed by the uniform testimony of many who have spent part of several years in these very northern regions, and inhabited different
different countries from the Yenisei to the Lena; so that no double of its truth can remain. This seems indeed to be the real birth-place of the aurora borealis." This account of the noises attending the aurora borealis, allowing for some degree of exaggeration, has been corroborated by other testimonies. A person, who lived seven years at Hudson's Bay, confirms Mr. Gmelin's relation of the fine appearance and brilliant colours of the northern lights, and particularly of their rushing noise, which he affirms he has frequently heard, and compares it to the sound produced by whirling round a stick swiftly at the end of a string. A similar noise has also been heard in Sweden. Mr. Nairne also, being in

Northampton, at a time when the northern lights were remarkably bright, is confident he perceived a hissing or whizzing sound. "Mr. Belknap, of Dover, in New-Hampshire, North America, testifies to this fact. American Trans. vol. ii. p. 196. M. Cavallo says that the crackling noise is distinctly audible, and that he has heard it more than once. Elem. of Nat. and Exp. Philos. vol. iii. p. 1490. See also Muffchenbroek Introd. Philos. vol. ii. p. 1676. § 2495. Beccevaria dell' Electricismo Artif. et Nat. p. 221.

Similar lights, called aurora australis, have been long since observed towards the south pole (see Phil. Trans. N. 461. § 23, 24, and 25. and vol. liv. No 53); and their existence has been more lately ascertained by Mr. Forster, who assures us, that, in his voyage round the world with captain Cook, he observed them in high southern latitudes, though attended with phenomena somewhat different from those which are seen here. On Feb. 17, 1773, in south lat. 58°, "a beautiful phenomenon (he says) was observed during the preceding night, which appeared again this and several following nights. It consisted of long columns of a clear white light, shooting up from the horizon to the south, and gradually spreading on the whole southern part of the sky. These columns were sometimes bent sideways at their upper extremities; and though in most respects similar to the northern lights (aurora borealis) of our hemisphere, yet differed from them in being always of a whitish colour, whereas our aural various tints, especially those of a fiery and purple hue. The sky was generally clear when they appeared, and the air sharp and cold, the thermometer standing at the freezing point."

The periods of the appearance of these northern lights are very inconstant. In some years they occur very frequently; and in others they are more rare; and it has been observed that they are more common about the time of the equinoxes than at other seasons of the year.

Dr. Halley see Philos. Trans. N 347. p. 406. or Abr. vol. iv. p. 138. has collected together several observations, which form a kind of history of this phenomenon. After having particularly described the various circumstances which attended that observed by himself and many others in March 1716, and which was singularly brilliant, he proceeds with informing us, that the first account of similar phenomena recorded in the English annals, is that of the appearance which was noticed Jan. 33, 1560, and called "burning spears" by the author of a book intitled "A Description of Meteors," by W. F. D. D. reprinted at London, in 1654. The next appearance of a like kind, recorded by Stow, occurred on October 7, 1564. In 1754, as Camden and Stow inform us, an aurora borealis was seen for two successive nights, viz. 14th and 15th of November, with appearances similar to those observed in 1716, and which are now commonly noticed. The same phenomenon was twice seen in Brabant in 1575, viz. on the 13th of February and the 28th of September; and the circumstances attending it were described by Cornelius Gemma, who compares them to flames, tinted red, and armed lightings in the air. In the year 1570, M. Maffeur observed these phenomena, as he calls them, at Bahnning, in the county of Wurtenberg, in Germany, on less than seven times in the space of twelve months; and again, at several different times, in 1581. On September 2d, 1621, the same phenomenon was seen over all France; and it was particularly described by Ges
dash; fendus, in his "Physicus," who gave it the name of "aurora borealis." Another was seen all over Germany, in Nov. 1623, and was described by Kepler. Since that time, for more than eighty years, we have no account of any such phenomenon either at home or abroad. In 1707, Mr. Neve observed one of small continuance in Ireland; and in the same year, a similar appearance was seen by Room at Copenhagen; and during this interval of eighteen months, in the years 1707 and 1708, this fort of light had been seen no less than five times. Hence it should seem, says Dr. Halley, that the air, or earth, or both, are not at all times disposed to produce this phenomenon, though it is possible it may happen in the day time, in bright moon-light, or in cloudy weather, and to pass unobserved. Dr. Halley further observes, that the aurora borealis of 1716, which he described, was visible from the west of Ireland to the coasts of Russia, and to the coast of Poland; extending at least near 32° of longitude, and from about the 50th degree of north latitude, over almost all the north of Europe; and in all places at the same time, it exhibited appearances similar to those which he observed at London. He regrets, however, that he was unable to determine its height for want of contemporary observations at different places. Father Boscovich has determined the height of an aurora borealis, observed on the 16th of December 1737, by the marquis of Poleni, to have been 825 miles; and Mr. Bergman, from a mean of thirty computations, makes the average height of the aurora borealis to be 72 Swedish, or (supposing a Swedish mile to be about 64 English miles) 468 English miles. Euler supposes the height to be several thousands of miles; and Mairan also assigns to these phenomena a very elevated region, the far greater number of them being, according to him, about 200 leagues above the surface of the earth. Dr. Blagden, speaking of the height of some fiery meteors (Phil. Trans. vol. lxiv. p. 227), says, that "the aurora borealis appears to occupy as high, if not a higher region, above the surface of the earth, as may be judged from the very distant countries to which it has been visible at the same time;" he adds, that "the great accumulation of electric matter seems to lie beyond the verge of our atmosphere, as indicated by the celeration of twilight." However the height of these meteors, none of which appear to have ascended so high as 10 miles, is trivial, compared with the elevations above ascribed to the aurora borealis. But as it is difficult to make such observations on this phenomenon as are sufficient to afford a just estimate of its altitude, they must be subject to considerable variation and to material error. It is not improbable, that the highest regions of the aurora borealis are the same with those in which fire-balls move; more especially as Dr. Blagden informs us, that instances are recorded, in which the northern lights have been seen to join, and form luminous balls, darting about with great velocity, and even leaving a train behind like the common fire-balls. This ingenious author, however, conjecturing that distinct regions are allotted to the electrical phenomena of our atmosphere, assigns the appearance of fire-balls to that region which lies beyond the limits of our corporeal atmosphere; and a greater elevation above the earth to that
accumulation of electricity in a lighter and less condensed form, which produces the wonderfully diversified streams and coruscations of the aurora borealis.

Many attempts have been made to assign the cause of this phenomenon. Dr. Halley first imagined that the watery vapours, or effluvia, rarefied exceedingly by subterraneous fire, and tinged with fulminating streams, which many naturalists have supposed to be the cause of earthquakes, might also have been the cause of this appearance. But this hypothesis was not sufficient to account for the immense extent of these phenomena over the surface of the earth, and for their being always seen on the north side of the horizon and never to the south. Abandoning this hypothesis, he conceived that the aurora borealis is produced by a kind of subtile matter, or magnetic effluvia, freely pervading the pores of the earth, and which, entering into it near its southern pole, passes out again with a like force into the ether at the same distance from the northern; the obliquity of its direction being proportional to its distance from the pole. This subtile matter, by becoming fome way or other more dense, or having its velocity increased, may be capable of producing a small degree of light, after the manner of effluvia from electric bodies, which, by a strong and quick friction, emit light in the dark: to which fort of light this seems to have a great affinity. If Dr. Halley had known, that an electrical stroke would give polarity to a needle, it, and reverse the poles of one previously ended with it, he would have been led of course to conclude that electricity and magnetic effluvia to be the same, and that the aurora borealis was this fluid performing its circulation from one pole of the earth to another; and he would thus have anticipated the hypothesis of Sign. Becorrca. See Mr. Cotes's description of this phenomenon, and method of explaining it, by effluvium emitted from the heterogeneous and fermenting vapours of the atmosphere, in Smith's Optics, p. 60, &c. or Phil. Trans. Abridg. vol. vi. part ii.

The celebrated M. de Mairan, in an express treatise on the aurora borealis, published in 1731, assigns its cause to be the Zodiacaal light, which, according to him, is no other than the sun's atmosphere; this light happening, on some occasions, to meet the upper parts of our air, on the side of the limits where universal gravity begins to act more forcibly towards the earth than towards the sun, falls into our atmosphere, to a greater or less depth, as its specific gravity is greater or less, compared with the air through which it passes. Although the whole atmosphere is not equally involved in the solar atmosphere, it is thrown off both ways from the equatorial to the polar regions. This projection is owing partly to the centrifugal force arising from the diurnal motion of the earth, which, being greatest at the equator, and decreasing towards the poles, turns aside the zodiacaal matter towards each pole; so that by his hypothesis he anticipates the discovery of aurora auriroles: and partly to the progressive motion of the earth in its annual orbit. In this case the light should dart from the equator to the poles, and not, as it really does, from the poles to the equator. Vide Tract. Phys. & Hist. de l'Aurore Borealis. Suites des Mem. de l'Acad. R. des Scient. ann. 1731. p. 3. seq. There is an abstract of Mr. Mairan's Physical and Historical Treatise of the aurora borealis, in the Phil. Trans. No. 233. or Abridg. vol. viii. p. 450.

M. Euler thinks the cause of the aurora borealis not owing to the zodiacal light, as Mr. de Mairan supposes, but to particles of our atmosphere, driven beyond its limits by the impulsion of the light of the sun. On this supposition he endeavours to account for the phenomenon observed concerning this light. He supposes the zodiacal light, and the tails of comets, to be owing to a similar cause. See Tail of Comets, and Zodiacaal Light.

Ever since the identity of lightning and of the electric matter has been ascertained, philosophers have been naturally led to seek the explication of aerial meteors in the principles of electricity; and there is now no doubt but most of them, and especially the aurora borealis, are electrical phenomena. Beside the more obvious and known appearances w hich constitute a resemblance between this meteor and the electric matter whereby lightning is produced, it has been observed, that the aurora occasions a very sensible fluctuation in the magnetic needle; that the atmosphere yields, at the time of its occurrence, a quantity of electric fire; and that, when it has extended farther than usual into the atmosphere, the flames have been attended with various sounds of rumbling and hissing, already mentioned, and attributed by Dr. Bladen (ubi supra) to small streams of electric matter running off to the earth from the great masses, or accumulations, of electricity, by which it0 supposes both meteors and the northern lights to be produced. Besides, the aurora borealis may be partly imitated by means of artificial electricity. Dr. Hamilton, of Dublin, (Phil. Eff. eff. iii.) seems to have been the first person who attempted to discover any positive evidence of the electrical quality of the aurora borealis; but the only proof he produces is an experiment of Mr. Hawkshow, by which the electrical fluid is shewn to assume appearances resembling the aurora borealis, when it passes through a vacuum. He observed, that when the air was molli, effily exhausted, the flames of electric matter were then quite white; but when a small quantity of air was let in, the light assumed more of a purple colour. The flashing of this light, therefore, from the densest regions of the atmosphere into such as are more rare, and the transitions through mediums of different densities, he considers as the cause of the aurora borealis, and of the different colours it assumes. Mr. Canton, soon after he had obtained electricity from the clouds, offered a conjecture, that the aurora borealis is occasioned by the flashing of electric fire froni positive towards negative clouds at a great distance, through the upper part of the atmosphere where the resistence is least. And he supposes, that the aurora, which happens at the time when the magnetic needle is disturbed by the heat of the earth, is the electricity of the heated air above it, which appears chiefly in the northern regions, as the alteration in the heat of the air in those parts will be the greatest; nor is this hypothesis, he says, improbable, when it is considered, that electricity is the known cause of thunder and lightning; that it has been extracted from the air at the time of an aurora borealis (see Condenser); that the inhabitants of the northern countries observe it to be remarkably strong when a sudden thaw succeeds severe cold weather; and that the tornado is known to emit and absorb the electric fluid only by the increase or diminution of its heat. Positive and negative electricity in the air, with a proper quantity of moisture to serve as a conductor, will, he conceives, account for this and other meteors sometimes seen in a clear sky. Mr. Canton afterwards contrived to exhibit this meteor by means of the Torricellian vacuum, in a glass tube about three feet long, and sealed hermetically. When one end of the tube is held in the hand, and the other applied to the conductor, the whole tube will be illuminated from end to end, and will continue luminous without interruption for a considerable time after it has been removed from the conductor. If, after this, it is drawn through the hand either way, the light will be uncommonly intense, and without the least interruption, from one hand to the other, even to its whole length.
though a great part of the electricity is discharged by this operation, it will flash at intervals, when held only at one extremity, and kept quite still; but if it be grasped by the other hand at the same time in a different place, strong flashes of light will hardly ever fail. Dust from one end to the other, and these will continue twenty-four hours and longer, without any fresh excitation. An arched double barometer of a considerable height is an improvement of this contrivance, for exhibiting the appearance of an aurora borealis, by means of the electric fire. To Mr. Canton's hypothesis it has been objected, that the electrical fire would flash in every direction, according to the position of the clouds, as well as from north to south; and that upon his hypothesis, illustrated by the tournaisi, the aurora borealis ought to be most frequent in summer, when the air is most heated, whereas it is found to be the reverse. Signor Becaria, who pursued his observations on atmospheric electricity farther than any of his associates in these inquiries, conjectures that there is a constant and regular circulation of the electric fluid from north to south, which may be the reason that it is observed in general; and he thinks that the aurora borealis may be this electric matter performing its circulation in such a state of the atmosphere as renders it visible, or approaching nearer the earth than usual.

Against this supposition it has been alleged that it ought to dart from the horizon towards the zenith in the northern hemisphere, and from the zenith towards the horizon in the southern one; whereas Mr. Forster, as we have already mentioned, informs us, that the columns shot up from the horizon towards the zenith as well in the southern hemisphere as in the northern; so that if the aurora borealis is to be regarded as the flashes of electric matter, its course is plainly directed from both poles towards the equator, and not from one pole to the other. Why the electricity of the atmosphere should be constantly found to direct its course from the poles towards the equator, and not from the equator to the poles, suggests a difficulty which an anonymous writer (Encycl. Brit.) has attempted to solve in the following manner.—Assuming three axioms; viz. that all electric bodies, when considerably heated, become conductors of electricity; that, &c. &c., non-electrics when subjected to violent degrees of cold, ought to become electric; and that cold must also increase the electric powers of such substances as are already electric, it is easy (says this writer) to deduce from these principles the cause of the aurora borealis. "The air, all round the globe, at a certain height above its surface, is found to be exceedingly cold, and as far as experiments have yet determined, exceedingly electric also. The inferior parts of the atmosphere between the tropics, are violently heated during the day-time by the reflection of the sun's rays from the earth. Such air will therefore be a kind of conductor, and much more readily part with its electricity to the clouds and vapors floating in it, than the colder air towards the north and south poles. Hence the prodigious appearances of electricity in these regions, shewing itself in thunder and other tempests of the most terrible kind. Immense quantities of the electric fluid are thus communicated to the earth; and the inferior warm atmosphere having once exhausted itself, must necessarily be recruited from the upper and colder region. This becomes very probable from what the French mathematicians observed when on the top of one of the Andes. They were often involved in clouds, which, finking down into the warm rain, appear there to be highly electrified, and discharged themselves in violent tempests of thunder and lightning; while in the mean time, on the top of the mountain, they enjoyed a calm and serene sky. In the temperate and frigid zones, the inferior parts of the atmosphere, never being so strongly heated, do not part with their electricity so easily as in the torrid zone, and consequently do not require such recruits from the upper regions; but notwithstanding the difficulty of heat observed in different parts of the earth near the surface, it is very probable that at considerable heights the degrees of cold are nearly equal all round it. Were there a like equality in the heat of the under part, there could never be any considerable loss of equilibrium in the electric atmosphere; but as the hot air of the torrid zone is perpetually bringing down vast quantities of electric matter from the cold air that lies directly above it; and as the inferior parts of the atmosphere lying towards the north and south poles do not conduct in any great degree; it thence follows, that the upper parts of the atmosphere lying over the torrid zone will continually require a supply from the northern and southern regions. This easily clears the necessity of an electric current in the upper parts of the atmosphere from each pole towards the equator: and thus we are also furnished with a reason why in the southern hemisphere the auroras have been seen more frequently in winter than in summer; namely, because at that time the electric power of the inferior atmosphere is greater on account of the cold than in summer; and consequently the abundant electricity of the upper regions must go almost wholly off to the equatorial parts, it being impossible for it to get down to the earth; hence also the aurora borealis appears very frequent and bright in the frigid zones, the degree of cold in the upper and under regions of the atmosphere being much more nearly equal in these parts than in any other. In some parts of Siberia particularly, this meteor appears constantly from October to Christmas, and its coruscations are said to be very terrifying. Travellers agree, that here the aurora borealis appears in greatest perfection; and it is to be remarked, that Siberia is the coldest country on earth. In confirmation of this, it may also be observed, that, from the experiments hitherto made with the electrical kite, the air appears considerably more electrical in winter than in summer, though the clouds are known to be often most violently electrified in the summer-time; a proof, that the electricity naturally belonging to the air is in summer much more powerfully drawn off by the clouds than in the winter, owing to the excess of heat in summer, as already observed."

"A considerable difficulty, however, still remains from the upright position which the streams of the aurora borealis are generally supposed to have; whereas, according to the hypothesis above-mentioned, they ought rather to run directly from north to south. This difficulty occurred to Dr. Halley; but he answers it by supposing his magnetic influence to pass from one pole to another in arches of great circles, arcing to a vast height above the earth, and consequently darting from the places whence the air seems to run like the radii of a circle, in which case, being set off in a direction nearly perpendicular to the surface of the earth, they must necessarily appear erect to those who see them from any part of the surface, as is demonstrated by mathematicians. It is also reasonable to think that they will take this direction rather than any other, on account of their meeting with less resistance in the very high regions of the air than in such as are lower."

"But the greatest difficulty still remains: for we have supposed the equilibrium of the atmosphere to be broken in the day-time, and restored only in the night; whereas, considering the immense velocity with which the electric fluid moves, the equilibrium ought to be restored in all parts almost instantaneously; yet the aurora borealis never appears except..."
aurora borealis.

except in the night, although its brightness is such as must sometimes make it visible to us did it really exist in the day-time.

"In answer to this it must be observed, that though the passage of electricity through a good conductor is instantaneous, yet through a bad conductor it is observed to take some time in passing. As our atmosphere therefore, much more violently heated, is but a bad conductor of electricity; though the equilibrium in it is broken, it can by no means be instantaneously restored. Add to this, that as it is the action of the sun which breaks the equilibrium, to the same action, extending over half the globe, presents almost any attempt to restore it till night, when flakes arise from various parts of the atmosphere, gradually extending themselves with a variety of undulations towards the equator."

It has been observed, that the flakes of the aurora borealis do not always move with rapidity; but they sometimes appear for a considerable time quite stationary, and they are sometimes carried in different directions with a flow motion. In order to account for these circumstances, it should be considered, that weak electric lights have been sometimes observed to exhibit the same appearance at the surface of the earth, and we may therefore suppose them much more capable of doing so at great heights above it, where the conductors are fewer in number, and much more imperfect. From instances that might be adduced, we may reasonably conclude, that small portions of our atmosphere may by various causes be so much electrified as to shine, and likewise be moved from one place to another, without parting with the electricity they have received for a considerable time. In this manner we may account for the corona, or circle, which is often formed near the zenith by the aurora borealis, when any of its parallel flakes of light that shoot upwards, and by the laws of perspective, appear to converge towards a point, are over our heads, and actually come to a point. As this corona is commonly stationary for some time, it would serve as a mark by which to determine the distance of the object; e. g. let two persons, one at London, and the other at Edinburgh, observe an aurora borealis; then by noting the flares among which the corona was observed at each place, its true altitude from the surface of the earth may easily be determined by trigonometry. Although the true height of the aurora borealis has never yet been determined, there is no sufficient reason for supposing that it is higher than a meteor, seventy miles above the surface of the earth, which meteor, both by its splendor and figure, seems to prove that the air possesses a considerable degree of density at that distance from the earth. Besides, if its streams resemble the passage of electric light through a vacuum, it cannot be hence inferred, that the air is in a state similar to the vacuum of an air-pump in those places where the aurora borealis is produced; because we have instances of similar appearances that are produced in very dense air. "The plate of an electrophorus is often so highly electrified, as to throw out flakes from different parts as soon as it is lifted up, and by proper management, it may be always made to emit long and broad flakes, which shall fearlessly be felt by the finger; instead of small, dense, and pungent sparks; so that, though long flashes may be produced in rarefied air, it by no means follows, that the same may not also be produced in denser air. As little can we infer any thing from the colours, for we observe the electric spark sometimes white, sometimes blue, and sometimes purple, in the very same state of the atmosphere, and from the same substance."

Mr. Little, the inventor of an air-pump of a new construction, flating the boundaries of the atmosphere within which the aurora borealis, considered as an electrical phenomenon, is visible, conceives that it cannot appear in air less rarefied than near 4000 times, and consequently that its nearest distance from the earth is about 45 miles, according to Dr. Halley's table of the air's rarefaction at different altitudes; and that in air rarefied more than 26,000 times, it would not be less visible, and therefore its greatest distance is about fifty miles, by the same table. He is also of opinion, that it is air burnt and exploded in its passage, which makes the electric matter visible, and that without it it could pass at all, it would not be luminous. Upon the whole he concludes, that the aurora borealis is confined within our atmosphere. Irith Trans. vol. vi. p. 237.

Dr. Franklin supposes, that the electrical fire discharging into the polar regions from many leagues of vaporized air raised from the ocean between the tropics, accounts for the aurora borealis; and that it appears first, where it is first in motion, i.e. in the most northern part, and the appearance proceeds southward, through the fire really moves northward. Franklin's Expér. and Obs. 1709, p. 49. Phil. Trans. vol. xlvii. part i. p. 358, part ii. p. 784. Ib. vol. li. part i. p. 435. Ib. vol. bxii. p. 15. Lettere dell'Eletricino, p. 269; or Priestley's Hist. of Electricity, vol. i.

Mr. Kirwan (Iriith Trans. 1758, p. 76, &c.) supposes, that the rarefaction of the atmosphere in the polar regions proceeds from the aurora borealis and aurorae, and that these are produced by a combustion of inflammable air, caused by electricity. This inflammable air is generated, particularly between the tropics, by many natural operations, such as the putrefaction of animal and vegetable substances, volatilities, &c.; and being lighter than any other, occupies of course the highest regions of the atmosphere. Consequently, this kind of air is chiefly thrown off towards the poles, and occasions the northern lights, which are the highest of all meteors, though they sometimes extend pretty low into the atmosphere. Mr. Kirwan further adds, that after the appearance of an aurora borealis, the barometer commonly falls, and that it is generally followed by high winds, proceeding usually from the south; all which facts strongly prove a rarefaction in the northern regions. To the same purpose, it is observed by Mr. Winn (Phil. Trans. vol. 1753.), that the appearance of an aurora borealis is a certain sign of an hard gale of wind from the south or south-west. This occurred, without fail, in twenty-three instances; and he thinks that the splendor of meteors will enable the observer to form some judgment concerning the ensuing tempest. If the aurora is bright, the gale will come on within twenty-four hours, but will be of no long duration; if the light is faint and dull, the gale will be less violent, and longer in coming on, but will last longer. His observations were made in the English Channel, where such winds are very dangerous; and by attending to the aurora, he says, that he often escaped, when others were nearly wrecked. Observations of this kind would serve to less the dangers of navigation.

"That the aurora borealis ought to be succeeded by winds, may be easily deduced from the hypothesis above-mentioned. If this phenomenon is occasioned by the vast quantity of electric matter conveyed to the equatorial parts of the earth, it is certain that the earth cannot receive any great quantity of this matter at one place without emitting it at another. The electricity, therefore, which is constantly received at the equator, must be emitted nearer the poles, in order to perform its course; otherwise there would not be a constant supply of it for the common operations of nature. It is to be observed, that electrified bodies are always
always surrounded by a blast of air, which is sent forth from them in all directions; hence, if the electric matter find a more ready passage through one part of the earth than another, a wind will be found to blow from that quarter. If, therefore, one of these places happens to be in the Atlantic ocean, near the coast of France, or in the bay of Biscay, the electric matter which has been received at the equator during an aurora borealis, will be discharged there some time after, and consequently a wind will blow from that quarter, which will be from the north-west to trade winds which are in the English channel. It cannot be imagined, however, that all the matter can be discharged from one place; and therefore, according to the different situations of these electric vents, winds may blow in different directions; and thus the same aurora borealis may produce a north-west wind in the English channel, and a north-east in Scotland."

**AURORA Sarcina**, a pike used by Archimedes, to express the multiplicative virtue of the philosopher's stone.

**AURORA**, in Ornithology, a species of Motacilla, called by Latham the *Daurian scarlet*. This bird is fulvous beneath; crown and upper part of the neck hoary; front whitish; throat black; back and wings black, with a white triangular spot on the latter; tail feathers fulvous, with a middle feather black. This bird is the size of the red-fart, and inhabits Siberia to the confines of China; most common in the vicinity of the river Selings, among willows.

**Auros**, in Geography, a town of France, in the department of the Gironde, and chief place of a canton in the district of Bazas, five miles north-east of Bazas. The place contains 7,500 inhabitants; the territory includes 160 kilometres and 13 communes.

**Aurota**, in Entomology, a species of Papilio (Dan. Cand.) that inhabits the coast of Coromandel. The wings are entire and white; margin black, spotted with white; posterior ones yellow beneath. Cramer.

**Aurotus**, a species of Phalena, of the larger kind of B. nubis, with falcated wings; above and beneath of the base yellowish colour; with a white band, and transparent lunar spot in the disc of each. This kind inhabits America, and was described by Fabricus from a specimen in the Museum of the late Dr. Hunter.

**Aurox**, in Geography, a town of France, in the department of the Lozere, and chief place of a canton in the district of Langogne, nineteen miles north of Melede.

**Aurulentia**, in Entomology, a species of Sphinx, of a fleshy whitish, or rather narrow form, that inhabits Carolia. The wing-cases are fuscigate, bidentate at the end, and green with a golden margin; body golden; thorax slightly dotted. Fabricus.

**Aurulentia**, a species of Cicada (Ranatra Sec.), of the size and shape of cinnam obvta. The head and thorax are rufous; wing-cases brown, cinereous at the tip. A native of Cayenne. Fabricus.

**Aurulentia**, a species of Sphinx, the head and thorax of which are covered with golden coloured down; the abdomen black, with the margin of the segments ah-colour, and the legs rufous. This insect is of the middle size, and inhabits China. Fabrerus.—Of both Fabricius and Gmelin have evidently described this insect twice; one under the specific name aurulentia, and afterwards under that of aurata; or at least the only difference in the description is, that the legs are not mentioned in the specific character of the latter, but we are told in the general description, that they are of a ferruginous colour, which approaches pretty nearly to that of rufous; and as both kinds are said to be natives of Asia, the one of China, and the other of India, we have no doubt that Fabricius has inadvertently described the same insect in both instances; and that Gmelin, without inquiry, has implicitly relied on his authority. See Aurulentia, Fabr. Mant. Inf. 1. p. 274. n. 10, and Fabr. Mant. Inf. 2. p. 324. n. 14.

**Aurum**, in Natural History, denotes gold. See Gold. The word is chiefly used among us as applied to certain chemical preparations, whereof gold is the basis, or principal ingredient.—Such are the *aurum potabile, aurum fulminans, &c.*


**Aurum Potabile**, potable gold, a liquid preparation of this metal formerly much used in medicine, but now entirely obsolete.

The discovery of an universal medicine was a favourite speculation of the ancient alchemists, and they eagerly indulged the hope of finding it in the precious metal which alone was the object of all their attention. Hence we meet with a number of vaunted preparations of gold, most of them kept secret, but some revealed by the inventors, all of which had a certain reputation for a time, but are now sunk into deserved neglect.

Two methods were practised for the preparation of this metal as a medicine; the one was to grind gold leaves to a most impalpable powder, by a triturating of several days or even weeks; the other was to dissolve the metal in its proper menstrum, the nitro-muriatic acid, and to mix it with ether or any effluent oil, which, by operating a reduction of the metal in a very divided state, has the power of separating it from its acid solvent. As this fact is important in the chemical history of this metal, we shall mention it more particularly under the article *Gold*.

The potable gold of Helvetins, retained till within these few years in the Paris pharmacopoeia, is thus prepared.

"Dissolve half a dram of pure gold in two ounces of aqua regia, employing a gentle heat; to the solution add one ounce of oil of rosinmary, shake the mixture, and immediately the gold will quit the acid, and unite with the effluent oil, giving it a beautiful yellow colour; this is to be decanted from off the acid which remains at the bottom, and mixed with fifteen ounces of rectified spirit of wine, which forms the potable gold."

The dose is from fix to twenty drops.

The powers of this medicine are ascribed to be in a very high degree cordial, stimulating, and tonic.

In such a preparation as this, when the quantity of gold in each dose is so extremely minute (though still insufficient to give it whatever of a yellow colour), it requires little discernment to see that all the medicinal powers, whatever they may be, depend altogether on the ethereal oil and the acent spirit with which the gold is united; and accordingly we now entirely reject it in every pharmacopoeia.

A fairer trial, however, has been made of the virtues of gold in medicine. We read that some of the crafty alchemical empirics had the address to persuade several of their noble patrons that the royal metal was peculiarly well calculated to cure the diseas of persons of exalted rank; and under this circumstance this precious metal has been swallowed in larger doses. These, however, are not the follies of the present day, public credulity being diverted into other channels.

From all that we know concerning the properties of gold, it appears, that it abides when taken into the human body, depends on the case with which it is reduced to the reguline state, and when in this state, its absolute insobriety in any of the animal juices. As the nitro-muriate of gold...
AUSCHIŒ, in Ancient Geography, a people of Africa, in Libya, to the west of Abydus, and call of the Nafana. Herodotus.

AUSCHI, a people of Europe, in that part of Gaul called Aquitania. Their capital was Clermerry, which afterwards assumed the name of the people. They occupied the country corresponding to the territory of Auch, west of the Touloupe. See AUCH.

AUSCULTARE, in Ancient Customs.—Because the reading of prayers with a graceful tone or accent, makes some impression on the hearers; there was anciently a person appointed, in monasteries, to hear the monks read and sing, who instructed them how to perform, before they were admitted to read or chant publicly in the church, or before the people. This was called a socius, q. d. to hear, or listen.

AUSER, or AUSAR, in Ancient Geography, now Soroch, a small river of Italy, in Etruria, which discharges itself into the sea, about six miles north of the mouth of the Arno.

AUSI, a people of Africa, on the sea-coast of Libya, encompassing the lake of Triton, and separated by the river Triton from the Marshes. Herodotus relates, that these savage people celebrated a feast in honour of Minerva, at which the young women separated into two companies, and fought against one another with clubs and staves; those who fell in the combat, or died of their wounds, were deemed not to have been virgins. They paid no respect to marriage, but prostituted their women in common. Their children were nursed by their mothers till they were able to walk; and they were then introduced to an assembly of the men, who met every three months, and the man to whom any child first spoke, was acknowledged as its father.

AUSIGDA, a town of Africa, in the Pentapolis, watered by the river Cinyicus. An island of the same name is mentioned by Stephæus.

AUSILINDUM, a place of Africa, in the province of Tripoli, on the road from Tæcipe to the greater Leptis.

AUSIMUM, or AUSIM, an ancient Roman colony, in the Picenum; now Omo, or OSIMO.

AUSINZA, a town of Alga, in Peritia Propria. Ptolemy.

AUSITÆ. See AESTEE.

AUSONA, a town of the Auvones, reckoned among the most ancient people of Italy, who occupied that part of Italy, which extends from the promontory of Circum to the straits of Sicily; but they were afterwards reduced to a more limited territory between the montes Circii and Mailetii. They were extirpated before the time of Pliny. Virgil represents them as a colony of Trojans.

AUSONIA, a name first restricted to the territory of the Auvones, and afterwards applied to the whole of Italy.

AUSONIUM MARIS, denotes that part of the Mediterranean now called the sea of Sicily. It was formerly a part of the sea called Ionic, extending southwards from the promontory of Japygium to Sicily, which it washes on the east, as it does the Bruttii and Magna Graecia on the south and west. It is separated from the Tuscan sea by the strait of Messina.

AUSONIUS, Deepus, or Decimus Magnus, in Biography, a Roman poet of the fourth century, was a native of Bourdeux, where his father Julius Anuvianus was an eminent physician. Having enjoyed the advantages of an excellent education, under his grandfather Arborius at Toulouse, and also under other eminent professors of grammar and rhetoric, he became himself professor in these departments of literature in his native city. Such was his reputa...
tion, that he was called to court by the emperor Valentinian, and appointed preceptor to his son Gratian. By the latter he was advanced to the office of praetorian prefect of Gaul and Italy about the year 376, and to the consulship in 379. He was much esteemed by the emperor Theodosius, and as some say, created by him a patrician. The time of his death is not accurately ascertained; but he appears to have been alive in 392, and probably lived to an advanced age. Amongst the learned it has been a subject of dispute, whether Anonius was a Christian or a Pagan. If he was not a Christian, the poems on Christian topics ascribed to him must have been forgeries; and the liberality of several of his pieces suggests a presumption, that he had not embraced Christianity.

His poems manifest learning and ingenuity; but they cannot bear the test of comparison with the productions of the Augustan age, as they are generally insipid, harsh, and inelegant, and bear obvious marks of the declining genius and taste of the period in which they were written. The "Cento Nuptialia" is altogether formed of lines and hemisyllables from Virgil, and the latter part of it is highly confusable for its obscurity. The epigrams are generally flat and insipid. The best editions of Anonius are the "Variorum" of 1671, and the "Delphin" of 1750. Gen. Dict. Fabr. Bib. Lat. t. ii. p. 87, &c.

AUSPEX, in Roman Antiquity, a name originally given to those who were afterwards denominated augurs. In which sense the word is supposed to be formed from avis, bird, and inferre, to inspect; avis, q.d. aviprises, or inspectors of birds.

At first the auspices were properly those who prefaged future events by inspection of the flight of birds; as the auspices predicted them by the inspection of victims, and auspices by the singing of the fame birds. But Plutarch informs us (Quot. Rom. 72.), that in process of time these distinctions were disregarded; and that the name of auspices was given to those who had originally called auspices.

AUSPICICUM, AUSPICY, the same with AUGURY. Servius, indeed, distinguishes between auspicia and auspices; making auspices comprehend the consideration merely of birds, and of their flight; auspices, of the notes of birds, and of all sensible objects; he adds, that the former was allowed a man any where abroad, whereas the latter might only be performed in his native place. And it is certain, that confuls, generals, and others, who took omens out of Rome, were properly said auspiciarum: Nevertheless, custom appears to have overthrown this distinction.

The auspices were consulted on a variety of occasions, so that nothing was done respecting the public, either at home or abroad, in peace or war, without this ceremony; and at first in important affairs of a private nature they were peremptorily regarded. The auspices were referred to before any battle; they affixed at marriages (Juvenal, x. 336.); and they were consulted on the choice of plebeian and patrician magistrates; and on the first day of every year, in order to determine whether the progress of the weather would be favorable or otherwise. To this purpose Ovid, in his Fasti (1. 167.), says:

"Tempora commis aduentia rebus agendi
Tutus est auses ne fortasse manus
Quoque fas et ars idem debet agenda,
Nee plus quam felicior tellurisque omnia.
"And in case of war, he observes Trist. ii. 173.:

"Per quem bellis geris, cujus nunc corpore pugnas
Auspicium cui des grande, deosque time.

AUSPITZ, in Geography, a town of Moravia, in the circle of Brunn, forty-two miles S.S.W. of Olmutz, and 114 S.E. of Prague.

AUSSEE, New, a town of Germany, in the duchy of Sleast, forty-eight miles W.N.W. of Jena.

AUSIG, or AUST, a town of Bohemia, in the circle of Leitmeritz, on the Elbe; 10 miles N.W. of Leitmeritz.

AUST, a very small village of England, in the county of Gloucester, on the side of the Severn; whence is a palisado-boat or ferry to the opposite shore in Gloucestershire, and thence across the Wye to Yelplow; 22 miles north of Bristol, and 6 south of Yelplow.

AUSTER, in Mythology, was like each of the other winds, one of the sons of Astra and Aurora: and it denoted the south wind. See WIND.

AUSTERE, is in general applied to a rough or ardent tale, united with that of fables. It is really synonymous with acerb.

AUSTERY, among Moral Writers, sometimes denotes vigour in the infliction of punishments. We may also, austerity of manners; the austerities of the monastic life. The austerity of the Roman cenfors kept the people in their duty. The greatest austerity of the Carthagians is perpetual solitude.

AUSTERLITZ, or SLOWKOW, in Geography, a town of Moravia, in the circle of Brunn, which was almost destroyed by the Swedes, in the seventeenth century: twelve miles E.S.E. of Brunn, and 112 S.E.E. of Prague.

AUSTIL, or St. AUSTEL, is a market and flanmary town of Cornwall, in England. It is built on the eastern side of a hill, and has greatly increased during the last century in the number of its houses and inhabitants. This augmentation may be attributed to the prospect of tin mines that are in the immediate vicinity, to the privilege of having one of the flanmary courts held here, and in consequence of having a turnpike road carried through the town from Plymouth to the land's end. The church is a large ancient pile of building dedicated to St. Austin; and the town is ornamented with several statues in canopied niches. The seats of the church, and the external walls, are carved with various devices emblematical of the crucifixion. The original charter for holding a weekly market was granted by queen Elizabeth, who directed that the tolls should be applied to the relief and maintenance of the poor.

The principal part of the inhabitants are employed in the mining concerns, in the pick-hunt, and in a small manufacture of coarse woollens. At the end of the town are three blowing-houses, where the tin is separated from the ore by means of fire. This process was formerly effected by smelting-furnaces, but the present method seems to be more economical, and far preferable. The old smelting-houses (some of which are still used in common), are supplied with coal, and are reverberatory; but in the blowing-houses, the fire is made with charcoal, and ignited by air impelled through cylindrical tubes.


AUSTIN, St. See AUGUSTIN.

AUSTIN PRIESTS. See AUGUSTINES, and HERMITS.

Austral, derived from austral, south wind, the same with southern.

Thus austral is the name given to the six last signs of the zodiac; so called, because they are on the southern side of the equinoctial.

Austral Earth, in Mineralogy. See Terra Siderica Austriade.

AUSTRAALASIA, in Geography, a name given, about half a century ago, by the learned Dr. Bruckl (Histoire des Navigateurs aux Terres Australi, Paris, 1756, 2 vols.,
Austra..
AUS

Australis, a species of Venust, of a heart-shape, white, and glossy, with brownish characters, and entire margin. Cham. Comch. A native of the South Seas.

Australis, in Entomology, a species of Cancer (Scyllerus, Fabr.), described by Fabricius from a specimen in the collection of Sir Joseph Banks, that was brought from the South Seas. The plates of the antenna are smooth and rounded. This kind bears some resemblance to Cancer Arieus; but it is of a narrower shape; the plates of two joints; thorax unequal, with created margin; legs ten; claws simple.

Australis, a species of Scorpio that inhabits Africa, and, according to Degeer and Fabricius, has thirty-two teeth in the comb, and the hand-claws smooth.

Australis, a species of Musca (Stratonym.) that inhabits South America. It is large and glabrous, with black eyes, and is specifically described as being telegonus, with a bidentated scutel; and the first segment of the abdomen brownish. Fabricius.

Australis, a species of Formica found in New Holland. It is black, with the thorax unarmed; and petiole scale armed with two spines. Fabricius.

Australis, a species of Spinex that inhabits New Holland. The color is blackish blue; thorax lobed, fulvous in front. Fabr. Gmel.

Australis, a species of Myrrhelen that inhabits the south of Europe. The wings are white, with a black spot on the margin; and the body variegated. Fabricius.

Australis, a species of Lycoerus (Fabr.) that inhabits Otaheite. It is black; thorax slightly spinous, with a red anterior band; flanks of the posterior legs membranous.

Australis, a species of Cimex, with the upper-wing rufous, marked with a waved black streak; under-wings black, with a white dot in the middle. Inhabits New Holland; and is called by Fabricius lycoerus 2-guttatus.

Australis, a species of Gryllus that inhabits Amsterdam island. It is greenish; thorax rotundate; wings and wing-cases equal; legs anteriorly very spinous; is larger, but bears some affinity to the Brazilian species spinipes.

Australis, a species of Lampyris that inhabits New Holland. It is of a yellowish colour, with the head and wing-cases brown. Fabricius.

Australis, a species of Cerambixx (Callidium Fabr.) On the thorax two white lines; on the wing-cases four; the two middle ones united and abbreviated. Inhabits New Zealand. Fabricius.

Australis, a species of Cryptoccephalus (Cirescer) that inhabits New Holland. The colour is rufous; thorax cylindrical; and two stripes of white on the wing-cases. Fabricius.

Australis, a species of Cyrtus, found in the fresh waters in New Holland. It is slightly fringed; greenish; wing-cases short; and furnished with a single tooth. Fabricius.

Australis, in Ornithology, a species of Tringa that inhabits Cayenne, and is about eleven inches in length. It is grey above, spotted with brown; beneath reddish; belly and rump whitish; tail and wings dull; bill and legs black. Gmelin, &c. The crown is fringed with brown.

Australis, a species of Sterna or Tern, that inhabits Nativity island, in the South Seas. It is grey; bill and legs black; front fordl yellow; quill feathers white; connecting membrane of the feet tawny; length from seven inches and a half to nine inches; and called by Latham the southern Tern.

Vol. III.

AUS

Australis, a species of Corvus, about eleven inches in length, that inhabits Cayenne. It is black above, beneath cinnamon; bill red; wing-covers spotted with white; tail black. Gmelin. This is the Cayenne red-billed crow of Latham. Ofj. Gmelin has another bird under the same name, corvus australis, which he describes as being entirely black; feathers on the chin lax; quill feathers brownish-black. This is the South Sea Raven of Latham, and inhabits the Friendly Islands in the South Seas. Length nineteen inches.

Australis, a species of Psittacus, of a green colour; crown blue, and crested with long-feathers; chin and middle of the abdomen red; thighs purple. A native of the Sandwich islands, and described by Latham under the name of the blue-crested parakeet. The length of this bird is six inches and a half; beak orange; front pale-green; two middle tail feathers green, and yellow at the extremity; the others yellowish-edged, and tipped with green; legs dusky; claws black. Gmelin.

Australis, a species of Falco that inhabits Statenland. It is brown; cere yellow; tail black, dotted at the end with fords white; size of the plaintive eagle; voice like a hawk. Gmelin.

AUSTRIA, Archduchy of, in Geography, one of the principal provinces of Germany, derives its name from its situation towards the east: Ojof-erzak, or Ojerich, signifying in German the eastern kingdom. This name was bestowed into Austria by the Italian and French enumeration; and this division, which may be considered as partly belonging to ancient Pannonia, arose after Charlemagne had established the western empire; being a remnant of the sovereignty of what was called Eastern France, established by that conqueror. It was also styled "Marchia Orientalis," the eastern march, or boundary; and after the failure of the Francon line, became a marquise fentatory to the dukes of Bavaria, till the emperor Frederic Barbarossa, in 1156, constituted it a duchy held immediately of the empire. See Archduke.

The archduchy of Austria is bounded on the north by Bohemia and Moravia, on the east by Hungary, on the south by Stiria, and on the west by Bavaria. It is divided by the river Enns into Upper and Lower Austria; the capital of the latter is Vienna, besides which it contains 33 other cities, and 256 market towns, and one to which it has 13 other cities, and 88 market towns. The population of this archduchy has been usually computed at 1,685,000 persons; and more lately by Hecck, in his "Statistical View of the States of Germany," at 1,820,000.

The Austrian dominions, or hereditary fates of the house of Austria, comprehended, before the late war, besides the archduchy of Lower Austria, containing the country on this side the river Enns, sometimes called Lower Austria, and the country beyond the Enns, denominated Upper Austria, and also the country called the Inn-Viertel, or the part taken from Bavaria, of which the capital is Brna; the following territories; viz. Interior Austria, including the duchies of Stiria, Carnithia, Carniola, Austria Friuli, and Trieste; Upper Austria, or the Tyrolese; Anterior Austria, comprising the Breges; and the territories in Swabia, Holensb, Falkenheit, Langenargen, and Tettnang; the kingdom of Bohemia; the magistracy of Moravia; Austrian Silesia; Austrian Netherlands, now in possession of the French; Lombardy, including the duchies of Milan and Mantua, now in possession of the French; the kingdom of Hungary, and banatee of Temet.
AUSTRIA.

war; Illyria, containing Dalmatia, Croatia, and Slavonia; Transylvania; the province of Bukovina, annexed to the Austrian territory in 1777; and the provinces of Gallicia and Lodomiria, being that part of Poland acquired by Austria in the partition of 1772. From the frontiers of Switzerlani to the utmost limits of Transylvania, the length of the Austrian dominions may be reckoned at about 750 British miles, and the breadth about 320, from the river Bug, which forms a boundary between Austria and Prussian Poland, to the Save, which divides the Austrian from the Turkish sovereignty. The contents may be about 184,000 square miles; and the Boetticher estimates the inhabitants at 108 to a square mile. Since he wrote, the populous region of the Netherlands has been withdrawn; however the population of the Venetian territories is little inferior. Towards the east, the Austrian dominions border on those of Russia and Turkey; to the north, on those of Prussia, Upper Saxony, Bavaria, from which it is separated by the river Inn, and Swabia; and on the utmost west are Switserland and the Italian states.

The original population of these extensive regions is various; but chiefly Gothic and Slavonic. The native ancient Germans, a Gothic race, from the ruling, the most industrious, and most important part of the inhabitants. The present population of the Austrian dominions is computed to exceed 40,000,000; that of Hungary, Transylvania, and the Bukovina, being estimated at 44 millions. Some authors, however, have computed the population of Hungary alone, at 7,000,000; and a late German author (see Townson, ch. v.) has consequently swollen the general population of the Austrian dominions to 25,000,000; and a modern geographer (see Pinkerton's Mod. Geog. vol. i. p. 345.) thinks it reasonable to allow 23,000,000 as a medical computation of the numbers subject to the Aultrian sceptre. Of the other chief provinces, Bohemia is supposed to hold 24 millions; Moravia 14 millions; the acquisitions in Poland, more than 3 millions; and the archduchy of Austria, as we have already stated, 1,685,000.

Hence (whi surfa) has exhibited the hereditary fates of Austria, with their respective population, in three tables; from which it appears, that Bohemia contains 2,800,493 persons; Moravia, 1,236,424; the duchy of Austrian Silesia, 250,000; Lower Austria, 1,820,000; Interior Austria or Styria, &c. 1,645,000; Superior Austria, or the Tyrol, 610,000; Anterior Austria, 293,433; Revane and the Vorarlberg, 77,971; Hungary and Illyria, 7,350,000; Transylvania, 1,443,564; Bukovina, 130,000; Lafern Galicia, 2,797,119; and Westen Galicia, 1,166,178; amounting in the whole to 21,583,798 persons. The army is composed by Boetticher at 365,455 men, in 136 regiments, of which 46 are German, and only 11 Hungarian. But in the fanguine contest with France, this army has been greatly diminished; and, at present, it is supposed not to be equal to that of Prussia, estimated at about 200,000; and far less than that of Russia, which is supposed to exceed this number. The revenue is computed at more than ten millions florins; to which Austria contributes about three millions; and Hungary a little more than a million and a half. This revenue is said to exceed the expenses; but the public debt is now supposed to surpass 40,000,000 florins, and the recent wars have occasioned great defalcations.

Austria, before the acquisition of Venice, might have been regarded as an inland power; as the small harbour of Trieste had no commercial importance. Since the Austrian dominions have acquired their present extent and power, determined rivalry has subsisted between them and France. There are also causes of confirmed jealousy between Austria and Prussia, and of irreconcilable hatred between Austria and Turkey. As Austria is also jealous of Russian power, it is not easy to cast any state on the continent with which it could enter into a strict and permanent alliance.

The aspect of the Austrian dominions is rather mountainous than level, and presents in this respect a striking contrast to that of Russia and Prussia. Of the elevated chains which diversify the Austrian territories, the first that deserves mention is the Rhetian or Tyrolese Alps, called the Brenner mountains (see Alps, and Branskk), among which are several glaciers; and there are also considerable hills, which branch from the Swiss and Tyrolese Alps, in the northern parts of the territory that was formerly Venetian, such as mount Baldo, mount Boles, and the Euganean hills near Padua. The provinces of Carinthia and Carniola present many chains of mountains, as that of Label, which separates these countries, and the Julian or Caric Alps, now called Birzhammer Wald, which divide Carinthia from Italy. The summits of the Carniolan mountains are covered with permanent snow; of these, the most memorable are the Kalenberg near the river Save, and the Reunberg, and the Karit to the south of Idria. Here also terminates the vaj chain which proceeds by the north of Dalmatia towards the Humes, and is known by many local appellations, as mount Prominia near Grin, mount Prologhi, mount Clobu, et. but better distinguished by the Dalmatian chain. The latter mountains are chiefly calcareous. Towards the north in the north of Styria, there is the chain of Bacher; mount Grafan on the east of Judenburg; and the chief mountain in this province, or those of Grimin, in its western extremity towards Salzburg. On the east towards Hungary, this country is more plain and fertile. On the south of Austria is a chain of considerable elevation. (See Cettius, and Kalenberg.) Upper Austria, or the western part of this province, contains many considerable mountains, the highest of which is the peaks called Priel, but the proper name is Greffenberg. Towards the north, Austria is divided from Bohemia by a ridge of considerable elevation, which passes to the north-east of Bavaria. On the north-west, Bohemia is parted from Saxony by a chain of metallic mountains called the Erzgebirge, a word that denotes hills containing mines. On the west of the river Eger, near its junction with the Elbe, stands the mountains group of Milesson, supposed to be the highest in the province. On the north-east the Sudetic chain, which, branching from the Carpathian, divides Bohemia and Moravia from Silesia and the Prussian dominions. The Carpathian mountains, bounding Hungary on the north-east, deserve particular notice. See Carpathian.

Of the rivers which pervades the Austrian dominions, the principal is the Danube. Next to this in importance is the Tisza; and there are also the Save, the Drave, the Inn, the Mulda, the Elbe, the Morau, the Adige, and several others of less note. The lakes are numerous, of considerable size. In Austria Proper, are the lake Traun, the Abe, and others. Carinah contains a large central lake not far from Clagenfurt, and Carniola another, called the Circuits. Tisel has no lake of any consequence, except a part of Lago de Garda; but its glaciers are numerous. For the monasteries and lakes of Hungary, see Hungary. See Neusidler and Palitz. In Transylvania is the Trafeg To; and many small lakes are situated amidst the Carpathian mountains.

6. The
The full of the Austrian dominions is upon the whole extremely fertile and productive, in spite of the neglect of industry, which has permitted many parts of Hungary, and of the Polniah provinces, to pass into wide forests and maraths. In Austria Proper, Mr. Marius observes (Travels, vol. iii. p. 104.) that oaks were little cultivated; the other products were such as those of England; particularly the abundance of cabbages and potatoes; but the cultivation was not neat, small vade spots being left by the plough, which harboured weeds to the great detriment of the field. The vineyards and fields of flaxen were numerous; cattle appeared in abundance; and large herds of hogs, which fed all the summer in the woods. At the present time, and Mr. Core (Travels in Poland, &c. vol. i. p. 153, &c.) gives a deplorable picture of the want of cultivation in the southern provinces of Poland, now subject to Austria; the country being chiefly spread over with vall tracts of gloomy forests, and exhibiting few symptoms of an inhabited, and if left of a civilized country. In travelling the high road from Cracow to Warsaw, in the course of 230 miles, he met with only two carriages and a dozen carts. The country was equally thin of human habitations, a few wooden villages succeeded one another at long intervals, whose miserable appearance corresponded with the wretchedness of the surrounding country. The darkneth of the night during which he travelled for want of decent accommodation, deprived him of nothing but the sight of different crops of corn, glyme forests, and objects of human industry. The natives were poorer, humbler, and more miserable, than any he had observed in the course of his travels; wherever he stopped, they huddled up in rows, and demanded charity with the most abject gestures. The whole country is for the most part sandy or marshy. According to this description, Austria seems to have made no great acquisition in the Polish provinces.

The domestic animals in the Austrian dominions are comparatively excellent, particularly the cattle. The mineralogy of these territories is the most various and interesting of any in Europe. There is a fertile province from the frontiers of Switzerland to the south of Turkey, which cannot boast of its minerals; and the acquisitions made by the house of Austria in Poland, contain one of the most remarkable mines in Europe, the fusing excavations of Wiliczka. See SALT, and WILIZKA. See also BOHEMIA, and MORAVIA.

The fertile archdarchy of Austria furnishes few minerals; though mines of gold are found near the abbey of Géttingen, and those of slum near Krems; salt-petre, however, is prepared in abundance; and at a little distance from St. Amberg, near the frontiers of Styria, a rich mine of silver was opened in 1754. The southern provinces of Styria, Carinthia, and Carniola, afford many important minerals. See these articles. The northern parts of Italy, new subject to Austria, have been remarkable for mineralogy; but on passing into the Tyrol, several mines occur of ancient reputation, such as that of silver and lead near Lermo; and in the same quarter, theofe of Naferin, in the Verner mountains, about 30 miles north-west of Innsbruck, which are rich in silver, copper, lead, and iron; nor is the southern region of Trent wholly destitute of mines. But the principal mines in the Austrian dominions are situated in the eastern provinces of HUNGARY and TRANSYLVANIA. See also CHEM- NITZ, and SHENNITZ.

The climate of Austria Proper is commonly mild and mild, though occasionally exposed to violent winds; and the southern provinces in general enjoy a delightful temperature, excepting merely the severities of Alpine winds in the mountainous parts. The more northern regions of Bohemia and Moravia, with the late acquisitions in Poland, can likewise boast of the maternity of the grape, and of gentle and favourable weather. The numerous lakes and moraines of Hungary, and the prodigious plains containing deferts, are supposed to render the air damp and unhealthy, the cold of the night rivalling the heat of the day; but the keen blasts from the Carpathian mountains come in masses to remedy these evils, the inhabitants being remarkable for health and vigour.

The manufactures seem not to have been cultivated to any great extent in any part of the Austrian dominions.of Vienna are the most considerable. (See VIENNA, and also BONN.) The commerce of these dominions depends principally upon their native opulence; Austria Proper, and the southern provinces, producing abundance of horses and cattle, corn, flax, linen and various wines, with several metals, particularly quicksilver from the mines of Idria. Bohemia and Moravia are also rich in oxen and sheep, corn, flax, and hemp; in which they are rivalled by the dismembered provinces of Poland. The linen manufactures of Bohemia, according to Hooch, amount annually to 16,000,000 florins, besides some in wool and in cotton. The woollen manufacture at Lintz employs 30,000 persons; and in the whole archdarchy of Austria there are seven great manufactures of cotton cloth, which occupy 140,000 individuals. The wide and marshy plains of Hungary, afford excellent pasturage for numerous herds of cattle; and other parts of the same country produce corn, rice, the rich wines of Tokay, and tobacco of an excellent flavour, with extensive mines of various metals and minerals. Upon the whole, the Austrian territories in general abound to such a degree with the various necessaries and luxuries of life, which are found either in the north or south of Europe, that the imports would seem to be few and inconsiderable; and before the acquisition of Venice, the chief exports were from the port of Trieste, consisting of quicksilver and other metals, with wines and other native products. From a table of the exports of Hungary for one year, given by Dr. Townsend, it appears, that they consisted chiefly of cattle, hogs, sheep, flour, wheat, rye, wool, and wine, carried to other Austrian provinces; and only about one-eighth part went to foreign countries.

The prevailing religion of the Austrian dominions is the Roman Catholic. However, Protestants of various sects are found in Bohemia and Moravia; nor are Lutherans unknown at Vienna, though they chiefly abound in Transylvania; and in Hungary the Protestants are supposed to be equal in number to the catholics.

The form of government is an hereditary monarchy, approaching to absolute power. Hungary, indeed, retains its ancient franchises, or rather an aristocratical state; but as the military force is lodged wholly with the sovereign, no distinct kingdom or state can withstand his will. Austria also has its franchises, consisting of four orders, clergy, peers, knights, and burgesses; the assembly for Lower Austria being held at Vienna, and that of the Upper at Lintz. But these local constitutions can little avail against the will of a powerful monarch, supported by a numerous army. The laws vary according to the different provinces; and almost every state has its peculiar code. (See HUNGARY.) Upon the whole, the laws may be regarded as mild and salutary; and the Austrians in particular are a well regulated and contented people, while the Hungarians are often dissatisfied, and retain much of their ancient animosity against the Germans.
The history of Austria properly so called, may be con-
cisely delineated in the following epochs, collected and
detailed by Mr. Pinkerton, in his "Modern Geography,"-
vol. i. p. 53-54.:

1. The house of Austria, which, by successive fortunate
marriages since the fifteenth century, has arisen to such a
summit of power, is well known to have sprung from the
humble counts of Hapsburg. Those lords possessed a small
territory in Swisserland, in the northern corner of the can-
ton of Bern, near the river Aar, about three miles south of
the town of Bruck, and the bare distance to the north of
Mellingen. On a lofty eminence, crowned with beeches,
stands an ancient tower, the first seat of the house of Austria.

2. In the twelfth century Otto I. was design'd count of Hapsburg,
and even rudely can feerely ascend beyond this grand sire
Kadobe, brother of Werner, bishop of Straubing. In
1273, Rodolph of Hapsburg was called to the imperial
throne, after an inter-regne, during which the German
potentates had increased, and secured their own power;
and wisely preferred a nominal sovereign, whose humble extract,
and small possessions, could afford no check to their ambition.
Yet Rodolph was at this time lord of the greater part of
Swiss river; after the extinction of the powerful house of
Zarller. He was now master of that of the counts of Kyburg, whose
joints inheritance devolving to Rodolph, became the basis
of his power, and that of his successors. (See Planta's
Swiss i. 176.)

3. Another emperor of the house of Austria appeared
in Albert, A. D. 1298; from whom the Siles made their
signal revolt in 1507. His son Frederic was obliged to
yield the empire to Louis of Bavaria. (See Albert i.)

4. Albert II. duke of Austria, A. D. 1438, succeeded
to three crowns, on the death of his father-in-law the
emperor Sigismund, those of Hungary, and Bohemia, and that
of the empire by unanimous election. This was the epoch
of the falling grandeur of the house of Austria. Yet his
successors Frederic III. and Maximilian I. were feeble
princes; and Charles V. finally astonisht Europe with a real
display of Austrian power. (See Albert ii.)

5. Maximilian having married the heiress of Burgundy,
the Netherlands became subject to the house of Austria in
1477; and his son Philip, in 1496, marrying the heiress of
Aragon, and Castile, the ample dominions of Spain fell
under the Austrian sceptre. Charles V. inherited all these domains; but on his resignation, Spain and the
Netherlands passed to his son Philip II. and the former
crown continued in the Austrian line till the close of
the 17th century. Austria, Bohemia, and Hungary, passed
to Ferdinand, the brother of Charles V. who was also chosen
emperor of Germany.

6. The noted bigotry of the house of Austria was not
confined to the Spanish branch, for though Maximilian
II. about 1530, had granted liberty of conscience
even to the Protantists of Austria, yet those of Bohemia,
and other parts, were afterwards so much oppressed, that
the Protestant princes of Germany called in Gustaf Adolf,
the celebrated Swedish monarch, to their assistance, who
shook the empire to its very foundation. Even France
supported the Protantists, in the view of weakening the
Austrian power; and the war continued till 1648, when
the famous treaty of Welfphalia was signed, which has
served as a basis for other diplomatic transactions. (See
Wesenschale.)

7. The war with France was often rekindled during
the long reign of Leopold I. 1658 to 1705; and in 1683
the Turks were so successful as to lay siege to Vienna.
colubrum matrix, or common snake, as to be formerly con-
confounded with it. Lamont, in his work on the Amphibia,
appears to be the first writer who distinguished them; the
principal difference seems to consist in the perfect smooth-
ness of the scales in autrario, while those of matrix are
frightly carinated. It is of a blueish-sil, inclining to rufous
on the sides and abdomen, with a double row of alternate
 RUous spots along the back. This kind lives in moist ma-
dows, hedges, and watry places, and is of a fierce disposition,
but incapable of producing injury, being supplied with
poisonous fangs. It occasionally varies a little in colour.
Gmelin, Shaw, &c.

AUSTRO AFRICUS, in Zoonology, the south-west-
well point, or wind.

AUSTROMANCY, in Mythology, properly denotes
foothsayring, or a vain method of predicting futurity, from
observations of the winds.

AUSUFAL, in Ancient Geography, the name of a place
in Africa, on the road from Carthage to Alexandria, thirty-
four miles from this latter city. Anton. Itin.

AUSUM, a town of Africa, in Mauritania Cæsariensis.

Ptolomy.

AUTARIATES, a people of Ilyria, mentioned by
Arrian, in his account of Alexander's expedition into this
country; and probably the same with those placed by
Strabo in Thrace, to the north of mount Rhodopeus.

AUTARIS, a place in Arabia Felix. Pliny.

AUTÉFAGE, in Geography, a town of France, in the
department of the Lot and Garonne, and chief place of a
canton in the district of Villeneuve d'Agen, nine miles
N. N. E. of Agen.

AUTENIQUA, an extensive and beautiful country of
Africa, lying to the east of the cape of Good Hope, and parly
inhabited by Dutch colonists. The term "Auteniqua,"
in the language of the Hottentots, denotes, "loaded
with honey," and is strictly applicable to this country, as you
cannot advance a step in it, proceeding from the Cape,
without seeing innumerable swarms of bees. Mr. Vaillant,
who visited this country in 1782, calls it the most delightful
region in the universe. It is intersected with hills and
valleys, enamelled meads and beautiful pastures; and it
abounds with small rivulets, which contribute both to
the fecernity and fertility of it. The whole of Auteniqua,
from the chain of mountains which divides it from the race
of Hottentots called "Gonaquas," to the sea, is inhabited by
planters, who rear cattle, make butter, cut down timber,
and collect honey, with all which they supply the Cape.
But though they employ wood in commerce, they use none of
it for building houses. Their habitations are wretched
hovels, constructed wicker work, daubed over with clay;
the skin of a buffalo, fixed at the four corners to as many
flakes, serves them for a bed; and the door, which serves
also for a window, is shut by a mat. The furniture is mean
and scanty, as the dwelling is incommensurable. With this
appearance of poverty and wretchedness, the people live
well; they have plenty of game and salt-water fish, and
vegetables of every kind in their gardens through the
year. For they are indebted to the fertility of the soil,
and the rivulets flowing in various directions from the
mountains by which it was watered. In the mountainous
regions of this district, there are multitudes of elephants,
buffaloes, panthers, hyenas, and antelopes of every species,
which are hunted and killed by the natives, partly for food,
and partly with a view to the preservation of their herds and
flocks. The kites and vultures of this country are singularly
fierce and voracious. Beyond the limits of the country
called "Auteniqua," is a spacious bay, with sufficient
depth of water for the largest vessels, and safe anchoring
ground, known to navigators by the name of the bay of
"Agos," but called by the colonists "Blotenberg's" bay,
from the name of a governor who visited it. In advan-
ting about a league along the coast, there is a confider-
able river called "Quur-Boom," which would afford an
ample supply of water. The Hottentots, who in scattered
villages inhabit this delightful country, are described by
Vaillant as a faithful, gentle, and rather timid race. He
allains, but probably without sufficient evidence, that they
have not any notion of superior powers who govern the
world. He also says that, totally free from jealousy, they
lead their wives to travellers who visit them. In Vaillant's
map, Auteniqua lies between 33° 30' and 34° 50' S. lat.
and between 20° and 23° 40' E. long.

AUTENOW, a town of Poland, in the palatinate
of Kiov, eighteen miles W. S. W. of Bialskirkew.

AUTENTUM, in Ancient Geography, a town of Africa,
in the route from Theoe to Travelfe, thirty miles from
Suffetula, and twenty-five miles from Amudasfar. Anton.
Itin.

AUTER Droit, in Law, is where persons sue or
are sued, in another's right; as executors, administrators,
&c.

AUTER Place; a person who holds an estate by the
life of another, is usually called tenant per auter vie. Litt. fect.

AUTERFOITS Acquit, a plea by a criminal, that he
was heretofore acquitted of the same treason or felony.
For one shall not be brought in danger of his life, or for the
same offence, more than once. 3 Hold. 213. But by Stat.
3 Hen. VIII, c. 1. this plea shall be no bar to the prosecu-
tion of any appeal. See ACQUITTAL.

AUTERFOITS Attaint, a plea of former attaint, which
is a good plea in bar, whether it be for the same or
any other felony, under some exceptions; so that this plea
is never good but when a second trial would be quite supe-
rior. See ATTAINER.

AUTERFOITS Convict, a plea upon a former convic-
tion for the same identical crime, though no judgment was
or ever will be given; and this is a good plea in bar or
indictmenet.

AUTERIVE, in Geography, a town of France, in the
department of the Upper Garonne, and chief place of a
canton in the district of Murat on the Arriege, fifteen miles
south of Toulouse. The place contains 4000, and the
number of inhabitants 5171; the territory includes 3474
kilometres, and 11 communes.

AUTHENTIC, something of received authority. It
also signifies something new, and celebrated; clothed in
all its formalities; and attested by proper persons, to whom
credit has been regularly given.

Biblical writers have differed in opinion about the mean-
ing of the phrase "Authentic letters," used by Tertullian,
De Praescription. c. 56 p. 245. B. Some by authentic letters
have understood the originals themselves, in the apostle's
handwriting, or that of his amanuensis, and signed at
the conclusion by himself. Others are of opinion, that Tertul-
lian means letters in their original language. But Dr.
Lardner, rejecting these two interpretations, maintains that
this ancient father means by authentic letters such as were
certain and well attested. In this sense the word authentic
is used by Cicero. Ad Attic. I. x. ep. 9. Accordingly, by
"Authentic letters, or epistles," but "Scriptures," and so the
word should have been rendered. Hence it may be inferred
agreeably to the argument used by Tertullian, that the
features
AUTHOR, in matters of Literature, denotes a person who has wrote or composed some book or writing. Accordingly we say, the sacred authors, anonymous authors, ancient and modern authors, &c. An original author is he who first treated of any point or subject; who did not follow any other performer; or imitate any model either in the matter or manner of what he has wrote.

AUTHORITY, in a general sense, denotes a right or power to command, and make one's self obeyed. In this sense we say, the supreme or sovereign authority; absolute or despotic authority; the royal authority; the episcopal authority; the authority of the church, of a father, &c. the authority of scripture, of a creed, confession, or the like.

Authority is also used for the testimony of an author or writing.

The word is also particularly understood of an epo- thegnem, or sentence of some great or eminent person, quoted in a discourse, either by way of proof, or embellishment.

Authority also includes rules, laws, canons, decrees, decisions, &c. alleged in confirmation of a matter in dispute. Passages quoted from Aristotle were of great authority in the schools: texts of scripture are of decisive authority.

Authorities make a species of arguments called by rhetoricians martiall orقطارic arguments. See Arguments.

For the use and effect of authorities, see Evidence, Faith, Prejudice, Probability, Reason, Revelation, &c.

Authority, in Law, is a power to do something, conveyed by word or writing; as also by writ, warrant, commissiion, letter of attorney, &c.; and sometimes by law.

Authority, or Authorities, likewise denote the treatises of ancient authors, such as Glanvil, Bradon, Britton, the author of the book Pieta, Hengham, Littleton, Statham, Brooke, Fitzherbert, Staundforde, and some others of ancient date, which are cited as authority; and furnish evidence that cases have formerly happened in which particular points were determined, which are now become settled and fixed principles.

One of the bills of these methodical writers, in point of time, whose works are of any intrinsic authority in the courts of justice, and do not entirely depend on the questions from older authors, is Sir Edward Coke, who hath written four volumes of statutes, as he is pleased to call them, though, fays judge Blackstone, they have little of the institutional method to warrant such a title.

AUTURE, in Geography, a river of France, which runs into the sea, eight miles north from the mouth of the Somme, and separates the department of the graves of Calais from the department of the Somme, through almost its whole course.

AUTHON, a river of France, which runs into the Loire, two miles south of Angers.

AUTHON, a town of France, in the department of the Eure and Loire, and chief place of a canton in the district of Nogent le Rotron; fix leagues west-north-west of Cha- teaudun. The place contains 1,165, and the canton 10,275 inhabitants: the territory includes 315 kilomètres, and 18 comuners.

AUTHOR, formed of aut, is, or rather from the Latin participle authar, or augere, to increase; properly denotes one who created or produced any thing; and is applied, by way of eminence, to the first cause; viz. God. Thus we say, the author of nature; author of the universe, &c.

The term author is sometimes used in the same sense with inventor or inventor. Polydore Virgii has wrote eight books of the authors or inventors of things, &c. See In- vention.
but this is not to be understood in the full latitude of the words; but only as intimating, that the autocephali have the same authority over their bishops, that patriarchs had over their archbishops: in which sense, only, they are equal to patriarchs.

AUOTCHTHONES, from αὐτός, ἐμαυτός, and ἀυτοκός, τοίχος: an appellation affirmed by some nations, importing, that they sprung, or were produced, from the same stock which they still inhabited. In this sense, autochthones amounts to the same with Aborigines. In this sense it was that the Greeks, and especially the Athenians, pretended to be autochthones, and, as a badge thereof, wore a golden grasper-hopper woven in their hair, an insect supposed to have the same origin.

This favourite epithet of the Athenians, which gave denomination to one of the tribes of Athens, signifies only, "people born in the country where they live," in opposition to strangers. The common people of Athens perverted this to signify people sprung from the earth. See what Plato makes Socrates say on this matter, in Menexen, p. 518. See also Iser. in Paneg. p. 65. Cicero Orat. pro L. Phcc. 26. Tertullus says, that people of the same at Athens understood, from this epithet, that Athens was the most ancient of the Greek cities, and that it had been built by those who, from time immemorial, had been established in the country known by the name of Attica. See Herod. l. vii. § 161. Suid. voc. Αὐτοκότης, t. p. 589. History, however, destroys this last pretension; as few circumstances are better known than the time of the building of Athens.

AUTOCRATOR, from αὐτός, and ἀυτοκράτος, power; a person vested with an absolute independent power, by which he is rendered accountable to any other for his actions. The power of the Athenian generals, or commanders, was usually limited; so that, at the expiration of their office, they were liable to render an account of their administration. But, on some extraordinary occasions, they were exempted from this restraint, and sent with a full and uncontrollable authority: in which case they were styled αὐτοκράτωρ.

The same people also applied the name to some of their ambassadors, who were vested with a full power of determining matters according to their own discretion, and referred our πληροφορήτους. A τρατοκράτῳ was also a title given to the Roman emperors, first to Julius, and afterwards to his successors, like that of Caesar, or Augustus.

AUTODIDACTUS, from αὐτός, and δίδαχος, I teach; a person self-taught. It is used in divers senses, sometimes to denote a person who received his knowledge immediately from heaven without any help or study. In which sense the word occurs in Homer, and Clemens Alexandrinus.—Sometimes for him who acquires his knowledge without instruction, either by word of mouth, or reading of books. Such were the inventors of sciences and laws.—Sometimes, and that most usually, for him who arrives at learning by the use of books alone, without the assistance of any master, or instruction vivæ ense.

AUTOGYPhUS Lepis, a stone, mentioned by Plutarch, and some other of the ancients, as having naturally impressed on it the figure of Cybele. It is said to have been found in Sagaris a river of Persia. Doubtless, if any such stone ever existed, the priests had got it made to deceive the people.

AUTOGRAPHUM, formed of αὐτός, and γράφω, I write, the very hand writing of any person; or the original of a treatise or discourse.——The word is used in opposition to a copy.

Autographia, or original MSS. of the New Testament, are the first copies of each book, which were written either by the apostles themselves, or by amanuenses under their immediate inspection. St. Paul usually adopted the latter mode: but to prevent the circulation of spurious epistles, he wrote the concluding benediction with his own hand. See Rom. xvi. 22. Gal. vi. 11. and 2 Theil. iii. 17, 18. compared with ch. ii. 2. and 1. Cor. xvi. 21. None of these original MSS. are now remaining, nor could they have been preserved, without the interpolation of a miracle, during the space of eighteen centuries. ‘But what benefit (says Michaelis, pretented to the N.T. by Marti, vol. p. 247-) should we derive from the possession of these MSS., what inconvenience do we sustain from their loss? No critic in chiscal literature inquires after the original of a profane author, or doubts of the authenticity of Cicero's Offices, because the copy is no longer extant which Cicero wrote with his own hand. An antiquarian, or collector of ancient records, will hardly maintain, that the probability of these books being genuine, is inferior to the probability that a record in his possession of the twelfth century is an authentic document of that period; for though his record is only 500 years old, and the works of Cicero are thrice as ancient, we are more exposed to imposition in the former instance, as the forgery of antiquities is often practised by thieves, whose businesses and profit are to lead the curious into error.

But supposing that the original MSS. of Cicero, Caesar, Paul, and Peter, were now extant, it would be impossible to decide whether they were spurious, or whether they were actually written by the hands of these authors. The case is different with respect to persons who have lived in the two last centuries, whose handwriting is known, with which a copy in question may be compared and determined; but we have no criterion, that can be applied to MSS. so old as the Christian era. Yet admitting that these original writings were extant, that we had positive proofs of their authenticity, and, what is still more, that the long period of seventeen centuries had left the colour of the letters unfaded, still they would be no infallible guide in regard to the various readings.'

Knittl, in his edition of a fragment of Ulphilas, p. 129, accounts for the loss of the original MSS. of the N.T. by supposing that the original gospels and epistles, as soon as the different communities, for whose use they were written, had taken a copy, were returned to the authors; and he says, that it was the general practice among the Christians of that age, and in support of the assertion appeals to a passage in Polycarp, and another in Jerom. But his arguments, in the opinion of Michaelis, are very unsatisfactory; and he thinks it reasonable to suppose, that the very same accidents, which have robbed us of other ancient documents, have deprived us likewise of these originals. From a passage of Ignatius, in the eighth chapter of his epistle to the Philadelphians, it has been inferred, that some of the first Christians appealed to the original MSS. at that time extant, and held them in great veneration; for which they were ridiculed, as the same passage is thought to suggest, by the early fathers, and those who had the greatest authority in the church. But the passage to which appeal is made, in order to prove the existence of the original MSS., in the time of Ignatius, is found to relate to a different subject. See Authentic.

The early loss of the autographa of the N.T. affords just matter of surprize, when we reflect that the original MSS.
MSS. of Luther and other eminent men who lived at the time of the reformation, whose writings are of much lost importance than those of the apostles, are still subsisting. Various causes may have contributed to this circumstance, of which several have been alleged in Griesbach's "Hiliorum Textus Epistolae Pauli," lect. ii. § 7, 8. Michaelis has given the following account of it. The several books of the N.T. were circulated among the Christians in numerous copies; "these were soon collected into a volume, and formed the edition in general use; and as no disputes had then arisen on the subject of various readings, they felt not the necessity of preferring in a common archive the MSS. of the apostles. The situation of the Christian churches was at that time extremely different from the present: the reading of the Greek; and Corinth, consisted of a number of small societies, that assembled separately in private houses, having no public building as a common receptacle for the whole community; and even in those private houses a moderate number only could meet together, as it was their custom not merely to pray and to teach, but likewise to celebrate their love of the epistle, which they had received from St. Paul, was not the property of any one society in particular, but belonged to the community at large, and that which was sent to the Corinthians was addressed to the communities throughout all Achaia. Each society copied the epistle in its turn, and beside the general copies many individuals probably took copies for themselves, whence the original MS. of the apostle, in passing through many hands, where perhaps not always the greatest care was taken, muli unavoidably have suffered. The Christian communities in Rome and Corinth had no common archive, or public library, in which the MS. of the apostle might have been afterwards deposited, for want of which, the original, as soon as a sufficient number of copies had been, was forgotten and lost. In other cities, the number of single societies, among which the epistle was divided, was inferior indeed to that in Rome, Corinth, or Ephesus, but the same causes contributed in each to the loss of the original epistle."

The same learned author adds, "the late or early loss of the autographs has no influence on the grounds of our faith; for the credibility of a book, which during the life of the author has been made known to the world, depends not on the preservation of the author's manuscript. Nor reader of the present work will enquire after the copy, which I send to the printer, to determine whether the work itself be spurious or authentic; nor was it necessary, for determining the authenticity of the New Testament, to preferve the originals; for each book, during the lives of the apostles, was circulated throughout the Christian world, in numberless copies, though they were not collected during that period into a single volume." As the autographa of the N.T. fell to early into oblivion, it seems reasonable, in certain cases, to make use of critical conjecture for filling the place of certain passages in the N.T. as well as in other books. On this subject, see Michaelis Introd. vol. i. § 2. p. 253, &c. For the purpose of multiplying autographs, or original copies of the same writing, several machines have been invented. See Writing Machine.

AUTOISON, in Geography, a town of France, in the department of the Upper Saone, and chief place of a canton, in the district of Vefoul; five leagues south of Bevaux.

AUTOL, a town of Spain, in Old Cafeile, one league from Cadayros.

AUTOLITHOTOMUS, he who cuts himself for the stone. See Lithotomy.

Of this we have a very extraordinary instance given by Reifelius, in the Epemerides of the Academy Natufa Curioforum, 1742, ob. 192.

AUTOLALA, in Ancient Geography, a town of Gaza, in Libya Interior, which stood between the Subus and the Salamus, the only two rivers of note, except the Gir and Niger, that watered Gaza. Nothing is now known of this ancient city, but that it gave name to the Autololes, a powerful tribe of Gaza, Proper, that spread themselves over that part of Egypt which bordered on the coast of the Atlantic ocean.

AUTOLYCUS, in Biography, a Greek mathematician and astronomer of Alexandria; he was the emperor Maximus, 252 years before Christ. He was protector in mathematics to Archimedes, who was also a disciple of Theophrastus, the successor of Aristotle. That he was an eminent mathematician appears from two of his works that are extant; viz. a treatise "On the moveable Sphere," published by Dafypoules in Greek and Latin, 8vo., at Strasbourg, in 1578; and in a Latin translation in the "Synopsis Mathematica" of Merianus, published in 4to., at Paris, in 1544; and also a treatise "On the rising and setting of the Stars," edited with the former work by Dafypodius Diog. Laert. Vit. Arcesil. Fabr. Bid. Graec. tom. ii. p. 89. Montucla Hist. Mathem. t. i. p. 192.

AUTOMATON, or Automaton, compounded of autos, self, and maithen, I am excited or ready, whence aytotomos: spontaneus; a self moving machine; or a machine which has the principle of motion within itself. Such were Archytas's flying dove, mentioned by Anesus Gallus, Noc. At. lib. x. c. 12. (See Aerostation); and regiomontanus's wooden eagle, which, as historians relate, flew forth from the chamber of the emperor Maximian, on his arrival, June 7, 1470, alighted him, and returned; also his iron fly, which, at a fateful, flew out of his hands and taking a round, returned thither again; and also Dr. Hooke's flying chariot, capable of supporting itself in the air. Hakew. Apul. c. x. sect. 1. None of the contemporary writers, though they often mention Regiomontanus, take any notice of those pieces of mechanism that have been ascribed to him, and it is probable, says Beckmann (Hist. Invent. vol. iii. p. 325.) that the whole tale originated from Peter Ramus (Schol. Mathem. i. ii. p. 65.), who never was at Nurenberg till the year 1571. Charles V., it is said, after his abdication, amused himself during the latter period of his life, with automata of various kinds.

Among automata are also reckoned all mechanical engines which go by springs, weights, &c. included within them: such are clocks, watches, &c. Vide Bapt. Port. Mag. Nat. c. 19. Scalig. Subile. 526.

When clocks were brought to perfection, some artists added to them figures, which, at the time of striking, performed certain movements, and as they functioned in this, some of them attempted to construct figure figures, detached from clocks, which either moved certain limbs, or advanced forward and ran. In the middle of the sixteenth century, when Hans Bullman, of Nurenberg, constructed figures of men and women, which moved backwards and forwards by clockwork, beat a drum, and played on the lute, according to musical time, they exited universal astonishment. The most ancient automata, of which we have any record, are the tripods constructed by Vulan (see Ilad, xviii. 373. Philostr. Oper. ed. Olearii, p. 117 and 240.), being furnished with wheels, advanced forwards to be used, and again...
again returned to their places. These tripodps, which are mentioned also by Aristotele (Polit. i. 3.) were probably only a kind of frail tables, or dumb wares, with wheels so contrived that they could be put in motion, and driven to a distance, on the smallest impulse.

Automata that represent human figures are called Andro-\footnote{The word is derived from the Greek, and means literally "man-maiden."}roides. See Annexions, under which article an account has been given of several figures of this kind. In his letter, addressed by Thomas Collinson, etc. to Dr. Hatton, we learn, that the secret of the chef-plaixier figure exhibited in various places by Mr. Kempelen (baron Kempbell), was discovered by a gentleman of rank and talents named Joseph Friederick Freyher, who published, at Dessden, in 1789, a treatise explaining its principles. A well taught boy, very thin and small of his age, so that he might be concealed in a drawer almost immediately under the chef-board, agitated the whole machine. Mr. Droz of La Chaux de Fonds, in the province of Neufchatel, has also executed some very curious pieces of mechanism. One of these was a clock, presented to the king of Span, to which pertained, among other curious contrivances, a heap that imitated the bleating of this animal, and a dog, watching a basket of fruit, that barked and snarled when any one offered to take it away, and a variety of moving human figures. Mr. Collinson informs us, that when he was at Geneva, Droz, the son of the former, showed him an oval gold filigree box, about 4 inches long, 3 broad, and 1 thick, which was double, with an horizontal partition; one of the partitions contained a bell, and in the other, upon opening the lid, there sprung up a very fine bird, of green enamelled gold, pecking on a gold brand. This minute curiosity, being only three quarters of an inch from the back to the extremity of the tail, wagged its tail, shook its wings, opened its bill of white enamelled gold, and pounced forth such a clear melodious song as would have filled a room of twenty or thirty feet square with its harmony. Another automation of Droz's was the figure of a man, about the natural size, which held in its hand a metal style; and by touching a spring that released the internal clock-work from its stop, the figure began to draw on a card of Dutch vellum laid under the style. Having finished its drawings on the first card, the figure refilled it. It then proceeded to draw different subjects on five or six other cards, which number limited its delineating powers. The first card exhibited elegant portraits and miniatures of the king and queen facing each other; and the figure was observed to start forth, professedly to lift its pencil, in the transition from one point of the draft to the other; as, e.g., from the forehead to the eye, nose, and chin, and from the waving curls of the hair to the ear, &c. without making the least flourish.

AUTODEMÓN, in Entomology, a species of Pippillo (H. bicuminus), with broad angulated wings of a brown colour above, and livid beneath; an ocular spot in the anal angle. Fabricius, &c. Native place unknown.

AUTONINE, Bernard, in Biography, a French lawyer and advocate to the parliament of Bourdeaux, was born at Agenois, in 1587, and died in 1666. The principal of the law treaties which he wrote are in French, "A Comparison of the French with the Roman law," published in 2 vols. fol. in 1644; and "A Commentary upon the Provincial Law, or La Contume, of Bourdeaux," the best edition of which is that of Dupin, 1728, fol. with notes. He also wrote in Latin, "Centena Gallina in Jus Civile Romanum," Paris, 1615, &c. and he published at Paris in 1657, in two volumes, 4to., an edition of Juvenal and Persius, with ample notes. He has been deemed an industrious rather than a judicious author. Nov. Dict. Hist.

AUTONIE, in Geography, a river of France, which runs into the Oise near Verbeke.

AUTONOMI, in Ancient Geography, so called because they were their own law-givers, a people who inhabited the most rocky and barren parts of Thrace, separated from Media by mount Hamus. In their engagement with Alexander, they behaved with extraordinary valor; but their whole army was cut in pieces, and their baggage taken, together with their wives and children. After this defeat, they submitted to the conqueror, who, in order to prevent their revolt during his absence, took with him into Asia all the chief men of their nation. They afterwards served under Perseus against the Romans; but were allowed to live according to their own laws till the reign of Vespasian, who made their country part of the province of Thrace. Thucyd. i. ii. Arrian, l. i.

AUTONOMIA, from auton, self, and nomos, law, a power of living or being governed by our own laws and magistrates. The liberty of the cities which lived under the faith and protection of the Romans, confided in their autonomy, i.e. they were allowed to make their own laws, and elect their own magistrates, by whom justice was to be administered and not by Roman presidents or judges, as was done in other places which were not indulged the autonoma.

AUTOPRAXI, from auton, self, and praxis, doing, in the Civil Law; those indulged this privilege, that they should not be summoned or compelled to pay taxes or tributes by the collectors, but should be left to their own free will. Du-Cange.

Of this number were men of distinguished dignity, and those eminent for their probity and honour.

AUTOPSY, compounded of auton, one's self, and oikos, house, ocular inspection, or the seeing a thing with one's own eyes.

AUTOPYROS, from auton, and oikos, habitation, in the Ancient Diet, an epithet given to a species of bread, wherein the whole substance of the wheat was retained, without retrenching any part of the bran.

Galen describes it otherwise, viz. as bread where only the coarser bran was taken out. And thus, it was a medium between the finest bread, called palinogamnos, and the coarsest, called perigranum.

This was also called autopyrites, and syncomylus.

AUTOUR, in Ornithology, the name under which Buffon describes the gothawk, or Falco palumbaricus of Linnaeus.

AUTOUR, in Natural History, a sort of hawk which resembles cinnamon, but is paler and thicker; it is of the colour of a broken nutmeg, and full of spangles. It comes from the Levant, and is an ingredient in the carmine dye.

AUTREAU, James D', in Biography, a painter and poet, was born at Paris, in 1656; but being of a singular and misanthropical disposition, secluded himself from the world, lived in obscurity, and died in an hospital. As a painter, though not eminent, he produced some pieces that were esteemed. With a view of doing honour to the character of cardinal Fleury, he adopted the device of exhibiting Diogenes with a lantern searching for a borenell man, and pointing him out in a portrait of the cardinal. Having nearly attained the age of sixty, he began to write for the stage; and the species of composition which he first adopted, notwithstanding his contrary disposition and habits, was light and humorous comedy. He wrote both for the Italian and French theatres. His "Port a l'Anglais" was
his first piece, and another of his works was the "Amans Ignoramus." He also composed some tragedies and serious pieces for the French theatre; and wrote Lyric compositions for the opera. The plots of his pieces are simple and artificial; but the dialogue is easy and natural; and some of his scenes contain genuine comedy. Notwithstanding all his exertions, Autreaux died in extreme poverty, at the hospital of the Incarcables in Paris, in 1745. His works were collected and published, with a preface, by Pelliefer, in four volumes, 12mo, in 1753. Nouv. Dict. Hilior.

AUTRECOURT, in Geography, a town of France, in the department of the Meuse, and chief place of a canton in the district of Clermont; four miles S. E. of Clermont, and eleven south-west of Verdun.

AUTREY, a town of France, in the department of the Upper Saone, and chief place of a canton in the district of Gray; one league north-west of Gray. The place contains 1213, and the canton 8395 inhabitants; the territory includes 270 kilometres and 21 communes.

AUTRICOURT, a town of France, in the department of the Coté d'Or, and chief place of a canton in the district of Chatillon for Seine, eight miles north of Chatillon. AUTRICOURT, in Ancient Geography, now Chartres, a town of Gaul, the capital of the Carnutes, and called Civitas Carnutum, and Carnutum. It was seated on an eminence, and seems to have derived its first name from the river Autro.

It was celebrated in Gaul, as the principal residence of the Druids, who held their assemblies among the woods in its vicinity. The name of Carnutum was probably derived from the Celtic Kar or Ker, denoting a city, and expressing its peculiar excellence.

AUTRIGANES, a people of Hispania Citerior, in Cantabria, who dwelt near the foot of the Pyrenees, towards the south-west. The only town they had on the coast was Flavionbrigia.

AUTRUCHE, in Ornithology, See STRUTTHIO Camelus.

AUTRY, in Geography, a town of France, in the department of the Ardennes, and chief place of a canton in the district of Grandpré; three leagues west of Varennes.

AUTUMN, the third season of the year; being that in which the harvest and the fruits of the summer are gathered. It begins on the day when the sun's meridian distance from the zenith, being on the decrease, is a mean between the greatest and the least; that in which these countries is supposed to happen when the sun enters Libra, or about the twenty-second day of September. Its end coincides with the beginning of winter.

Divers nations have computed the year by autumns; the English Saxons, by winters.—Tacitus tells us, the ancient Germans were acquainted with all the other feasons of the year, but had no notion of autumn. Autumn has always been reputed an unhealthy season. Tertullian calls it "testator valutadimus;" and the Latin speaks of it in the same light: "Autumnus Libitinæ quisquus aecerbe."

Autumn is commonly represented by painters under the figure of a female crowned with vine branches, and bunches of grapes; naked in that part which respects summer, and clothed in that which corresponds to winter. Its garment is covered with flowers, like that of Bacchus.

AUTUMNAL Point, is one of the equinocial points; being that from which the sun begins to descend towards the south pole.

AUTUMNAL Equinox, is the time when the sun enters the autumnal point. See Equinox.

AUTUMNAL Flowers. See Flower.

AUTUMNAL Plants, in Gardening, all such as attain perfection in autumn, either in their growth, or in their flowering.

AUTUMNAL Season, that period, which, in regard to the numerous operations to be performed in it, is commonly considered to be, from about the beginning or middle of August to the latter end of November; and in which the different works of sowing, planting, and propagation, &c. are most successfully accomplished; as, for instance, the putting in various sorts of eucalyptus plants to fland the winter for the ensuing spring and summer, such as cabbages, cauliflowers, carrots, lettuces, spinach, onions, &c. in the more early part; and in the latter, beans, peas, coloverts and early cabbage plants; likewise cauliflowers, some to remain under head and bell glasses, others in frames, to stand till spring; also lettuces on warm borders, and in frames, to fland the winter; and celery in shallow trenches, for spring use; and the making and sowing of mushroom-beds, for winter and spring. Different sorts of fibrous-rooted flower-plants are also increased at this season, by dividing or parting their roots; particularly in the months of September, October, and November, when the flower-plants decay; the clipped or divided parts most flowering the following year; and from the middle of September to the middle or end of November, is the time for transplanting from one place to another different kinds of hardy fibrous-rooted perennials, as directed under their proper genera. Most sorts of bulbous flower-roots, that were taken up in summer, are now planted in order to exhibit an early spring and summer bloom, in the following year. The seeds of many sorts of flowers are likewise at this time to be sown, which do not grow so freely when sown at other feasons, as is shown under their proper heads. In the latter part of this season it is necessary to plant cuttings, and make layers, for the propagation of various trees and shrubs of the hardy kind. The seeds of many sorts of hardy trees and shrubs may also be sown. Besides these, many other parts of garden culture are particularly necessary at this season.

AUTUMNAL Signs, are those through which the sun passes during the season of autumn, Libra, Scorpio, and Sagittarius.

AUTUMNALIS, in Ornithology, a species of PITTA, called by Buff. pittacus americanus; crick a tête bleue by Buff.; lefjer green parrot by Edwards, Av. and autumnal parrot by Latham. It is distinguished by being of a green colour, with the front and spot on the quill feathers scarlet; crown and primary quill feathers blue, Gmelin.

Of this kind there are two distinct varieties; one with the front and chin blue, and the other with the head varied with red and white. The first is var. (b) pittacus fronte fulva carunculus of Gmel; crick a tête bleue by Buff.; blue-faced green parrot of Edwards; and blue-headed creature of Baner, Guian. The latter is called Cocho in Fernand. Hist. Nov. Hist. Inhabit Guiana.

This species is about the size of a pigeon; region of the eyes blue; primary wing-coverts blue, and red at the base; tail feathers green above, and tipped with yellowish, outer one blue at the external edge; beneath yellowish, reddish at the base, with a green spot in the middle.

AUTUMNIS, a species of ANAS or duck, that inhabits South America. It is greyish; wings, tail, and belly black; spot on the wing tawny and white. Jacquin Beyri. This is the red-billed whistling duck of Edwards; anna fuscata;
AUV

Java americana of Briff. ; and Safleur à bec rouge et marais jamiés of Buffon.

This bird is represented to be of a very quarriform disposition, but may be tamed; sits on trees, and measures in length twenty-one inches. The tail is red, black at the tip; crown, back, and expullar chestnut; breast yellowish; legs yellow.

Aulomalis, a species of Tringilla, called by La- than the annual fitch. It inhabits Surinam; is of a greenish colour, with a ferruginous cap, and vent tellaceous. Limnnaeus. The tail is even at the end.

Auleunus, in Entomology, the name given by Am- erial to the moth, or phexana, called by Gmelin P. jigitans; which fex.

Auteun, in Geography, an ancient city of France, and chief place of a district in the department of the Sosne and Loire; and, before the revolution, the capital of a district called Auteunis, with a bishop's fis. It is situated near the river Arroux, at the foot of three mountains, that supply the city with water. The city itself is small, being about 9/10 of a mile in length, and about the fame breadth; it has now few good buildings, but its ruins indicate its former magnificence; and those of its walls in particular, feem, by the firm union of the flones that compose them, as if they had been cut out of the solid rock. Here are the remains of three ancient temples, one dedicated to Janus, and another to Diana; and also of a theatre, and a pyramid, the latl probably having been a tomb. It has also two beautiful antique gates; the field in which it flands is called "the field of urns," because several urns have been dug in it. Auteun was made a Roman colony by Augustus, and after him called "Augustodunum;" and as early as the reign of Claudius, it ventured of itself, and without affinities, to declare allegiance to the legions of Gaul. After a few of seven months, they stormed and plundered this unfortunate city, already walled by famine; nor was it restored till the time of Diocletian. The country from Chalon to Auteun is very rich in vineyards and cornfields, and prefects, by its lofty hills and swelling outline, a pictur- cque scene. The approach to it is by a road which winds over hills, that is covered with an underwood of broom, and crowned with a forest of birch and fir-trees. The cathedral is a handsome building. The place contains 91,760 and the canton 15,016 inhabitants; the territory includes 26,253 kilo- metres and 16 communes. N. lat 46° 56' 48". E. long. 4° 17' 42".

Auteura, in Ancient Geography, a river of Gallia Celtica, now the Euros, which falls into the Seine on the south side.

Auten, in Geography, a town of the duchy of Cour- land, thirty-six miles S. E. of Goldingen.

Auve, a town of France, in the department of the Maure, and chief place of a canton in the district of St. Monlhould, thirteen miles E. N. E. of Chalon.

Auvergne, a province of France, before the revolution, but now forming the two departments of Puy de Dôme, and Cantal, bounded on the east by Forez, on the north by Bourbonnois, on the west by Limousin, Quercy, and La Manche, on the south by Rouergue, and the Cé- vennes. Its extent from south to north is about forty French leagues, and from west to east thirty. It is divided into Upper and Lower Auvergne. The former is cold and mountainous, and yet has excellent pastures, and supplies many large cattle; the latter, to which belongs the valley of Limagne, and by which appellation it has sometimes been distinguished, is a fertile and pleasant country, abounding in wine, grain, fruit, and hemp. Auvergne supplies Lyons and Paris with fat cattle; a large quantity of cheese is made in this province; and it has several manufactories. It has mines of silver, iron, lead, and coal. Its principal rivers are the Allier, the Dordogne, and the Alagnon; which fee. The capital of the whole province is Clermont. The basaltic mountains of this ancient province are famous; and have been ascribed by some eminent naturalists to volcanoes; but as they consist chiefly of basaltic columns and elevations, others, among whom may be reckoned the best judges, allege that they have no claim to a volcanic origin. Those of Auvergne are too extensive to have been produced by a single volcano, and it would be too bold a conjecture to attribute them to a chain of volcanoes. "The northern part of the chain is styled the Puy de Dôme, while the southern is called that of Cantal. The Monts d'Or from the centre and are the highest mountains in France. The chief elevation is that of the Puy de Saâës, which rises about 6,350 feet above the level of the sea, while the Puy de Dôme is about 5,500, and the Pomb d Canta, the highest of that part, is about 6,200 feet. Near the Puy de Saâës is the Ango, that gigantic mountain, and Borchade, a shattered and wrecked elevation. The Pomb d Canta is also accompanied by bold rivals, as the Puy de Grion, le Col-de-Cabre, the Puy Mari, and the Violent. This enormous assemblage of rocks covers an extent of about 120 miles, and according to the French authors, is chiefly basaltic. The Puy de Saâës is capped with almost perpetual snow, followed in the descent by naked rocks and ancient pines; from its sides issue, from two sources, the river Dordogne, and many picture-que cascades devolve amidst basaltic columns. On the 23rd of June, 1727, Prades, a village on the slope of one of these mountains, was totally overwhelmed by its fall; the whole mountain with its basaltic columns rolling into the valley. The inhabitants were fortunately engaged in the celebration of Midsummer eve, round a bonfire at some distance. These mountains are in winter exposed to dreary and foamy hurricanes, called Mists, which in a few hours oblate the ravines, and even the precipices, and descending to the paths and streets, confine the inhabitants to their dwellings, till a communication can be opened with their neighbours, sometimes in the form of an arch under the rafters of snow. Wretched the traveller who is thus overtaken; his path disappears, the precipice cannot be distinguished from the level; if he fland he is chilled; and buried if he proceed; his eye-fight fails amidst the foamy darknes; his respiration is impeded; his head becomes giddy; he falls and perishes. In summer, thunder storms are frequent and terrible, and accompanied with torrents of large hail, which destroy the fruits and flocks, which for six months paffm on the mountains, guarded by shepherds, who have temporary cabins of turf and reed, flyed buonii." Pinkerton's Mod. Geog. vol. i. p. 274.

Auvergne, in the revolutions of France, formerly main- tained a full pre-eminence among the independent states and cities of Gaul. The brave and numerous inhab- iants displayed a singular trophy, which was the sword of Cæsar himself, which he had lost when he was repulsed before the walls of Gerovia. As the common offspring of Troy, they maintained a paternal alliance with the Romans; and if each province had imitated the courage and loyalty of Auvergne, the fall of the western empire might have been prevented or delayed. They firmly main- tained the fidelity which they had reluctantly sworn to the Visigoths; but when their bravest nobles had fallen in the battle of Poiétiers, they accepted, without reluctance, a victorious and catholic sovereignty. This easy and valuable connexi was achieved, and possified by Theodore, the eldest son of Clovis. At length, however, Childerict, the king of Paris was tempted by the neighbourhood and beauty
of Auvergne; and on the fall report that their lawful sovereign was slain in Germany, the city and diocese were betrayed by the grandson of Sidonius Apollinarius. Childeric I. beheld the splendid victory. Theodoric having promised to the Franks of Austrasia the possession of this rich and productive country, forfeited the allegiance of the inhabitants, and devoted them to destruction. His troops, reinforced by the fiercest barbarians of Germany, spread devastation over the fruitful face of Auvergne, and in two places only, the strong castle of Merloca, and the holy shrine of St. Julian at Briouze or Brioude, were saved or redeemed from their licentious fury. Before the Austrasian army retreated from Auvergne, Theodoric exacted some pledges of the future loyalty of a people, whose just hatred could only be restrained by their fear. A select band of noble youths, the sons of the principal senatorians, were delivered to the conqueror, as the hostages of the faith of Childebert and of their countrymen; and, on the first rumour of war, or conspiracy, these guillotined youths were reduced to a state of servitude; and one of them only, whose name was Attalus, escaped by a singular adventure. See Gibbon's Hist. vol. vi. p. 362—369.

AUVERGNE, a town of Switzerland, one league south of Neuchatel.

AUVERNAS, a very deep-coloured handsome wine, made of black raisins so called, which comes from Orleans. It is not fit to drink before it is above a year old; but if kept two or three years, it becomes excellent.

AUVIGNY, N. Castres d', in Biography, a French historian, was born at Hainault in 1712, and in his youth resided at La Fontaine. But engaging in the military profession, he entered into a company of life-guards, and was killed in the battle of Dettingen, in 1743. In the province of literature, he distinguished himself by several works, the principal of which was "The Lives of Illustrious Men of France, from the commencement of the Monarchy to the present time." Of this work, 8 volumes in 12mo. appeared in the author's life-time; two posthumous volumes were published by his brother; and the publication has been continued by the abbé Perauc and M. Turpin. The biographical sketches of Auvigny are written with animation and elegance, but they approach so much to fiction that they cannot be implicitly relied on as historical truth. An abridged history, written by Auvigny, and published in two vols. 12mo. is entitled "An Abridgment of the History of France, and of the Roman History, in quodlibet and answer." In 1735, he published, in five volumes 12mo. "An History of the City of Paris," but part of the fourth and the whole of the fifth, were written by M. de la Barre. The principal of Auvigny's works of imagination is "Memoirs of Madame de Berneveld." Nouv. Dict. Hist.

AUVILLARD, in Geography, a town of France, in the department of the lot and Garonne, and chief place of a canton, in the district of Agen; 13 miles south-east of Agen, and two south of Valence. The place contains 2,057, and the canton 8,767 inhabitants: the territory includes 1224 square miles and 11 communes. N. lat. 42° 3'. E. long. 0° 41'.

AUVILLERS-LES-FORGES, a town of France, in the department of the Ardennes, and chief place of a canton in the district of Rocroi, ten miles W. N. W. of Mazeres.

AVUS, in Ancient Geography, a river of Spain, in the territory of the Callics, whose course lay from east to west, and which discharged itself into the sea towards the north.

AUW, in Geography, a town of Germany, in the arch-
A U Z

The verbs have, be, will, and do, when they are uncon-

nected with a principal verb, expressed or understood, are

not auxiliaries, but principal verbs; as, we have enough;

I am grateful; he wills it to be so; they do as they please;

and in this view, they also have their auxiliaries; as, I shall

have enough; I will be grateful, &c. Murray's Eng.

Cram, p. 76.

AUXILIUM, in Law. See Aid.

AUXILIUM curis signifies an order of court, for the

suing out of one party at the suit of another.

A XILIIUS of Xilium ilium iliius, of the Xilium maritato-

num, was a wet directed to the sheriff of every county,

where the king or other lord had tenants, to levy of

them reasonable aid, towards the repair of his eldest

son, or the marriage of his eldest daughter.

AUXIMA, in Ancient Geography, a town of Spain,

mentioned by Florus.

AUXIMES, a town of Africa, in Mauritanias Cartariensis.

Ptolemy.

AUXIMUM, or AUXUMUM, OSMO, a town of Italy, in

the Picenum, south of Ancona. It was a Roman colony.

AUXO, in Mythology, the name of one of two graces

worshipped by the Athenians. See HEGEMONE.

AUXORS, in Geography, a name given before the late

division, to a territory of France, of which Semuren-Auxois

was the capital.

AUXON, a town of France, in the department of the

Aube, and chief of a canton in the district of Ervy; 44

leagues south of Troyes, and 14 north of Ervy.

AUXONNE, a town of France, in the department of

the Côte d'Or, and chief place of a canton, and seat of a

tribunal, in the district of Dijon, feated in a plain near the

east side of the Saône. It is surrounded by a double wall

built in the 17th century, and has a bridge of 23 arches

over the Saône, forming for the passage of the water when

the river overflows; and at the end of the bridge is a cause-

way of 2250 paces in length; 55 leagues E. S. E. of Dijon.

The place contains 5282, and the canton 11,356 inhabi-

tants; the territory includes 185 kilometres and 17

communes. N. lat. 47° 11' 24". E. long. 5° 23' 35".

AUXY-I-A-REUNION, a town of France, in the

department of the departments of Calais, and chief place of

a canton, in the district of St. Pol, three leagues S. S. E.

of Hédin. The place contains 2469 and the canton 13,875

inhabitants; the territory includes 185 kilometres and

28 communes.

AUXY, in the French Manufactures; a name given to that

fort of wool which is spun in the neighbourhood of Abbe-

ville, by those workmen who are called bouchers. It is a

very fine and beautiful wool, which is commonly used to

make the finest flaxen cloths.

A U ZAGUREL, or AUSSAGUREL, in Geography,

a town of Africa, in the kingdom of Adel, reckoned by

some the capital, and situated on an eminence near the

Hauran. See Adel.

A U ZANCES, a town of France, in the department of

the Creuse, and chief place of a canton, in the district of

Anbouf, feated on a hill, surrounded with ponds; 25

miles E. S. E. of Gueret, and nine south of Evaux. The

place contains 1230 and the canton 8249 inhabitants; the

territory comprehends 165 kilometres and 12 communes.

A U ZARA, OSARA, in Ancient Geography, a town of

Africa, in Syria; or according to Ptolemy, in Arabia.

Defta, S. S. E. of Cireium; situated on the western bank of

the Euphrates.

A U ZATA, AUZA, or AUZA, a town of Libya, built

according to Ptolemy, in his "Antiquities," by Ithobad,

king of the Tyrrans; situat d, according to Ptolemy, in

the interior of Mauritanias Cartharia, to the east of a lake

from which flowed the new Chindar. It was the capital

of the Aueus, who were situated to the west of the river

Triton. Titius informs us, that it was built in a small

plain, surrounded on all sides with barren forests of immense

extent. The ruins of this city were called by the neigh-

bouring Arabs "Sour Gerbal," or "the walls of the Ante-

lope:" a great part of which, flanked at proper distances

with little square towers, is still remaining.

A U ZILS, in Geography, a town of France, in the de-

partment of the Avaron, and chief place of a canton in the

district of Albin; 15 miles north-west of Rhod.z.

A U ZOIR-LE-MARCHÉ, a town of France, in the

department of the Loir and Cher, and chief place of a

canton in the district of Blois. The place contains 950 and

the canton 7150 inhabitants; the territory includes 315

kilometres and 14 communes.

A U ZON, a town of France, in the department of the

Upper Loire, and chief place of a canton, in the district

of Brioude, on the Allier, six miles north of Brioude. The

place contains 1256 and the canton 9882 inhabitants; the

territory includes 155 kilometres and 13 communes.

A U Z O U T, ADRIAN, in Biography, a French mathe-

matician of the 17th century, and one of the first members

of the Academy of Sciences at Paris, who was born at

Rouen, and died in 1693. Some have ascribed to him the

honour of having invented the Micrometer; but he is more

justly entitled to the praise of having contributed to the

improvement of it, in pursuance of the ideas suggested by M.

Huygens, and the marquis of Malvolia. (See Microme-

ter.) Auzout's treatise on this subject was published in

1677, and may be found in the Memoirs of the Academy

for 1675, tom. vii. Auzout was also concerned with M.

Picard in the important discovery of the method of applying

the telecope to the quadrant, which has been highly

useful to astronomers. It has been said, particularly by M.

de la Hire, that M. Auzout had a principal part in this

discovery; but from the description given of it by M. Picard,

in his "Figure de la Terre," the reader cannot hesitate in

pronouncing M. Picard himself to have been the original

and sole author. It appears, however, from several fragments

of letters in correspondence between our ingenious but

unfortunate countryman Mr. Caeoigae, who was killed in

the battle of Marlou-Moore, and Melr. Horrox and Crab-

tree, and which are recorded by Derham, in the Phil.

Trans. for 1723 (vol. 43, p. 190), that the method of con-
AWN, A R I S T A.

AW, a river of Scotland, in the Highlands. See Loch-Awe.

A-WEIGH, in Sea-Language, the same as A-trip, when applied to the anchor.

AWENYDHION, in British Antiquity, a name that was given to certain person in Wales, and derived from Awen, was, of course, expressive of poetical raptures. These person, when consulted about any thing doubtful, appeared to be inflamed with a high degree of enthusiasm, and even to be possessed by an invisible spirit. They were neither halting, nor very direct and explicit in their answers, or in the solution of the difficulties that were propounded to them; but in the course of a long and wild circulocution, they required and sordidly listened for the word which the latter utterers incited the words which they had uttered during their excitation. If they were, therefore, again consulted about the same subject, they would express themselves in very different words. The gift, which they possessed, was conferred upon them, as they imagined, in their sleep, and the mode of communication seemed, says Giraldus, as if new milk or honey was poured into their mouths; and others, as if a written scroll had been put into their mouths; and when they awoke, they knew and declared that they had been endowed with this extraordinary gift of divination. Some gift, referring that to which the Awen of Wales pretended, has been long known in Scotland, under the denomination of Second Sight. Warrington's Hist. Wales. p. 102, &c.

AWERRI, in Geography, a town of Africa, and capital of a kingdom of the same name, about 20 leagues from Benin to the south.

AWIN-EA, a river of Ireland, which rises in lake Ea, in the province of Donegal, and runs into the sea, seven miles north of Ballybegs.

AWK. See Aux.

AWL, or Awl, a shoemaker's implement, wherewith holes are bored in leather, to facilitate the stitching or sewing the same. The blade of the awl is usually a little flat, and bending; and the point ground to an acute angle.

AWME, or Aume, a Dutch measure of capacity for liquids, containing eight gills, or twenty seveners, or seven litres. Answering to what in England is called a trecce, or one-sixth of a ton of France, or one-seventh of an English ton. Arbuth. Tab. 33.

AWN, Arist, in Botany, the needle-like bristles which form boards of different sorts of grass or grain, as wheat, barley, &c. The word is, in some districts, pronounced Alt. It is sometimes used to signify a sharp point terminating a leaf. See Arist.

AWNING, on board a ship, is, when a full, a tarpaulin or the like, hanging over any part of the ship, above the decks, to keep off the sun, rain, or wind. The length of the main deck awning is from the centre of the fore-mast to the centre of the main-mast; the width corresponds to the breadths of the ship, taken at the main-mast, fore-mast, and at the midway between. The length of the quarter deck awning is from the centre of the main-mast to the centre of the mizen-mast; and the width answers to the breadths of the ship, at the main-mast, mizen-mast, and at the midway between. The length of the poop, or after-awning, is from the centre of the mizen-mast to the ensign-staff, about seven feet above the deck; and the width is formed agreeably to the breadths of the ship, taken at the mizen-mast, the taffarel, and at the midway between. The canvas is cut to the given breadths of the awning, allowing about nine inches to hang down on each side, which is sometimes fagolled and bound with green baaie, and is sewed together with an inch seam, and tabled all round with a two or three inch tacking. Half the diameter of the masts is cut out in the middle at each end, and lacing-holes are made across the ends to connect one awning to another. On the upper part, along the middle and sides, is sewed a one inch and half or two inch rope, to which the trucks are sewed at about three quarters of a yard distance. A thimble is spliced in each end of the rope. Sometimes curtains are made to hang to the sides of the awnings, of the same length as the awnings. Their depth is taken from the sides of the awning to the gun-wale, supposing the awning to be in its place. The faggots and tablings are the same as those of the awnings, and lacing-holes are made along the upper tabling of the curtain, and the side tabling of the awning. Clarke's Elem. and Practice of Rigging, vol. I. p. 140. 230.

In the long-boat they make an awning, by bringing the fall over the yard and flay, and booming it out with the boat-hook.

AX, a carpenter's instrument, serving to Hew wood.—The ax differs from the joiner's hatchet, in that it is much larger, and heavier, being served to hew large flue; and its edge tapering into the middle of its blade. It is furnished with a long handle or helve, as being to be used with both hands.

AX, in Geography, a town of France, in the department of the Arriére, and chief place of a canton in the district of Foix, on the Arriére; 9 leagues west of Prades, and 44 S. E. of Tarancon. The place contains 1500 and the canton 750 inhabitants; the territory includes 390 kilometers and 14 communes.

AX. See Axbridge, and Axminster.

AX. Battle. See Celt.

AXAMENTA, in Antiquity, a denomination given to the verbs, or songs, of the suli, which they sung in honour of all men.

The word is formed according to tone, from awaue q. d. nemWare. Others will have the cernina cularia to have been denominated axamenta, on account of their being written in axihus, or on wooden tablets. The axamenta were not composed, as some have asserted, but only sung by the suli. The author of them was Numa Pompius; and, as the style might not be altered, they grew in time to so obscure, that the suli themselves did not understand them. Varro says they were seven hundred years old. Quint. Infl. Or. lib. i. c. 11.

AXAMENTA,
AXE

AVANTIA, or Assenta, in Ancient Music, hymns or songs performed wholly with human voices.

AXAS, in Geography, a town of America, in the interior part of New Allion. N. lat. 39° 5', W. long. 114° 30'.

AXAT, or Axat, a town of France, in the department of the Aude, and chief place of a canton, in the district of Quillan, on the Aude; twenty-five miles south of Carcassonne, and five S. E. of Quillan.

AXEBERG, a town of Sweden, in the province of Nericia.

AXBRIDGE, a town of England, in the county of Somerset, about eight miles north of Wells, and 131 miles from London. The river Axe divides the bridge from Over-Weare, and gives the place its appellation. This town is pleasantly situated at the south-western foot of the dark Mendip hills. It has a corporation consisting of a mayor, bailiff, eight capital burgesses, and twenty-two common councilmen; and sent members to parliament, till excused at the request of the inhabitants, in the reign of Edward the third. Its market for corn, sheep, pigs, &c. is on Saturday, and two fairs are held here annually for the sale of cattle and cheese. Its only manufacture is knit-hose, in which a great number of families is employed. The church is particularly noted for its beautiful and uniform architecture, and for the lately monuments which it contains. Most of them are erected to the memory of the Prowse family, many of whom were interred within the walls. This town contains 190 houses, and 1000 inhabitants. About two miles east of Axbridge is the village of Cheddar which is celebrated for its fine cheddar, and extraordinary rocks or cliffs. The village is situated under Mendip hills, having the flat moors which extend to Glastonbury on the fourth side, and a high ridge of hills on the north. The Cheddar cliffs seem to have been the effect of some great convulsion of nature, which rent the hill asunder and formed an opening or chasm completely through it. This chasm is now appropriated to a road, which leads from the bottom to the top of the hill, having its sides formed by the high craggy rocks. The length of this gap is nearly two miles, in a winding direction. In many parts the cliffs rise to the height of full 300 feet, quite perpendicularly, some terminating in bold pinnacles, others in irregular fragments like shattered battlements, and others impeding over head in an awful manner. Yews project out of several of the fissures, forming lofty canopies, and many of the rocks wear long mantles of ivy, which produce a picturesque appearance, and form a pleasing contrast to the craggy nakedness of others. The romantic and grand appearance of these rocks attracts the notice of many travellers. Mendip hills, which are often called the alps of Somersetshire, abound with head and calamine, and like the similar hills of Derbyshire, contain many vault caverns and subterraneous vaults. Various colloidal relics are found in this limestone. Several curious plants are also obtained here, among which the following are the most rare: dianthus cefus (Cheddar Pink) d. arcoracis, and thalidium minus. Maton's Observations on the Western Counties, and Collinson's History of Somersetshire.

AXEL, a strongly fortified town of Flanders; it was taken from the Spaniards by Maurice, prince of Nassau, in 1566; nine leagues W. of Antwerp. It is now a town of France, in the department of Elcuit, and chief place of a canton in the district of L'Èchefe. The place was 1843 and the canton 9508 inhabitants; the territory includes 1874 kilometres and 10 communes. N. lat. 51° 15'. E. long. 3° 45'.

AXENS, a town of Germany, in the county of Tyrol; nine miles S. W. of Innsbruck.

AXHOLM, an island of England, in the N.W, part of Lincolnshire, formed by the rivers Trent, Idle and Dan, about ten miles long and five broad; the lower part is marshy; the middle part fertile, and produces flax in abundance. The chief town, or rather village, thinly inhabited, is called Axey.

AXIA, in Ancient Geography, a town of Greece, in the country of the Lucian Oezakans.—Also, a town of Italy, in Etruria; and the inhabitants were called Axites.

AXICA, a town of Sarmatia, at the left of the river Sagaris, and north of Odbeans (Oezakows).

AXIENCES, a river of European Sarmatia, a little above Dacia; and the people who inhabited the district to the right of this river were called Axites.

AXICA, or Azica, an ancient town of India, on this side of the Ganges. Ptolomy.

AXILLA, in Anatomy, or Axa, the cavity under the upper-part of the arm; commonly called the ax-pit.

The word is a diminutive of axis, q. d. little axis

Achesea in the axilla are usually dangerous on account of the many blood-veils, lymphatics, nerves, &c. thereabout, which form several large plexus. By the ancient laws, criminals were to be hanged by the axilla if they were under the age of puberty.

AXILLA, in Botany, is the space comprehended between the stems of plants and their leaves.

Hence we say, those flowers grow in the axilla of the leaves; i.e. at the base of the leaves or jut within the angles of their pedicles.

AXILLARY, in Anatomy, something that belongs to the axilla, or lies near them.

AXILLARY Artery, a certain portion of the great artery which supplies the upper part of the trunk, and upper extremity. See Artery, Distribution of these Vessels.

AXILLARY Vein, a certain extent of the vein corresponding to the above-mentioned artery. See the account of the Distribution of the Veins.

AXILLARY Nerves, are branches of the four lower cervical and first dorsal, which form a plexus in the axilla. See Nerve, Distribution of.

AXILLARY Glands, the glands belonging to the absorbing veils which are situated in the axilla. See Absorbing Vessels, Distribution of.

AXILLARY Leaves, in Botany. See Leaf.

AXIM, in Geography, a small district or canton of Africa, on the Gold Coast, between Cape Apollonia, and Tres Punta. The climate is unhealthy, being so moist, that, according to the proverb of the country, it rains eleven months and twenty-nine days in the year. The noise, on account of the humidity of the soil, is neither plentiful nor excellent; but it produces a great quantity of rice, which is exported to all the kingdoms of the Coast, in exchange for millet, yams, potatoes, and palm-oil; and it yields also water-melons, ananas, bananas, cocoas, oranges, two kinds of lemons, and all sorts of fruits and vegetables. Axim also produces great numbers of black cattle, sheep, goats, and tame pigeons, as well as other fowls. The whole country is filled with populous villages; fone on the sea-side, others farther up the country; and all of them rich and beautiful. The intermediate lands are well cultivated, and the soil is so fertile as richly to compensate the labour of the husbandman: besides which the natives are wealthy, from a constant traffic they maintain in gold with the Europeans. The capital of this district is Axim, or Achombene, flanding under a Dutch fort, and screened behind by a thick wood, that covers the whole declivity of a neighbouring hill. The river Axim runs through the town, and the coall is defended by
by a number of small pointed rocks, which project from the shore, and render access to it dangerous. The European settlements are, 1. The Dutch fort of St. Anthony, standing on a high rock, which projects into the sea in the form of a peninsula, and so envioled by dangerous flocks and unperceived rocks, as to be inaccessible to an enemy except by land, on which site it is fortified by a parapet, draw-bridge, and battery of heavy cannon. The Portuguese were the first founders of this settlement; but they were driven from it by the Dutch, in 1642. Its form is triangular; and it has three batteries; one towards the sea, and two towards the land. The situation of the fort is eft of the river Axim, called by the Portuguese Rio Manco, which is navigable only by canoes; but it is rich in gold dust, washed down by the streams from the inland counties.

2. Mount Manfore, three leagues distant from fort St. Anthony; near which is the large and populous town of Pocohio. Mount Manfire is well fitted around for a fort, being the first point of cape Trez Puntas. Here the Brandenburgers or Prussians had one principal factory, called Fredericesburgh; but it was taken by the Dutch, and remained in their possession. 3. Cape Trez Puntas, so called from its being composed of three points or eminences, projecting into the sea; on which are the three villages, Akora, Akron, and De Jufianne or Dickepole. See the several articles.

The government of Axim is composed of two bodies of the natives: the caberesoes, or chief men; and the maccereoes, or young men. To the former belongs the cognizance of civil affairs; but whatever is of general concern, and may properly be called national, appertains equally to both members of the state. The caberesoe is wealthy in gold and slaves, and of course less regarded by the people, and they are often impeached before the bar of the maccereoe; whereas no maccereoe can be tried for crimes of a public nature, but by his own assembly. In the distribution of justice, there is a great degree of partiality and corruption; presents of gold or brandy, conveyed to the caberesoes, enforce a favourable verdict; and justice is frequently delayed as well as perverted by the influence of bribes. The defendant, in defect of sufficient testimony on either side, by witnefls or probable circumstances, clears himself by oath: and the oath of purgation is always preferred to that of accusation. As to penalties in criminal cases, murder is punished either by death or a pecuniary mulct. However, the fine for murdering a slave is very trifling in comparison to that exacted for the life of a free man: and execution seldom takes place, unless the criminal be poor, and unable to answer the demands of his judge. The only punishment for thefts is restitution, or a fine proportioned to the property of the offender: and the creditor may seize on the property of the debtor to the amount of twice the value of what is due to him: but the usual method is to settle the account by arbitration, or restitution of the goods and chattels bought.

AXIUM, in Ancient Geography, a town of Asia, in Persia Proper, or Persia.—Allo, a town of Italy, in the Alps, belonging to the Ilarians. Prodome.

AXINAE,AXINAS, in Natural History, a genus of the Mollusca tribe (U. fera), established by Poli, in his history of the shells of the two Sicilies. The character is taken from the form of the animal; the shell it inhabits belongs in the Laminia arrangement to the Asca genus.

AXINES, in Ancient Geography, the Bay of Aligia, a large river which traversed Sarmatia, separated the Caliphides Axioe, to whom it gave name, and discharged itself into the Borythenes.

AXINA, the ancient name of a mountain of Peloponnesus, in Arcadia.

AXIUMIUM, the name given by Appian to an ancient city of Spain.

AXINOMANCY. 1. AXINOMANTIA, from καινο, secures, and μάντει, diviners, an ancient species of divination, or a method of foretelling future events by means of an ax or hatchet. This art was in considerable repute among the ancients; and was performed, according to Some, by laying an axe-head on a reed, that hatchet; and also by fixing a hatchet on a round stone, so as to be exactly poised: then certain formules of invocation were pronounced, and the names of suspected persons were repeated, and he at whose name the hatchet moved was pronounced guilty.

AXIOM, AXIOMA, from αξιω, I confess, a self-evident truth, or a proposition whose truth every person receives at first sight; and to which the term dignity is applied, on account of its importance in a process of reasoning. These axioms are self-evident truths that are necessary, and not limited to time and place, but must be true at all times and in all places.

Thus, that the whole is greater than a part; that a thing cannot be and not at the same time; and that from nothing, nothing can arise, are axioms. So, by axioms, called also maxims, are understood all common notions of the mind, whose evidence is so clear and forcible, that a man cannot deny them without renouncing common sense and natural reason.

Self-evident propositions furnish the first principles of reasoning; and it is certain, that if in our researches we merely employ such principles as theft, and apply them properly, we shall be in no danger in advancing from one discovery to another. For this we may appeal to the writings of mathematicians, which being conducted agreeably to this standard, incontestibly prove the flability of human knowledge, when it is made to rest on so firm a foundation. The propositions of this kind of science have not only flooded the field of ages, but they are found to be attended with that invincible evidence, which confines the affent of all who consider the proofs by means of which they are established.

Lord Bacon propounds a new science, to confound of general axioms, under the denomination of philosoplia prima. For an account of the origin and evidence of those truths called axioms, as well as of their importance and utility in the pursuit of knowledge and truth, see Intuition, Principles, and Common Sense.

Axiom is also an established principle in form of or science. Thus, it is an axiom in Physics, that nature does nothing in vain; that effects are proportional to their causes, &c. So it is an axiom in Geometry, that things equal to the same thing are also equal to one another; that if to equal things you add equals, the sums will be equal, &c. It is an axiom in Optics, that the angle of incidence is equal to the angle of reflection, &c. In this sense the general laws of motion are called axioms; as that all motion is rectilinear, that action and reaction are equal, &c. See Laws of Motion.

These particular axioms, it may be observed, do not immediately arise from any first notions or ideas, but are deduced from certain hypotheses; this is particularly observable in physical matters, wherein, as several experiments contribute to make one hypothesis, so several hypotheses contribute to one axiom.

The axioms of Euclid are very general propositions, and we are the axioms of the Newtonian philosophy; but these two kinds of axioms have very different origins. The former appear true upon a bare contemplation of our ideas; whereas the latter are the result of the most laborious induction.
Lord Bacon, therefore, strenuously contends, that they should never be admitted upon any account, or even upon the authority of the learned; but all, as they are the general principles and grounds of all learning, should be considered and examined with the most liberal attention, "ut acrus acturus conscribat iniquitas, quandam in exemplis audacia indefinitionem datur.

De Aug. sect. 1, c. 2.

"Atque illa a sopatia principia et axioms secundas compulerem decretivas, quoniam plane contraria." Diocres. Opus.

A writer (see Thothams's Chart and Scale of Truth) distinguishes between Connotation and Suggestion. The former he says, passes through the fall of knowledge, and is direct; the latter, which is conceived on the minds of external objects do on the senses, are called; in the formation of the latter, each judge by single comprehension, without the aid of a third idea or middle term; so that they have their evidence in themselves, and though hypothetically framed, they cannot be logically proved. If we admit this distinction, and its reasonable limits must be allowed, the character of intuitive axioms will be referred to particular truths. See Induction, Reasoning, and Syllogism.

AXION, in Rhetoric, is used by Hermogenes to denote grandeur, dignity, and sublimity of style. AXIOPOILIS, in Ancient Geography, is a town of Lower Moors, according to Ptolemy, situated near the part where the Danube assembled the name of Tiber, north-east of Dacia.

It is now a town of European Turkey, in Bulgaria, called Alexopolis, on the right bank of the Danube. N.B. 45° 45'. E long. 34°.

AXIOM, a form of acclamation, anciently used by the people in the election of bishops. When they were all unanimous, they cried out: 

"Axiom a timere, he is worthy, or axi, worthy by.

AXIOM, in Rhetoric, denotes a third part of an exordium; sometimes also called axi, and containing some new proposition more nearly relating to the matter in hand, than the axi.

Thus, in Cicero's oration pro Milone, the problem is:

"Non possum non timere, judices, vili habeas novitiam formas," the auth. says, "Nec enim ex corona confidet vel verus cuivis quae folletur," the auth. says, "Sed me necet Pompeius, cuius furor nos fecavit, quem instanti judicium tradidit, teh mihi reformat," the auth. says, "Quam obrem addes animo, judices, & timorem, si quern habebis, depositum,"

AXIOTEIA, in Biographia, a female philosopher of Greece, who lived in the time of Plato. Such was her thirst for knowledge, that she disguised herself in men's clothes, in order to attend the Lectures of that philosopher. She is in Diog. Laert. i. iii. c. 48.

AXIS properly signifies a line, or long piece of iron or wood passing through the centre of a sphere, which is moveable upon the same. In this sense we say, the axis of a sphere or globe; the axis, or axle-tree of a wheel, &c.

AXIS, in Anatomy, is the second vertebra of the neck, reckoning from the skull. It is thus called, because the first vertebra, with the head, move therein, as an axis. See Skeleton.

Axis, Spiral, in Architecture, is the axis of a twisted column drawn spirally, in order to trace the circumvolutions without. See Column, Twisted.

Axis of the Ionic capital is a line passing perpendicularly through the middle of the eye of the volute.

Axis of the world, in Astronomy, is an imaginary right line, which is conceived to pass through the centre of the earth, and to terminate at each end in the surface of the mundane sphere.

About this line as an axis, the sphere in the Ptolemaic system, is supposed to rotate. This axis is represented by the line PQ, Plate II., fig. 3. The two extreme points in the surface of the sphere, viz. 1 and 0, are called its poles.

Axis of the earth, is a right line upon which the earth performs its diurnal rotation from west to east.

Such is the line PQ, fig. 19. — The two extreme points are also called poles.

The axis of the earth is a part of the axis of the world. — It always remains parallel to itself, and at right angles with the equator. See Angle, Inclination, and Parallelism.

Axis of a planet, is a line drawn through its centre, about which the planet revolves.

The sun, Earth, Moon, Jupiter, Mars, and Venus, are known, by observation, to move about their several axes; and the like motion is easily inferred of Mercury, Saturn, and the Heavenly bodies.

Axis of the horizon, equator, ecliptic, colure, &c. are right lines drawn through the centres of these circles, perpendicular to their planes.

Axis, in Geometry, a taper column placed in the centre of a figure, or any figure, about which the other parts are disposed. It is a perpendicular line.

Thus a sphere is conceived to be formed by the rotation of a hemisphere about its diameter or axis, and a right cone by that of a right angled triangle about its perpendicular leg, which is here its axis.

Axis is yet more generally used for a right line proceeding from the vertex of a figure to the middle of its base.

Axis of a circle or sphere, is a line passing through the centre of the circle or sphere, and terminating at each end in its circumference.

The axis of a circle, &c. is otherwise called its diameter.

Axis of a right or Cylindrical cylinder, is properly that line, which is perpendicular to the axis of the cylinder, about which the rectangular parallelogram turns, by whose revolution the cylinder is formed.

In general, the right line which joins the centres of the opposite bases of cylinders, whether they be right or oblique, is denominated their axis.

Axis of a right cone, is the right line or side upon which the right-angled triangle forming the cone makes its motion. Hence it follows, that only a right cone can properly have an axis; because an oblique cone cannot be generated by any motion of a plane figure about a right line at right, but because the axis of a right cone is a right line drawn from the centre of its base to the vertex; the writers of cones, by way of analogy, like, because the like line drawn from the centre of the base of an oblique cone to the vertex, its axis.

Axis of a conic section, is a right line passing through the middle of the figure, and bisecting all the ordinates at right angles.

Thus if AP (Plate, Conics, fig. 31.) be drawn perpendicularly to FF, so as to divide the section into two equal parts, it is called the axis of the section.

Or, the axis of a conic section is a line drawn from the principal vertex, or vertices, perpendicular to the tangent at that point.

Axis, transverse, called also the first or principal axis of an ellipse,
ellipse, is the axis AP, last defined; being thus called in contradiction to the *conjugate* or *focal axis*.

Or, in the ellipse and hyperbola, it is the diameter that passes through the two foci, and the two principal vertices of the figure.

The transverse axis in the ellipse is the longest; and in the hyperbola it cuts the curve in the points A and P (fig. 32.) and is the shortest diameter.

**Axis, conjugate, or focal axis**, of the ellipse and hyperbola, is the diameter passing through the centre and perpendicular to the transverse axis. Such is the line FE (fig. 31.) drawn through the centre of the ellipse C, parallel to the ordinate MN, and perpendicular to the transverse axis AP; being terminated at each extreme by the curve. And, in the hyperbola, it is the right line FE (fig. 32.) drawn through the centre parallel to the ordinates MN, MN, perpendicularly to the transverse axis AP. In the ellipse and hyperbola, the conjugate axis is the shortest of all the conjugate diameters. The axis of a parabola is of an indeterminate length; that is, it is infinite. The axis of the ellipse is determinate. The parabola has only one axis; the ellipse and hyperbola have two.

**Axis of a Curve Line**, in general, denotes that diameter which has its ordinates at right angles thereto, when that is possible. For, as in the conic sections, any diameter divides all its parallel ordinates, making the two parts of them on both sides of it equal, and the diameter which is perpendicular to such ordinates is an axis; and in curves of the second order, if any two parallel lines meet with the curve in three points, the right line which cuts these two parallels so that the sum of the two parts on one side of the intersecting line, between it and the curve, is equal to the third part terminated by the curve on the other side, then the said line will in like manner cut all other parallels to the former two lines, so that with respect to every one of them, the sum of the two parts, or ordinates, on one side, will be equal to the third part, or ordinates, on the other side. Such intersecting line is then a diameter; and that diameter, whose parallel ordinates are at right angles to it, when that is possible, is an axis. The centre is the same with regard to other curves of still higher orders. Newton, Enumeratio Linearum Tertii Ordinis, § 2, art. 1.

**Axis of a Magnet, or Magnetical Axis**, is a line passing through the middle of a magnet lengthwise; in such manner, as that however the magnet be divided, provided the division be made according to a plane, in which such line is found, the magnet will be cut or separated into two half-magnets; and the extremities of such lines are called the poles of the line. See MAGNET.

**Axis, in Mechanics.** The axis of a balance is the line upon which it moves or turns. See BALANCE.

**Axis of Oscillation.** is a right line parallel to the horizon, passing through the centre, about which a pendulum vibrates; and perpendicular to the plane in which it oscillates. See OSCILLATION, and PENDULUM.

**Axis in Peritrochosis, or Wheel and Axis.** is one of the five mechanical powers, or simple machines, contrived chiefly for the raising of weights to a considerable height. It consists of a circle, represented AB (Plate 1, Mechanics, fig. 5.) concentric with the base of a cylinder, and moveable together with it, about its axis EE. This cylinder is called the axis; and the circle, the *peritrochoid*; and the radii, or spokes, which are sometimes fitted immediately into the cylinder, without any circle, the *rotula*. Round the axis winds a rope, or chain, by means of which the weights, &c. are to be raised, upon turning the wheel.

The axis in peritrochosis takes place in the motion of every machine, where a circle may be conceived as described about a fixed axis, concentric to the plane of a cylinder, about which it is placed; as in crane-wheels, mill-wheels, capstans, &c.; a gambrel and an ancre to bore with may also be referred to the wheel and axis.

**Axis in Peritrochosis, properties of the.**

1. If the power applied to the axis peritrochosis, in the direction AL (fig. 6.), being a tangent to the periphery of the wheel, or perpendicular to the level or spoke, be to a weight W, as the radius of the axis CE is to the radius of the wheel CA, or the length of the spoke; the power will just sustain the weight, W; the weight and the power will be in equilibrium.

2. If the power applied to the axis peritrochosis, be to a weight W, as the radius of the axis CE is to the radius of the wheel CA, or the length of the spoke; and the power be the same as the weight; then there will be an equilibrium, when P : W :: W's distance from the centre of motion, or radius of the axis ; radius of the wheel. Or, since the directions of P and W are perpendicular to their respective distances from their centre of motion, they are wholly efficient; and P's velocity is to W's velocity, as the periphery of the wheel to the periphery of the axis; and consequently, when there is an equilibrium, P : W :: periphery of the axis : periphery of the wheel :: radius of the axis : radius of the wheel.

3. The thickness of the rope, to which W is appended, be not inconsiderable, it ought not to be neglected; for when one or more coils or spares of the rope are folded about the axis, the distance of W's direction from the centre of motion is increased, and becomes equal to the sum of the semi-diameters of the axis and ropes; and there is an equilibrium when P : W :: the whole distance of W's direction from the centre of motion : radius of the wheel.

4. A power applied in F, pull down the wheel according to the line of direction FD, which is oblique to the radius of the wheel, though parallel to the perpendicular direction; it will have the same proportion to a power which acts according to the perpendicular direction AL, to which the whole line has to the line of the angle of direction DFC. For, since FD is perpendicular to AC, DC will be the distance of the power applied at F from the centre of motion; consequently the power at F : W :: EC : CD; and the power at A : W :: EC : CA; consequently the power at F : power at A :: CA : CD: But if CA or FC be taken for the whole fine or radius, CD will be the line of the angle DFC; and the power at F will be to the power at A :: the whole fine is to the fine of the angle of the direction DFC, in case of an equilibrium between the power and weight.

Hence, since the distance of the power in A is the radius CA, the angle of direction DFC being given, the distance DC is easily found.

5. Powers applied to the wheel in several points, F and K, according to the directions FD and Kl, parallel to the perpendicular one AL, are to each other as the distances from the centre of motion CD and CI, reciprocally. For the power at F : W :: EC : CD; and the power at K : W :: EC : IC; consequently the power at F : power at K :: IC : CD.

Hence, as the distance from the centre of motion increases, the power decreases, and vice versa, the weight being the same. Hence also, since the radius AC is the greatest distance, and corresponds to the power acting according to the line of direction; the perpendicular power will
will be the smallest of all those able to sustain the weight W, according to the several parallel lines of direction.

4. If a power acting according to the perpendicular AL, raise the weight W, the space passed through by the power will be to the space passed through by the weight, as the weight to the power which is able to sustain it.

For in each revolution of the wheel, the power passes through its whole periphery; and in the same time the weight is raised through an interval equal to the periphery of the axis; the space of the power therefore is to the space of the weight, as the periphery of the wheel to that of the axis; but the power is to the weight, as the radius of the axis to that of the wheel. Therefore, &c.

5. A power and a weight being given, to construct an axis in rectrochisis, by which the weight shall be sustained and raised by the given power. Let the axis be large enough to support the weight without breaking. Then, as the weight is to the power, so make the radius of the wheel, or the length of the spoke, to the radius of the axis.

Hence, if the power be but a small part of the weight, the radius of the wheel must be vastly great. — Ex. gr. Suppose the weight 4950 and the power 50, the radius of the wheel will be to that of the axis as 81 to 1. But such a machine would be of an inconvenient size; and it may therefore be provided against by increasing the number of the wheels and axes; and making one to turn round another by means of teeth or pinsions.

To find the effect of a number of wheels and axes, thus turning one another, multiply together all the radii of the axes, and all the radii of the wheels, and then it will be, as the product of the former is to the product of the latter, so is the power to the weight. Thus, if there be four wheels and axes, the radius of each axis being one foot, and the radius of each wheel being three feet; then the continual product of all the radii of the wheels is 3\times3\times3\times3, or 81 feet; and that of the radii of the axis only is; consequently the effect is as 81 to 1, or the weight may be 81 times the power. On the contrary, if it be required to find the diameter of each of four equal wheels, by which a weight of 4950 lb. shall be balanced by a power of 50 lb. the diameter of each axis being one foot; divide 4950 by 50, and the quotient is 81; extract the fourth root of 81, or twice the square root, and it will be 3, for the diameter of each of the four wheels sought. See WHEELS. See also MECHANICAL POWER.

6. If P and W act in the same plane, and in the directions PD and WD (fig. 7 and 8.), meeting in D, and be in equilibrium, they are equivalent to a third force, or prejine upon the axis at A, whose direction meets PD and WD in D (see Motion); and producing PD, WD, these three forces are to each other, as the sides DF, DE, and diagonal DG, of the parallelogram EF; consequently P : W :: DF : DE, or drawing AN, AM, perpendicular to WD and DP, respectively, P : W :: AN : AM. See LEVER.

7. The prejine upon the axis at A (i. e. Pr.) : P :: DG : DF :: sin. \angle DGF or PDW : sin. \angle FGD or ADW : Pr. : W :: DG : DE :: sin. \angle DEG or PDW : sin. \angle DGE or ADP, and P : W :: sin. \angle ADW : sin. \angle ADP.

Axis of a Vessel, is that quiescent right line passing through the middle thereof, perpendicularly to its base, and equally distant from its sides.

Axis, in Optics. Optic axis, or visual axis, is a ray passing through the centre of the eye; or it is that ray, which, proceeding through the middle of the luminous cone, falls perpendicularly on the crystalline humour, and consequently passes through the centre of the eye.

Axis, Common, or Mean, is a right line drawn from the point of concourse of the two optic nerves, through the middle of the right line which joins the extremity of the same optic nerves.

Axis of a Lens, or Glafs, is a right line passing along the axis of that solid, of which the lens is a segment.

Thus, a spherical convex lens being a segment of some sphere, the axis of the lens is the same with the axis of the sphere; or it is a right line passing through the centre thereof. Or, the axis of a glafs is a right line joining the middle points of the two opposite surfaces of the glafs. See LENS.

Axis of Incidence, in Dioptrics, is a right line drawn through the point of incidence, perpendicularly to the refracting surface. See INCIDENCE.

Axis of Refraction, is a right line continued from the point of incidence or refraction perpendicularly to the refracting surface, along the farther medium. Or, it is that made by the incident ray, perpendicularly prolonged on the side of the second medium. See REFRACTION.

Axis, in Zoology, a species of the Cervus, or Stag genus, with branched, round, erect horns, that are biisp at the summit; and the body spotted with white. Erxleb. Mamm. p. 312. Schweber, &c.

The axis, according to Sonini and others, is an animal almost peculiar to the colder parts of Asia; it inhabits the wooded mountains of the Celebes, Java, and Ceylon, in great numbers, but it is still more abundant on the banks of the river Ganges, and for that reason is not unfrequently called the Ganges flag. The axis multiplies fall in the parks and menageries of England, France, and other parts of Europe; and being a most graceful animal, is no small ornament to the grounds of the nobility and gentry. It is said to propagate with the female of the common flag; and it is equally probable, that the female axis would produce with the male of the other kind.

This animal was known to the ancients by the name of axis. Pliny speaks of it as a native of India, and informs us likewise that it was consecrated to Bacchus. Its size is nearly that of the fallow deer; colour above pale rufous brown, elegantly spotted with white, beneath white; tail like that of the fallow deer, and rufous above, and white beneath. The axis is easily tamed; its smell is exquisite; and flesh very good when salted.

Gmelin, on the authority of Pennant, speaks of two varieties of this creature: the first, with a body uniformly of one colour, with the extremity of the horns trifurcated; and the other with horns that are also trifurcated, but larger, and whiter. These are the middle axis and spotted axis of Dr. Shaw; and are thus noticed in the Gen. Zool. of that author — "Middle axis. Whether this be a variety of the former (spotted axis), or specifically distinct, does not appear perfectly clear. It is, according to Mr. Pennant, of a middle size between the spotted axis and the great axis or following kind. In the colour of its hair, it resembles the first sort; but is never spotted. It, however, is liable to vary into white, in which state it is considered as a great rarity. It inhabits dry hilly forests in Ceylon, Borneo, Celebes, and Java, where it is found in very numerous herds. Its flesh is much esteemed by the natives, and is dried and salted for use."—"Great axis. The existence of this species, or variety, is ascertained from a pair of horns in the British Museum, resembling the former kinds in shape, but of a larger size;
they measure two feet nine inches in length, are of a white
ish colour, and are very strong, thick, and rugged. Mr.
Pennant conjectures that they were brought from Ceylon
Borneo, having been informed by Mr. Lenten, who had
long resided in the former of these islands, that a very large
kind of flag, as tall as a horse, of a reddish colour, and
with trifurcated horns, existed there as well as at Borneo.
In Borneo, they are bred to frequent low marshy places, and
to be called by the name of water flags."

AXUS, now VARNA, in Ancient Geography, the larg-
est river in Macedonia, springing from two fountains in the
Scardian mountains, and after a course of eighty miles,
spreads itself into an extensive lake below the city of Eud refusal.
There receiving the Erêna, it falls into the bay of Thrus-
lonica, almost opposite to that city. — Also, a river of Syria,
which passed Apamaea.

AXLE-Tree. See Axis.

AXMINSTER, spelt in old writings AXMISTER, in
Geography, is the name of a market town in Devonshire,
situated on the great leading road from London to the
West of England. It is said to derive its name from the river
Ax, on which it is situated, and a minster, founded here by
king Athelstan, for seven priests, who were appointed to pray
for the souls of some of his army that were slain in a dread-
ful conflict with the Danes. A place in the neighbourhood
is still called King's-bells, and another place bears the name
of Kirkington, from Kilmenster. A castle was formerly
standing in the town; and the market, held on Saturday,
is kept in a place still bearing that name. Whatever fice or
character the minster might originally possess, it has been
nearly destroyed; and the parish church, though large, has
fearfully any appearance of antiquity. A small Saxen arch,
with zigzag mouldings and appropriate capitals, is preserved
in the east end of the south aisle. Axminster is a healthy,
clean town, pleasantly situated on rising ground, which
shades on the western side to the river. A considerable ma-
ufactory of carpets is carried on here, the peculiar make
and character of which have obtained them the name of
Axminster carpets. They are woven in one entire piece,
and several persons are employed at the same time in work-
ing the coloured patterns. The manufacture was first es-
blished here in 1755, by the grandfather of the present pro-
pietor. Since that time the trade has much increased, and
now above one hundred hands are constantly employed in
the different processes of making a carpet. (See Carpet.) Be-
side the perfections engaged in this manufacture, Axminster
is inhabited by several others, who carry on the making of broad
and narrow cloths, cotton tapes, druggets, leather breeches,
and gloves. Here are two meeting houses, one for Independ-
ents, and the other for Methodists; also a Roman Catholic
chapel. Axminster has the advantage of a Sunday school,
and also a free school. The neighbourhood is adorned with
several respectable and handsome manor-houses, of which Stute
House and Ford Abbey are the most considerable. The first
belongs to the De La Poole family, and the second to Fran-
cis Gwynn, esq. This is a large respectable structure, many
parts of which are the same as originally belonged to the
p. 258; and Beauties of England and Wales, vol. iv.

AXOLOTI, in Ichthyology, a singular fish found in
the lake of Mexico. It has four feet like the lizard, no scales,
a mouth like a woman, and the menstral flux. It has the
taste of an eel.

AXON, in Ancient Geography, a river of Asia Minor, in
Caria, formed by the reunion of two small streams, and
running south from the town of Calyda, discharged itself
into the north-west part of the gulf of Glauceus, to the
north-west of the monastery of Pedailum.

AXONA, a river of Belgic Gaul, now the Aisne.
AXUM, in Geography, once the large and populous
capital of Abyssinia, in the province of Tigre, existed in
a flourishing state for a long time, at the beginning of the 6th
century, but was ruined in that century by the Turkish
invader. It is now a village, or at least an inn, inhabi-
ted town, exhibiting in its ruins traces of its ancient magni-
tude and importance. The ancient city of Axum was
built, according to Mr. Bruce, by a colony of Cushites,
and he cites an Abyssinian tradition, which says, that it was
built by them early in the days of Abraham. See AY-
sinia. As the Abyssinians never built any city, and no
ruins of any exist at this day in the whole country, this
traveller conceives, that Axum was the magnificent metrop-
olis of the trading people, or Troglodyte Ethiopians,
called Cushites, who constructed, in many places, buildings
of great strength, magnitude, and expense, especially at
Axin, suitable to the magnificence and riches of a state,
which was from the first ages the emporium of the
Indian and African trade. As Axum is situated about
midway between Abyz and Meroe, it points out the road
taken by the caravans that passed between the Ganges and the
Mediterranean. The ruins of Axum are very extensive; but like those of the cities of
ancient times, they consist altogether of public buildings.
In one square, supposed by Mr. Bruce to have been the
centre of the town, there are forty obelisks, none of which
have any hieroglyphics upon them. One of these, which is
still standing, is larger than the rest; and there are two
of a larger size that are fallen. They consist in one piece
of granite; and on the top of that which is standing,
there is a patera exceedingly well carved in the Greek taste.
The structure of this obelisk, and of the two larger that are
fallen, is ascribed by Mr. Bruce to Ptolemy Euergetes.
Upon the face of the obelisk, there is a great deal of carv-
ing in the Gothic taste, somewhat like metopes, triglyphs,
and guttae, disposed rudely and without order; but there
are no characters, or figures. The face of this pyramid, of
which Mr. Bruce has given a geometrical elevation, looks
deepest; it has been placed with great exactness, and
has preserved its perpendicular position to the present
time. On the face, forting the south, is the representation
of a door, with a lock and bolt, such as are used at this day
in Egypt and Palestine. This obelisk is supposed to have
been erected by Ptolemy Euergetes, who conquered this
city and the neighbouring kingdom, and who was the pa-
tron of Eratosthenes, for the use of this astronomer in
ascertaining the latitude. It was first cut into a nar-
row mass, then spread out like a fan in a semicircular form,
with a pavement curiously levelled to receive the flake,
and to mark the separation of the true shadow from the
penumbra as distinctly as possible. The edifice, thus con-
structed, was probably intended for verifying the ex-
periments of Eratosthenes with a larger radius, and not for
observing the obliquity of the ecliptic at Axum. For
though Axum, by its situation, was a very proper place,
the path lying over that city and obelisk twice a year;
but he could not make use of the sun's being twice vertical
to this city, because it is vertical about the 25th of April and
about the 25th of August; but at those times, the
heavens are so overcast with clouds, and the air so con-
tinual, especially at noon, that it must have been very ex-
traordinary if Ptolemy had once seen the sun during the
months of his residence in this place. Beyond the convent
of Abba Pantaleon, and a small obelisk erected on a rock,
above
above, there is to the south a road cut in a mountain of red marble, having on the left a parapet wall about five feet high, solid, and of the same materials. In this wall, at equal distances, are heavy solid pedestals, bearing on their tops the marks where stood the colossal statues of Sirius, the Harroun abu, or dog-star. Of these pedestals, with the marks of the statues put mentioned, there are 133 hill in their places; but there remained only figures of the dogs, which were much mutilated, and evidently in the Egyptian taste. These are composed of granite; but none of them appeared to Mr. Bruce to have been metal. There are also pedestals, on which the figures of the fabius have been placed. Two magnificent flights of steps several hundred feet long, all of granite, exceedingly well fashioned, and hill in their places, are the only remains of a magnificent temple. In the angle of this platform, where the temple stood, is the present small church of Axum, sublimated for one destroyed by Mahomet Gracq in the reign of king David III., and which was probably the remains of a temple built by Publey Emergetes, if not the work of more remote times. The church is a mean, small building, and very negligently kept. Mr. Bruce apprehends, that some ancient copy of the O. T. was deposited here, probably that from which the first version was made; but whatever it might be, it was destroyed, together with the church itself, by Mahomet Gracq; though the superstitious people have a tradition that it still subsists there. Another relic, preserved in this place, is a picture of Christ's head crowned with thorns, laid to have been painted by St. Luke, which, upon occasions of singular importance, is brought out and carried with the army, especially in a war with Mahometans and Pagans. Within the outer gate of the church are three small square inclosures, all of granite, with small octagon pillars in the angles, apparently Egyptian; on the top of which were formerly small images of the dog-star, probably of metal. Upon a rose, in the middle of one of these, the king sits and is crowned, and this ceremony has always subsisted since the days of Paganism; and below it, where he places his feet, is a large oblong slab of free stone; bearing the following inscription, much defaced,

"ITTOHEMATOF ETMETOT BAXAEON."

Adjoining to Axum is a road, formed by large stones. Rounding edgeways, or heaped upon one another, which is apparently the remains of an old causeway, part of the magnificent works about this city.

The present town of Axum stands at the foot of a hill, and contains about 600 houses. It is watered by a small stream, which flows constantly from a fountain in the narrow valley, where the rows of obelisks stand. The spring is received into a magnificent basin, 150 feet square, and thence it is carried, at pleasure, to water the neighbouring gardens, where there is little fruit, except pomegranates, which are not very excellent. In the town are several manufactures of coarse cotton cloth; and here also the best parchment is made of goats' skins, which is the ordinary employment of the monks. Every kind of vegetation seems later at Axum, and its vicinity, than at Adowa. N. lat. 14° 6' 30". E. long. 38° 39'. Bruce's Travels, vol. III. p. 128, &c.

AXUNGLIA, a kind of fat, the hardest and driest of any in the bodies of animals. The word is supposed to be formed of one root word geunun+, from its being used as the grease of wheels. The Latins distingued it into plagaeat, and adpe+, or fexus; which last, when old, is particularly called axun-gis; but many of our modern writers confound them. Physicists make use of the axungla of the goats, the dog, the viper, and some others, which is held by some to be of extraordinary service in the drawing and ripening of tumours, &c.

AXUNGLA of Glufs, called also the gall, and salt of glufs, is a salm taken from the top of the matter of glufs before it be thoroughly vitrified. It is used in cleansing the teeth, and by barbers for clearing the eyes of horses.

AYXLOX, in Ancient Geography, a country of Asia, toward Syria and Carthage. 


Species, 1. A. ammonite, simple spiked axyris. Gmel. h. 3. 21. t. 2. f. 2. and t. 3. "Leaves ovate, stem erect, spikes simple." Leaves rough, with foliaceous hairs: fruit-bearing branches, naked at the base; spike very small, subculiform, quite simple, terminal. It is observed by Gmelina, that the small axyris flower is two or three-leaved. Cultivated by Miller in 1758. 2. A. hybridus. Gmel. i. c. "Leaves ovate; stem erect; spikes conglomorate." This differs from the first, in the spike of flowers being on long peduncles, conglomerate, or directed the same way, twisted, with the fruit-bearing branches crowded close to the stem, and the leaves more rough. Pallis suffusostis is to be only a variety of the former plant. According to Gmelina, the calyx is three-leaved, and there is but one leaf in the female flower.

3. A. pyriformis. Gmel. i. c. "Leaves obovate; stem sub-divided; flowers headed." Stem much branched, fix or seven inches high; leaves on stalks; flowers at the ends of the branches, conglomerate, with numerous leaves among them. The female calyx as also three leaves according to Gmelina. All these are annual plants, and natives of Siberia.

AXYRIS Ceratinoides now constitutes a new genus, under the name Doit., which see.

AYY, in Geography, a town of France, in the department of Marne, and chief place of a canton in the district of Rheims, seated on the Marne; famous for its good wines; four leagues south of Rheims, and one N.E. of Epernay. The place contains 2583 and the canton 11550 inhabitants; the territory includes 180 kilometres and 22 communes. N. lat. 49° 1'. E. long. 2° 15'.

AYY, Pulo, one of the Bandar islands, in the Indian sea, about three leagues in circumference, where the Dutch have erected a fort.

AYAG, or Kayachu, one of the Andracosfie islands, in the Eastern or Pacific Ocean, about 150 versts in circumference, and consisting of several high and rocky mountains, the intervals of which are bare heath and poor ground; but in the whole island, there is not one forest tree. The vegetables resemble those of Kameretah. It furnishes small quantities of crow or crake-berries, and the larger sort of bilberries; but of the roots of beet and all kind of indueed, such abundance as to afford, CAFE of necessity, a plentiful provision for the inhabitants. There is one main rivulet; and there are many good bays and anchoring places. The population cannot be precisely ascertained, as they are continually emigrating from island to island in their baidars.

AYAMONTE,
AYAMONTE, a sea-port town of Spain, situate at the mouth of the Guadiana, on the frontiers of Portugal, with a good haven in the gulf of Cadiz; small, but well fortified, and defended by a castle on a rock; 53 miles W. S. W. of Seville. The adjacent vineyards are fruitful, and the wine excellent. N. lat. 37° 13'. W. long. 8° 5'. See Aimaonte.

AYAMS, derived from an Arabic word which signifies eyes, a name given to a class of officers in the provinces of the Ottoman empire, whose business it is to watch over the safety and the fortune of individuals, and also over the good order and defence of a town; to refrain the unjust enterprises of the pachas, and the exactions of the military, and to concour in the just affluence of the taxes.—Appointed by the people, those who undertake this honourable function, are generally men reputed the most virtuous; there are several of them in the great towns, and a single person superintends several villages in the plains. They receive no other recompense for their trouble and zeal, than the respect with which they are treated, and the satisfaction of being useful. The Ayams call to their divan the notables of the town and the lawyers, in order to discharge the most important subjects, to digest the remonstrances that are proper to be made to the pachas, and to establish the grounds of those complaints which they judge necessary to be presented against him to the Porte. Olivier's Travels in the East, p. 200.

AYBAR, in Geography, a town of Spain, in Navarre, on the river Aragon; one league from Sangües. See Aybed.

AYBED, a place of Egypt, on the coast of the Red Sea, where the merchandises of Africa were landed.

AYBLING, a town of Germany, in Upper Bavaria, twenty six miles S. E. of Munich.

AYCHA, a town of Bohemia, in the circle of Bohma; fifteen miles north of Jurgenthal.

AYDHAB, a place of Africa, in Egypt, on the coast of the Red Sea. N. lat. 21° 53'. E. long. 36° 25'. See Andrab.

AYE, a town of Norway, in the island of Shetney.

AYE-AyE, in Zoology, a singular quadruped discovered by Sonnerat, in the island of Madagascar; and described in his voyage to the East Indies (tom. ii. p. 137). The name appears to have no precise meaning; it is an exclamation of the people of Madagascar, and which M. Sonnerat applied to this animal. It is found chiefly, if not exclusively, on the western side of the island.

In size the creature is equal to a rabbit, measuring in a right line from the muzzle to the origin of the tail, fourteen or fifteen inches, and the tail being rather longer than the body. The head is formed like that of a squirrel; the incisive teeth are very contiguous, and so placed as to resemble in some manner, the back of a parrot; but the two in the lower jaw are much stronger than those in the upper one. The ears are naked, large, and rounded at the tip, as in several of the bat tribe. The toes on each foot are five in number; and the first or innermost one, which serves as a thumb to the hind feet, has a large and flat nail as in the maitoe tribe (maceo, or lenur). A very distinguished character of this animal is the length of the toes on the forefeet; the twoJoint points of the middle toe above all are very long, slender and delicate of hair, and the nails are hooked.

The fur is as coarse as horse-hair; and is of a purplish, or mahogany-brown colour, intermixed with black and grizzled ash, upon the head, and back, about the eyes, legs, and thighs, is a deep mottled-colour; on the eyelids, and several parts of the body and limbs, black however predominates, and the tail is of this latter colour; that of the face, throat, and belly is greyish white, or slightly tinged with rufous in some places; it does not carry the tail elevated like a squirrel. The female has two teats on the lower part of the belly.

M. Sonnerat, who saw both the male and female, speaks of them as being very florish and gentle animals; and which, like the owls, are scarcely able to discern objects in the day time. They live chiefly under ground, feeding on worms and insects which they find in the earth, or in crevices in the trunks of trees, from whence they extract them with the greatest facility, by means of their long slender toes before mentioned. Tho' which Sonnerat kept alive, were served with rice, and he observed that they fed themselves with the two long toes of their forefeet, in the same manner as the Chinese do with their chop-sticks when eating rice at their meals.

Sonmini forms a new genus of this animal, under the name of Chironyx (or rat a main), observing that it is the only species of its genus known. The generic character, according to this author, consists in the toes being very long, and the thumb of the hinder pair being bent aside, or turning rather backwards. He confers Mnihius for calling it feirinu Madagascarius or Madagascar squirrel, because a quadruped of that genus really exists in Madagascar. —Mnihius thus specifically describes his S. Madagascaricus; middle toe of the fore-feet naked, and very long; thumb nail of the hind-pair rounded.

AYE-L., Fr. or Ayve, in Law, a writ which lies where the grandfather was seise in his demesne on the day he died, a stranger enters the same day and dispossesses the heir. See Assise de Mort, &c.

AYEN, in Geography, a town of France, in the department of the Corrèze, and chief place of a canton in the district of Brive; fourteen miles N.S.W. of Uzerche. The place contains 935 and the canton 8592 inhabitants; the territory includes 1372 square kilometres and 12 communes.

AYEÑA, in Botany, (named in honour of the duke D'Ayen, duke and marquis de Nueilles). Linn. p. 1520. Schreb. 357. Gartn. 79. Jaff. 258. Claffs, gynandria pentandra; or, according to Schreber, pentandra monogynia. Nat. Order of communes.—Malvañae, Jaff. Gen. Char. Cal. perianth one-leafed, five parted; parts ovate, oblong, acute, coloured in the middle, reflex, withering. Cor. five-leaved, united at the top to the nectary into a flat flar; claws of the petals capillary, very long, bowed outwardly; borders obsolete, reflexuate, with clubbed tips turned upward; nectary bell-shaped, fitting on a cylindrical, erect column, shorter than the calyx; border five-lobed, lobes elevated; above flattish, with a longitudinal furrow, excentric underneather, shafpy. Stem. filaments five, very short, inserted into the margin of the nectary, on the top of the ribs, between the divisions of the border, each bent downwards through a notch at the end of each petal; anthers roundish, under the borders of the petals. Per. germ roundish, five-corned, at the bottom of the nectary; flake cylindrical; ligula obtuse, five-lobed. Per. capsule five-ribbed, roundish, mucratic, five-celled, ten-valved, clafhich. Seeds follicular, rather oblong, gibbous on one side, angular on the other.


Species, 1. A. pulzla; smooth ayenia. Mill. Dict. fig. 1. 18. "Leaves cordate, smooth." Stem weak, woody, from nine inches to a foot high; leaves alternate, indented, pointed, flaked; flowers at the base of the pistils, two, three, or four, from the same point, on separate peduncles; corolla purple, tubulous, spreading at the top into five segments, each terminated by a slender tail. A native of Peru. Cultivated by Miller, in 1756. Its flowers appear in succession from July till winter. 2. A. tenomenta. "Leaves ovate,
AYE

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owate, roundish, tomentose." Leaves of the caydia lanceolate, acute, permanent; corolla without petals, but composed of a one-seed bell-shaped nectarary, with a five-leaf margin; itamea on the outside of the nectarary, longer than the caydia, bowed, bent in, and fixed by a broad membranous tip, to the edge of the nectarary; anthers three. A native of South America. 3. A. mucronata. Jacq. Amer. Pict. p. 112. "Leaves corymbous pendent; germ of the flowers feblate." An upright shrub five feet high; leaves acuminate, serrate, alternate, tomentose; flowers short, axillary, mostly in four; three-flowered; flowers small, herbaceous, not gynandrous. A native of Carthagena and other places of South America. 4. A. lineata. Swartz. Prod. 97. "Leaves ovate, entire, very smooth, germ pedicellate, nectarary ten-leaf, radiate." A native of Jamaica.

Propagation and Culture. These plants are to be propagated by seeds sown on a temperate hot-bed, early in the spring; and when they have four leaves, they should be transplanted in another hot-bed to bring them forward, or in pots, and plunged into a hot-bed of tanner's bark. They must be flaked till they have taken root, and afterwards have free air admitted to them every day in proportion to the warmth of the season; they also require frequent watering. In winter they may be preferred in a moderate fire, but as they perfect their first year, it is not necessary to continue the old plants. See Martyn's Miller's Diet.

AYENNIS, in Geography, the name of an Indian tribe of America, in Florida.

AYERBA, a town of Spain, in Arragon, on the Gallego, between Saragossa and Jaca.

AYERBENGAI, a town of the island of Sumatra.

AYERSTOWN. See AYERTOWN.

AYERSTOWN, in Geography, the favourite wife of Mahomet, was the daughter of Abubeker, and the only one of Mahomet's numerous wives who was a virgin when she came to his bed. With this view, he married her at seven years of age, and cohabited with her at nine. He had no children by her; but so affectionate and constant was his attachment to her, that in his last illness he was conveyed to her house, and expired in her arms. Her enemies charged her with adultery on a particular occasion; and though the prophet had suspicions of her infidelity, he thought it most prudent, for preserving the dignity of his own character, to produce a fea-lonable revelation from heaven, attesting her innocence; and he punished her accusers as calumniators. After the death of Mahomet, Ayenina was held in great veneration by the Mussulmans, denominated "the mother of the faithful," and confounded on important occasions. Against the caliph Othman she conceived, for some reason that is not known, an invincible prejudice, and formed a plot for de-throning him. When Othman was assassinated by another enemy, she vigorously opposed the succession of Ali, because he had concurred in the accusation of her infidelity. Unit-ing with her favourites Telha and Zobeir at Mecca, and under a pretence of avenging the murder of Othman, she marched in a litter borne by a very strong camel, at the head of an army, towards Bassora, and on approaching the town, after force ineffectual resistance on the part of the in-habitants, she was met by a delegation sent to know her intentions, whom she harangued with great passion, and in a loud shrill voice, in a long speech. To her speech one of the Arabs replied, "O mother of the faithful, the murder of Othman was a circumstance of less moment than thy leaving home upon this cursed camel. God has bestowed on thee a veil and a protection; but thou hast rent the veil, and set at nought the protection." After some contfl, the troops of Ayenina gained possession of Bassora. But Ali advanced, and as Ayenina obstinately rejected all pacific counsels, a fierce battle ensued at a place called Horabbs, in which both Tellah and Zobeir were slain. The combat closed with harnftring the camel on which Ayenina was carried, and taking her prisoner. After some mutual reproaches between her and Ali, she was civilly dismissed, and went to Medina with an injunction to live peaceably at home, and to confine herself no more in affairs of state. This re-striction she afterwards rejected by refusing to suffer Hafan, the son of Ali, to be buried near the tomb of the prophet, which was her property. Having regained some degree of influence in the reign of the caliph Moawiya, she was con-firmed in the possession of her son Yezid. Soon after, she died, in the 58th year of the Hegira, A.D. 677, at the age of 67 years. Mod. Un. Hist. vol i. Her-dlot Bib. Or. p. 75.

AYGULA, in Zoology, a species of Simia, characterized by Linnaeus as the long-tailed, beardless, grey monkey, with a riling longitudinal tuft on the crown; the simia nigra magnitudinis medicei of Edwards; sigretta of Buff-ton; and egret monkey of Pennant. Linnaeus mentions an animal, apprehended to be a variety, with a roundish head, the face dark black, and the colour of the body less ferruginous. Mr. Pennant describes the egret as having a long face, and an upright pointed tuft of hair on the top of the head, hair on the forehead black; colour of the upper part of the body olivaceous; of the lower, chestrous; eyebrows large; beard very small; size of a small cat. It is said to inhabit India, and particularly the island of Java, and to be a very sportive and lively species; gamboling on the trees, and making a continual noise during the night. M. Cepede furnishes, that the ferrugineous monkey may perhaps be a variety of this species. Slav.

AYGULUS, in Entomology, a species of Scarabaeus, that inhabits India. Thorax with four dots; head tubercu-lated; wing-cases telfaceous; and no fore-tarsi. Fabricius.

AYLAH. See AILAM.

AYLESBURY, in Geography, is a large market and borough town in Buckinghamshire, in England; and may be considered the most considerable town in the county. It consists of several streets and lanes, which are irregularly disposed over an extensive surface of ground that rises in the midst of the rich vale of Aylesbury. Linnaeus describes the town as being principally built with timber when he visited it, but since that time it has been considerably enlarged and improved, and most of the houses constructed with brick. The improvements originated with Sir John Baldwin, who erected some considerable buildings, and raised a casemate three miles in length to facilitate the approach to the town through a road that was often miry and dangerous. This gentleman, in the time of Henry the eighth, also procured the affixes to be held here which had been before kept at Buckingham. In consequence of this, a county gaol, and also a handsome county hall, were erected. About the year 1600, Aylesbury became famous as the burial place of St. Olyth, who was born at Querendon in this neighbourhood, and beheaded in Essex by the Pagans. The burial place of a saint, in the dark ages of superstition, caused it to be much more frequented by sanctified enthusiasts, and Aylesbury became highly celebrated from this circumstance. Besides, the sisters Editha and Eadburga became palfessed of the manor, which after the conquest was given by the king to some of his favourites. The singular tenure, by which it was now held, serves to explain the customs of the times. This joined the lord of the manor to provide straw for the King's
King's bed and chamber, three cells for his sons in wait; and in summer, straw, rush, and two green geese, the every year of his visit at Stratford to the house. The chamber is a spacious and handsome room, built in the shape of a cross, with a low tower rising at the intersection of the nave and transepts. It contains a few ancient panellings, and on the south side is a room appropriated for a study. The church-yard is large, and divided into several walks, which are planted with double rows of trees. The tower was made a borough by charter, and empowered to send members to parliament on the 19th of January, 1559.

The right of voting is vested in all householders who do not receive ale, and their coopers and carriers. There are six annual fairs, at which the bulk of the trade is transacted; at the latter, great numbers of cloaks and shawls are sold to dealers from London. Many people in this town and its neighborhood derive support from their peculiar skill in breeding and rearing of ducks. To gratify fashionable luxury they contrive to prevent the ducks laying till the month of October and November; when, by heating and stimulating food they are beguiled to drop their eggs; these are scyelled and put under different hens, which are allowed to sit at an unseasonable time, and often made to continue in the nest for two or three broods. By this treatment the poor birds are often exhausted, and dies under her compellative duty. When the young ducks are hatched, they are placed near the fire and detered with particular care. By these methods, many ducklings are sent to the mercies of the vultures at Christmas, and have been known to fall fifteen feet; and a ginea per couple. The parish of Aylesbury, including the hamlet of Walton, occupies a large space of ground, and comprehends 697 houses and about 3051 inhabitants, the lower class of whom are usually employed in making of leather.
removed church. In this situation he continued for several years, attending to his duties as a judge of the peace, and one of the ecclesiastical commissioners, and entering very little into those disputes that would have subjected him to the notice of either of the two parties by whom he was suspected. In 1753, he accumulated the degrees of bachelor and doctor in divinity, in the university of Oxford; and in 1756, he succeeded his intimate friend and fellow exile in the see of London; but he incurred ridicule by comparing, and protecting for some years, a plot against him for dilapidations. Indeed, a prudent attention to his own inte- rest was a distinguishing feature in his character. In his church and episcopal capacity, he was singularly in public preaching, occasionally ranting, as it is said, the un- guid attention of his audience by reciting Hebrew verses from a pocket book; and in his efforts for guarding the church against the attacks both of papists and puritans. Perform of both these desiderations, and particularly the latter, were treated by him with a degree of severity, which was not only unwarrantable in itself, but which incurred occasional admonition from the ruling powers. His virulent abuse of some puritan minist'rs exposed him to the no less acrimonious allay of their facetious writers, so that he became the hero of the celebrated Martin Marprelate. See Fuller's Church History, l. ix. p. 223, 224. He was in- volved in a variety of disputes with respect both to the temporalities of his diocese, and his exercise of its spiritual jurisdiction; so that his life was far from being tranquil, though his spirit was bold and resolute, and enabled him to surmount the difficulties with which he had to encounter. Of his resolution and personal courage the two following influences are recorded: one was his submitting to the ex- traction of a tooth, in order to encourage Queen Elizabeth to undergo the same operation; and the other was his cud- gelling his son-in-law for misconduct towards his wife, who was a favourite daughter. Bishop Aylmer died at Fulham, in 1594, at the age of 73 years, and was buried in St. Paul's cathedral. He left seven sons and two or three daughters, to all of whom he left large legacies, which he was enabled to do by his economy and avoide. The char- acter of Aylmer delicately ranks high with respect to tal- lents and learning, but his temper is irreproachable; he was immediately food both of power and money; and he undoubtedly possessed an arbitrary and perfecting spirit. Biog. Brit. Andrew's Hist. of Brit. vol. i. p. 574.

AYLSHAM, or ALBICAN, in Geography, is a respectable market town in Norfolk, in England, situated in a flat and fertile country on the banks of the river Bure. In 1773, an act of parliament was obtained for making this river navigable hence to Coltishall in its course to Yarmouth, a distance of about nine miles, in which space there are five locks: the undertaking was completed in 1779. This town is the capital of the manor of the duchy of Lan- caster, in consequence of which the dechy court is always held here. The manor was granted by Edward III. to the famous John of Gaunt, duke of Lancaster, who built a handsome church in the town, and dedicated it to St. Mi- chael. A free-school was founded here in 1577 by Ro- bert Junius, who was then mayor of Norwich. Aylsham is about eleven miles from Norwich, and 120 from London. It has two annual fairs, and a weekly market on Tuesday: this was formerly held on Saturdays, but has been altered to the former day. Hilory and Antiquities of Norfolk, 10 vols. 8vo.

AYMARES, a jurisdiction of South America, in the diocese of Culceo, about 40 leagues south-west from Culceo. This territory abounds in sugar, cattle, and grain, and is also in mines of gold and silver, which formerly produced large quantities of these valuable metals; but at present few of them are wrought, the country being too thinly inhabited. AYMARGUES. See Aimargues.

AYMOUTH. See Eymouth.

AYNAC, a town of France, in the department of the Lot, and chief place of a canton in the district of Figeac, twelve miles N. W. of Figeac.

AYQUANTOTOTUL, or Avis Ayquantaototul, in Ornithology, the name under which the Oryctes Xanthornus of Gmelin is described by some old writers. Vide Her. M. x. 56a, &c.

AYSCHEM, in Geography, a small place of Spain, in the province of Valencia, upon the river Xacar, at the foot of a mountain, one league from the frontiers of New Castile; the inhabitants of which are said to speak Castilian in its purity.

AYOTECOS, high mountains of America, in Mexico, in the province of Talceda, towards the coast of the South Sea.

AVRSHIRE, a county in the south-western part of Scotland, bounded on the north by the county of Renfrew, on the east by the firths of Lornark and Dumfries, on the south by Galloway, and on the west by the firth of Clyde.

AYSHIRE, in History, a province in Scotland, on the coast of Clyde, and the greater part of Cambusneak, pre- sent a fine, level, cultivated country, intersected with numerous towns and villages. Its rivers are the Tweed, the Ayr, the Esk, the Annan, the Urr, the Conon, the Doon, and the Lugar. This county includes two royal burghs, the Ayr and Irvine, and several towns, among which are Beith, Ballantrae, Girvan, Kilmarnock, Kilwhilling, Largs, and Saltcoats. Ayshire polishes many valuable teams of coal, also former quarries of freestone, limelime, ironstone, and several rich beds of lead and copper ore. A few curious specimens of agates, porphyries, and calcareous petrifications are often found in the hills of Carrick; and a species of whetstone, known by the name of Ayr-stone, is obtained from this county. The population of it, as returned to the house of commons in 1802, was 8,3506, of which 39,666 were males, and 44,640 females.

AYR, the principal town in the above county, is a royal borough of considerable antiquity, and the seat of a judicary inferior court. It was nominated a royal borough by William the Lion, in 1180, and the privileges by charter then granted are still enjoyed by the town. It is pleasantly seated on a point of land which projects into the sea, between the inlets of the rivers Doon and Ayr, and the principal street is broad and ornamented with a row of good houses on each side. Ayr has been a town of considerable trade, but the rising opulence of Glasgow has attracted the merchants from this place. The inconvenient entrance to the harbour proved detrimental to the commerce of the town, but the inhabi- tants are carrying on extensive works to remove all obstruc- tions at the mouth of the river, and render it more commodious for trading vessels; and two new reflecting light-houses are now erecting near the entrance to the harbour. The salmon fishery of the two rivers furnishes employ for many of the inhabitants, and the sand banks of the coast abound with all kinds of white fish. Its population is 5492, and it has 735 houses.

AYR, New Town of, is the name of another town, seated on the north side of the river Ayr. It has baronial jurisdic- tion, and a distinct magistracy from the other town. This place seems to have arisen under the influence of Robert Bruce, who retired
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retired here upon being attacked with a leprosy, established a lazaretto, and conferred considerable favours on the town, and the neighbouring village of Priedwich. Its population is 1724.

AYR, a river of Scotland, rises in the parish of Muirkirk, in the above county, and after a course of about eighteen miles due west, falls into the frith of Clyde, at the town just described. Its banks are steep and romantic in some places, but in others it often overflows its shores, and does considerable damage.—Alto, a river of France, which runs into the Aisne near Grandpré.

AYRANCES, a town of France, in the department of the Somme, and chief place of a canton in the district of Amiens, nine miles S. E. of Abbeville.

AYRSTOWN, or AYRSTOWN, a town of America, in Burlington county, New Jersey, situated on the middle branch of Ancoos creek, sixteen miles from the mouth of the creek in the Delaware, and thirteen south-east from Burlington.

AVRY See AERY.

AVSCUE, AVSCOUTH, or ASKSW, Sir George, in Biography, an eminent English admiral of the seventeenth century, was descended from a good family in Lincolnshire; and entering into the sea-service in his youth, acquired the reputation of an able and experienced officer, and obtained the honour of knighthood from King Charles I. Adhering, however, to the parliament in the civil war, he was constituted admiral of the Irish seas, where he is said to have rendered great service to the protestant interest, and to have contributed much to the reduction of the whole island. In 1651, he reduced the islands of Sicilly, and also Barbadoes and Virginia, to the obedience of the parliament; and he afterwards behaved with great honour in the war with the Dutch. In 1666, whilst he was engaged with the Dutch fleet, his ship was driven upon the Galloperfad; and being surrounded with enemies, and desiring help from friends, he was obliged to surrender. After this disaster, he went no more to sea; but spent the remainder of his days in retirement, Bingen, Brit.

AVSYLAMENTA, or AVZIAMENTA. See EASEMENT.

AVSYLINGEN, in Geography, a market town of Germany, in a prefecture of the same name, in the diocese of Augsburg, situate on the Danube.

AVY, a river of Austria, in the Blach quarter, on which is seated the market town of Waldhausen.

AVTON, or AITON, a small town of Greece, in Lolland, five leagues north of the Dardanelles of Lepanto. This is thought to be the ancient town of Etholia, called Calypson Aquilea.

AVYUD, AVID, or HAWD, a province of Hindoostan, containing the most northern countries belonging to the Moguls, such as Kakea, Bankhia, Nagarokat, Siba, and others. It is situated to the north-west of the Ganges, and watered by rivers which fall into it; so that, notwithstanding its mountains, it is exceedingly fertile; and its trade with the countries to the north-east renders it very rich. In this province there are many independent rajahs, and two remarkable pagodas, one at Nagarokat, dedicated to the idol Maha, and the other at Kalamak, which is venerated, because the Indians regard it as miraculous, that the water of the town should be very cold, and yet spring from a rock which continually throws out flames.

AZA, in Ancient Geography, a town of Asia, in Syria, famed on an eminence to the west of one of the branches of the river Chalus, south-west of Chaonia.—Allo, an ancient town of the Lesser Armenia, placed by the Antonine Itinerary in the route from Caesarea to Sangala, 20 miles from the latter place.—Allo, a name given in the time of Steph.

Byz. to the town of Gaza.—Allo, a town of Palestine, in the tribe of Ephraim.

AZAB, USSAB, or SABA, in Geography, a territory on the Abydinnian coast of the Arabian gulf, near the islets of Babemundeb, which has been, from time immemorial, the mart of frankincense, myrrh, and balsam. Behind Saba, upon the Indian ocean, is the "Regio Cinnamonorum," where a considerable quantity of that wild cinnamon grows, which the Italian druggists call "canella." Azab, or Saba, was formerly a principal station of the caravans, which traded to Arabia. It lies in N. lat. 13° 5'. E. long. 43° 5', and though it is not a port, it affords a very tolerable road, where is very safe riding, under the shelter of a low desert island, called "Crab Island," with a few rocks at the end of it. The people, however, says Mr. Bruce, are Ga'lain, the most treacherous and villainous wretches upon the earth. They are "Shepherds," who sometimes reform to the coasts in great numbers, and sometimes traverse the hinder part of the hills that run close along the shore, and occupy miserable villages composed of huts, that run nearly in an easterly and west direction from Azab to Raheta, the largest of all their villages. At Azab may be had plenty of water, sheep, and goats, and also some myrrh and medicate at the proper honzon. But no confidence is to be had in the people. Those of Mocha, who are absolutely necessary to them in their commercial transactions, cannot trust them without surety or hostages. Near Azab there are large ruins, which seem to indicate its former magnitude and importance. There is especially an aqueduct, which, in remote times, furnished a very considerable supply of water from a fountain in the mountains, which must have greatly contributed to the beauty, health, and pleasure of the place. This is constructed with large masses of marble, brought from the neighbouring mountains, placed upon one another without lime or cement, but joined with thick cramps, or bars of brass. There is likewise a number of wells, not six feet wide, composed of pieces of marble hewn to parts of a circle, and joined with similar bars of brass. This circumstance is somewhat surprizing, as we are informed by Agatharcides (p. 60), that the Alileans and Cisflandrins, in the southern parts of Arabia, built opposite to Azab, had among them gold in such plenty, that they would give double the weight of gold for iron, triple its weight for brass, and ten times its weight for silver; and that in digging the earth, pieces of gold were found as big as olive-stones, and some much larger. However this be, the inhabitants of the continent, and of the peninsula of Arabia opposite to it, agree, that this was the royal seat of the queen of Saba, famous in ecclesiastical history for her journey to Jerusalem; that these works belonged to her, and were erected at the place of her residence; and that all the gold, silver, and precious came from her kingdom of Sofala, which was Ophi, and which reached from thence to Azab, upon the borders of the Red Sea, along the coast of the Indian ocean. See AYUM.

The ruins at Azab, as well as those at Axum (See AYUM), appear to be those of public buildings, and not of private dwellings; and from this circumstance it has been inferred, that these were not cities of constant residence, but rather places of resort, where the adventurous traders and their attendants lived, as afloat, in their tents, but where their religious rites were celebrated with the greatest solemnity, and in a manner becoming the dispositions of men, who ventured in expeditious across the deserts, for more difficult and dangerous travel across the Atlantic; whence, we may aly imagine, was derived the great influence, or rather power, of the order of peoples, who perhaps were the only constant inhabitants of these spots, which they
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wished to be considered as the favourite shades of their divinities. It appears, however, from the best authorities, that Merfë, Assam, and Azaab, were places that had a common origin, and were most probably, as we have already observed, the principal stations of the caravans that traded to Arabia, while Thébes and Amonmenon continued the communication toward Carthage. Whether from Azaab there was an intercourse with the Ethiopians of the more southern parts of Africa, toward Cape Carthage, and the present Zanzibar, is a question that deserves particular investigation. On this subject, see professor Herran's "Ideen über die Politik, etc." or "Ideas on the Policy, Intercourse, and Commerce, of the principal Nations of Antiquity." Gottingen, 1793.

Azaab, in the "Military Order of the Turks," signifies a particular body of the hussaries taken in, or added first to the janizaries, but now become a separate body from them. The word, in the Oriental languages, signifies an unmar- ried person, and the original order of these was, that they should be single men.

The azabs in Egypt have been great rivals to the jani-
zaries, and sometimes they have got the better. Their in-
fituation and offices are the same with those of the jani-
zaries; but with this difference, that from odo-baizes they are made fersbajees, and from that office caifes, and come into the divan. On the contrary, among the janizaries, when any one is made a fersbajee, it is laying him aside, and he is no farther advanced. Pococke's Egypt.

AZABEU-KABER, from kabir, Kopelch, and azab, tor-
ment, denotes a temporary punishment, which, as the Ma-
hometans say, the wicked must suffer after death. Their crimes are hereby expiated, and Mahomet opens the gate of paradise to all who believe in him. AZADARICHTA, in Botany. See MELIA.

AZADKAR, in Geography, a large town of Periia, called also 'Teins, and placed by Tavorein in an extensive plain, watered by 400 subterranean canals. AZAGARIUM, in Ancient Geography, a town of the European Sarmatia, in the vicinity of the Borylheenus. Ptolomy.

AZAGRA, in Geography, a town of Spain, in Navarre, on the Ebro; two leagues from Calahorra. AZAIZY, a poor and inconsiderable tribe of Arabs, inhabiting a village of Egypt, called Bir Ambar, between the Nile and the Red Sea, about N. lat. 26°, and E. long. 35°; who fubmit by letting out their cattle for hire to the caravans that go to Coiffer. The village probably derived its name Bir Ambar, or the well of Ipaces, from its having been formerly a station of the caravans from the Red Sea, loaded with this kind of merchandise from India. The habitations of the Azazies are constricted of potters' clay, in one piece, in shape of a bee-hive; the largest not above ten feet high, and the greatest diameter fix. Bruce's Trav. vol. i. p. 170.

sions bent in. Stum. filaments five, filiform, inserted into the receptacle, free; anthers simple. Pf. fijl. germ roundish; stylo filiform, the length of the corolla, permanent; stigma obfofe. Per. capulfle roundish, five-celled, five-valved. Sepals five, roundish. Ofb. In some species the corolla is funnel-shaped. Eib. Gen. Char. Cor. bell-shaped; flamina inserted into the receptacle; capulfle five-celled.

Species. 1. A. pontica, Pontic azalea. "Leaves thinning, hemicrushed, smooth on both sides, racemes terminal." This species much resembles rhododendron ponticum; but its flowers are yellow, its leaves smaller, ovate and ciliate. A native of Pontus. 2. A. indica, Indian Azalea, Thurb. Jap. 84. "Flowers sub-fibulat. calyxes hinged below three feet high, with a rough crimson-brown bark. Branches short, twiltled, irregular. Leaves thus, villaace, clove, ever-green. Flowers cover the whole upper part of the shrub, and are of a beautiful bright red colour. A native of the East Indies. It is much cultivated in Japan for the elegance of its flowers, and variety in their size and colours. 3. A. nudiflora, naked-flowered azalea. The varie-
dle length." A. bicolor, red and white azalea. "Lower of the corolla pale; tube red; calyx small; branchets hairy." A. papilionacea, variegated azalea. "Corolla red, the lowest segment white; calyces leafy." A. papilata, downy azalea. "Corolla pale red, divided to the base into five parts." Sp. Char. "Leaves ovate, corollas hairy, fla-
mens very long." In its native country this shrub exceeds fourteen feet in height, but in England, we never see it half this height. Several stems arise from the root. Leaves oblong, smooth, alternate, flanked. Peduncles ax-
illary, long, naked, supporting a cluster of red flowers, which are tubulous, and swelling at the base, like those of the hyacinth, and contracted at the neck; they are divided at the top into five unequal segments, which spread open. The filaments and styles are much longer than the petals, and fand erect. A native of North America; and intro-
duced here by Peter Collinson, esquire, in 1734. 4. A. ephedro, vivid azalea. "Leaves leafy at the edge; co-
rollas with glaucous hairs." Its varieties are, A. oalata, common white azalea. "Branches diffusel; leaves deep green, finning." A. vitatta, white-striped flowered azalea. "Corolla white, with pale red keels; styles elongated; red at the end; leaves pale, ovate, oblong." A. fijla, narrow-
petalled white azalea. "Corolla divided to the very base; leaves deep green, finning." A. floribunda, cluther-flowered white azalea. "Styles longer than the corolla; leaves glau-
cous underneath." A. glaucas, glaucous azalea. "Corolla white; leaves glaucous on both sides, the younger with scattered hairs on the upper surface." This shrub rides with several stems near four feet high. Leaves spear-shaped, nar-
ow at the base, six-facet at the edges with short rough teeth, and flan clusers at the ends of the shoots. Flowers in clusters at the extremities of the branches, white, with a mixture of dirty yellow on the outside; tube an inch long; the two upper segments at the top reflex; the two fide ones bent inwards; and the lower one turned downwards. These flowers have the appearance of those of honey-duckle, and are as agreeably scented; they appear in July. This is nearly allied to the foregoing; but does not flower till after the leaves are expanded. It is a native of North America, and was introduced here by P. Collinson, esquire. 5. A. lapponica, Lapland azalea. "Leaves with excavated dots sprinkled over them." A shrub six or seven inches high. It is to be distinguished from rhododendron dauricum only by its having five flaminas, whereas that has ten. 6. A. procumbens, trailing azalea. Flor. Lapp. ed. 2. 60. t. 6. Eng. Bot. vol. 13. Hud. 88. With. 239. Lightf. 139. Flor. Pan. 1. 9. "Branches procumbent; diffuse; leaves opposite, revolute, very smooth." Stem woody, much branched; branches leafy, round, smooth; leaves opposite, flanked, spread much, ciliate, obtuse, revolute, entire, smooth; po-

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tides channelled; ciliate; peduncles in pairs, commonly one-flowered, reddish, with bractes at the base; flowers erect, of a deep rose colour, bell-shaped, regular; capsule sub-orbicular, acute, five-celled, margins of the valves indented. It grows upon most of the high mountains of Scotland. 7. A. paniculata, dotted azalea. Lour. Cochinch. 113. "Leaves ragged about the edge; flowers dotted, heaped." Five feet high, erect, branched; leaves lanceolate, entire, smooth, alternate; corolla white; calyx whitish, dotted with red, as are also the corollas, anthers, and germ. A native of the woods of Cochinchina.

Propagation and Culture. 1, 2. The Pontic and Indian species have not yet been cultivated in Europe. 3, 4, 5, 6, 7. grow naturally in shady, and in moist ground; many of the plants have been sent of late years from North America to England, and produced beautiful flowers in this country. They must have a moist soil and shady situation; and can only be propagated by seeds from their roots, or by lifting down their branches, for they do not produce seeds here. When any of them are laid down, it should be only the young shoots of the same year, for the old branches will not put out roots. The best time for this is at Michaelmas, and if they are covered with some old tar, to keep out the frost, it will be of use to them. The autumn is the best time to remove the plants, but the ground about the roots should be covered in winter; a practice necessary for the old plants to preserve them in vigour, and cause them to flower well. 5, 6, are low plants, of little beauty, and will only thrive on boggy ground upon mountains. See Martyn's Miller's Dict.

AZAMA, in Ancient Geography, a town of Africa, placed by Ptolemy fifteen days journey distant from Carthage bay; fourth south of Cirta. It is supposed to be the present Zemara.

AZAMBUJA, in Geography, a small town of Portugal, containing from seven to eight hundred houses, situated in a well-cultivated plain on the banks of the Tagus, not far from Lisbon.

AZAMOGLINS. See AZEMOGLINS.

AZAMOR, in Geography, a small sea-port town of Africa, in the kingdom of Morocco, and province of Daghelia. It is situated on the river Morbaya, at some distance from its mouth. This town is not adapted to maritime commerce, because the entrance of the river is dangerous. It was unsuccessfully besieged by the Portuguese in 1528; but taken in 1533 by the duke of Braganza, and abandoned about the end of the sixteenth century. At a little distance from Azamor, facing a spacious bay, are the ruins of the ancient city of Titus, supposed by Chénon (Preident State, &c. of Morocco, vol. i. p. 37.) to have been one of the cities founded by order of the senate of Carthage. Near the same place are the ruins of Almedina, a town built by the Moors. The cape of Azamor stretches out to the west. See Mazagan. N. lat. 33° 20'. W. long. 8° 20'.

AZAMORA, in Ancient Geography, a strong place of the former Armenia, in Catania, Strabo.

AZANAGHIS, in Geography, a people on the coast of Africa, near cape Blanco. They inhabit the adjacent desert, and not far from the Arab of Hodeis. Their food is dates, barley, and the milk of their camels. They acknowledge no master, but the more wealthy among them are treated with some tokens of respect. Their goods are cached rather in that of being prodigals and improvident, they are poor, and without gold, and live in huts dispersed in several places along the coast.

AZAN, in Ancient Geography, a people of Asia, in Phrygia, to whom they were annexed. Strabo.

AZAN, one of the three grand divisions of Arelvania, according to Strabo. Steph. Byz. says, that it contained seventeen towns.—Also, a port of the maritime coast of Ethiopia. Pliny.

AZANITIS, a country of Asia Minor, in Phrygia, in which was the source of the river Rhynacus. Strabo.

AZAYOTON, or AZASOL, a land of desert, in Africa, Libya, almost destitute of water, and which is traversed by the canals, like the sea.

AZAPES. See ASAPES.

AZAR, in Ancient Geography, a mountain in Egypt. Ptolemy.

AZAR, in Geography, a town of Arabia, seventy-six miles south-east of Amman inidia.

AZARA, in Ancient Geography, a town of Asia, in Armenia Major, placed on the river Araxes. Strabo. — Also, an ancient town of Asia Minor. Ptolemy. — Also, a temple of Ammon, in Abythia, Strabo.

AZARABA, a town of Asia, in Sarmatia. Ptolemy.

AZARECAH, or AZARAKITES, in History, the denomination of a sect of heretical Mussulmans, so called from Nafs Eba al Azarah their founder, who acknowledged no power or government, temporal or spiritual. They consisted of a combination or assemblage of all who rejected and opposed the Mahometan faith; they were sworn enemies of the house of Omeyyad; and committed dreadful ravages in all the Moslem territories through which they passed. In the sixty-eighth year of the Hegira, they made an irruption into Iraq, and carried their barbarous exactions to such a height, that they murdered all persons whom they met with, rigged open women with child, and committed every species of cruelty that could be invented on people of every description, without discrimination. During this period their founder died, and was succeeded by Katt Eba al Fojat, under whose conduct they continued their depredations. Mufab, the governor of Mutful and Misopotamia, sent a body of troops against them, commanded by Omar Eba Abdallah Temini, who completely routed them at Nisibur, in Chorasan, slew many of them, and pursued the rest as far as Isfahan and the province of Kerman. See Mahometans.

AZAREDO, in Geography, a sea-port town of South America, in the bay of Spirito Santo, on the coast of Brazil. This is a famous port for sugar. S. lat. 20° 18'. W. long. 40° 12'.

AZARIAH, or Uzziah, in Biography, one of the kings of Judah, succeeded his father Amaziah in the year 809 before Christ. The early part of his reign, in which he was pious and virtuous, was prosperous and happy; he obtained great advantages over the Philistines, Ammonites, and Arabs. He was devoted to agriculture, though he had a flaxen army of 507,500 men, with large magazines, well furnished with arms both offensive and defensive; he employed many husbandmen in the plains, vine-dressers in the mountains, and shepherds in the valleys. Towards the close of his life, and of his reign, which lasted fifty-two years, he became an idolater, died of a leprosy, and was buried, not in the royal sepulchre, but in an adjacent field. 2 Kings, xx. 2 Chron. xxvi. There are many high-priests and others, mentioned in scripture, and in the Jewish history, who bore the name of Azariah.

AZARIAS, a learned Italian rabbi, lived in the sixteenth century, and published at Mantua, in 1574, a Hebrew treatise, entitled, "Mor en Ajin," or "The Light of the eyes," in which are collected, with considerable learning and knowledge of the Chriftian scriptures, several points of chronology and criticism. The work contains a Hebrew translation of the book of Artaxerxes on the LXX. Nov. Dict. Histor.

AZAROLUS, or AZAROLE, in Botany. See COXAGUS.

AZARUM,
AZARUM, a small, dry, blackish, stringy, medicinal root, much used in France as a specific for the farcy in horses. The azarum, called also nardus fylafaclus, grows in the Levant, Canada, and about Lyons in France. The frilt is reputed the bell. It is given in powder, from the quantity of an ounce to two.

AZATIA, in Ancient Geography, a town of Asia, in Medea, or Armenia.

AZATHA, a town of Asia, in Armenia Major. Ptol.

AZAY LE FERON, in Geography, a town of France, in the department of the Loire, and chief place of a canton in the district of Chatillon, for 19 miles S.S.E. of Chatillon.

AZAY l' Albéau, a town of France, in the department of the Loire and Loire, and chief place of a canton in the district of Chauconin, four leagues south-west of Tours, and four north-east of Chablis. The place contains 1708 and the canton 11,244 inhabitants; the territory includes 275 kilometres and 12 communes.

AZAZEL, in Jewish Antiquity. See SCAP-COAT.

AZED, in the Materia Medica, a name given by the Arabian writers to a kind of campfhor, which they make the third, then placing it after the acarari and arbigr. The first of the ftre was the finest of all the kinds of camphor, and was collected tolerably pure from the tree, as it grew in Cufcar, the place whence it was named. The abriagi was the fame campfhor, rendered yet more pure by sublimation; this was a discovery of one of the kings of that country, and the campfhor was named from him. The third kind, or azed, was the fame with what we now receive from the Indies, under the name of crude or rough campfhor. The word azed signifies only large, and was used to express the campfhor formed into fuch large cakes, as it is also at this time. Arinna fays, this campfhor was grofs, of a dufty colour, and much less bright and pellucid than the other kinds. See CAMPFHOOR.

AZEDARACH, in Botany. See MEIAD.

AZEKAH, or AZECHA, in Ancient Geography, a city of Judah, strong both by situation and its walls; in the tribe of Judah, and feated in the fame north-west corner with Lebanon and Meskedon, in the valley of Terebinth, where David slew Goliah. Jof. xv. 35. 1 Sam. xvii. 1. Eufebius and St. Jerome inform us, that, in their time, there was a city of this name between Jerusalem and Eulphemus.

AZELFOGE, in Astronomy, a fixed star of the second magnitude, in the tail of Cygnus.

AZEM, in Geography. See ASAM, and ASEEM.

AZARAILLES, a town of France, in the department of the Meure, and chief place of a canton in the district of Launville, three leagues south-east of Launville.

AZETENE, sometimes called Ancicnt, in Ancient Geography, a country of Asia, in Armenia Major, between the sources of the Tigris and Eufrates, to the South of Sapharna. Ptolomy.

AZEVEDO, Ignatius, in Biography, a Portuguese Jesuit, was born at Oporto, in 1547, and reining an ample fortune of which he was heir to a younger brother, he devoted himself to religion in the society of the Jesuits at Coimbra. In paccs of time he became a millonary, and was depicted as such to the Indies and Brazil, under the title of procurator-general for those countries. Having given an account of his firft voyage to the general at Rome, he set out on a second miffion with a great number of attendants; but whilst the ship was falling, in 1570, towards the island of Palma, it was taken by corsairs, and all the millionaries were put to death. On this account, Azevedo and his third company have been honoured as martyrs in the church of Rome; and the history of their mission and martyrdom was published by Deauvais, a Jesuit, in 1744. Morev.

AZEYTAO, in Geography, a small town of Portugal, in Elxremadura, containing of 552 houses, and 2342 inhabitants. It has a manufacture of cottons, and carries on a considerable trade in wine and oil, for which its situation, between the two harbours of Lisbon and St. Ulbab, is convenient.

AZILICOLLAR, and AZILA, a town of Spain; the country of Sevilla, eighteen miles north-west of Sevilla.

AZIZINHA, in Ancient Geography, an island of the Mediterranean. Ptg.

AZILAR, in Geography, a town of Asiatic Turkey, in the road between Confla (inimple and Toeet.

AZILLES, a town of France, in the department of the Aude, and chief place of a canton in the district of Carcassome; thirteeen miles N.E. of Carcassome. N. lat. 45° 23'. E. long. 2° 33'.

AZIMGUR, a town of Hindollan, in the country of Alhadel; 108 miles W.N.W. of Patna, and 50 N. of Beares.

AZIMUS, or AZIMUMTUM, in Ancient Geography, a small city of Thrace, on the Illyrian borders. This city, scarcely mentioned by geographers, has been distinguished in the annals of history by the martial spirit of its youth, the drill and reputation of the leader whom they had chosen, and their daring exploits against the innumerable hordes of the northern barbarians. Instead of tamely expecting their approach, the Azimumtines attacked, in frequent and successful sallies, the troops of the Huns, rescued from their hands the spoil of the captives, and recruited their domestic force by the voluntary association of fugitives and defectors. After the treaty of peace between Attila and the eastern empire, A.D. 446, the Barbarian conqueror still menaced the empire with implacable war, unless the Azimumtines were persuaded, or compelled, to comply with the humiliating conditions which their sovereign had accepted. Theodorus, dilating authority over a society of men who had bravely affered their natural independence, the king of the Huns condescended to negotiate an exchange with the citizens of Azimus. They demanded the restitution of some shepherds, who, with their cattle, had been accidentally surprized. After diligent, but fruitless inquiry, the Huns were obliged to swear, that they did not detain any prisoner belonging to the city, before they could recover two surviving countrymen, whom the Azimumtines had detained as pledges for the safety of their host companions. Attila was satisfied, and deceived by their fecken affectionation, that the rest of the captives had been put to the sword; and that it was their conTent practice immediately to difmiss the Romans and the defectors, who had obtained the security of the public faith. If the race of the Azimumtines, whether this diffimulation on their part be excused or condemned by political caufes, had been encouraged and multiplied, the Barbarians would have ceased to trample on the majority of the empire. At a subsequent period, in the war of the emperor Maurice against the Avars, A.D. 595—602, the Azimumtines manifested a considerable degree of the invincible spirit of their ancestors. See Gibbon's Hist. vol. vi. p. 63, &c. vol. vii. p. 201, &c.

AZIMUMUTH, in Astronomy. The azimuth of the sun, or of a star, is an arc of the horizon, comprehended between the meridian of the place, and any vertical circle passing through the sun or star; and it is equal to the angle at the zenith formed by the said meridian and vertical circle, which is measured by the fore-mentioned arc.

The word is pure Arabic, which signifies the same thing. The azimuth is reckoned easterly in the morning, and westward in the afternoon; and it is usually estimated from the north, or from the north, as it is nearer to the one or to the other of those points. Thus if it be found by observation, that the vertical circle which passes through the zenith and a star intersects the horizon just in the midway between the
the east and the south, then the star's azimuth is said to be 45° eastward of the south. It is the complement of the eastern or western amplitude to a quadrant.

The azimuth is found trigonometrically, by this proportion; as radius is to the tangent of the latitude, so is the tangent of the fun's altitude to the cosine of the azimuth from the south at the time of the equinox. Otherwise, suppose the latitude of the place, and the fun's declination to be given, and let it be required to find the fun's altitude and azimuth at 6 o'clock. E. G. Let London be the place in N. lat. 51° 34', and let his declination be 25° 28', as it is on the longest day; then to find his altitude and azimuth at 6 o'clock in the morning and evening, construct a figure in the following manner. Describes the meridian (Plate II. Astroonomy, fig. 20.), draw the horizon HR, and prime vertical ZN; make RP = latitude 51° 32', N; draw the 6 o'clock semicircle PS, the equator EQ, the 23° 28' N. parallel of declination n, intersecting the 6 o'clock semicircle PS in O; and through Z, O, N, describe the azimuth circle Z ON, intersecting the horizon in A; then the triangles Z OP and \( \varphi \delta A \) are supplemental triangles to one another. In the spherical triangle Z OP, rightangled at P, we have

\[
\text{Given the colat. } ZP = 38° 28' \\
\text{The co-altitude } \delta \circ \text{ the azimuth } \varphi \circ ZP.
\]

Or, in the spherical triangle \( \varphi \circ A \), right-angled at \( \lambda \),

\[
\text{Given the lat. } A \gamma \circ = 51° 32' \\
\text{the declin. } \varphi \circ = 23° 28' \\
\text{Required the altitude } A \circ \\
\text{the co-altitude } \varphi \circ A
\]

To find the altitude \( A \circ \).

\[
\begin{align*}
\text{As Radius} & = 10,000,000 \\
\text{To fin. declin.} \delta &= 23° 28' \\
\text{So fin. lat.} &= 51° 32' \\
\text{To fin. alt.} &= 18° 10' \\
& = 9,493,877
\end{align*}
\]

To find the azimuth \( A \circ \).

\[
\begin{align*}
\text{As Radius} & = 10,000,000 \\
\text{To Colat.} &= \gamma = 51° 32' \\
\text{So tang. declin.} &= 23° 28' \\
\text{To co. tang. azimuth} &= 74° 53' \\
& = 9,431,444
\end{align*}
\]

For the arc \( AR \) measures the \( \angle RZA \), the azimuth.

On the shortest day at London the parallel of solstice declination cuts the 6 o'clock hour-circle below the horizon; and as the triangles \( \gamma \circ A \circ \) and \( \varphi \circ A \circ \) are congruous, the depression below the horizon, on the shortest day at 6 o'clock, will be equal to the altitude at the same hour on the longest day; and the azimuth will also be equal, if estimated from the south. Thus, on the 21st of June, the fun will bear N. 74° 53' E. at 6 o'clock in the morning, and N. 74° 53' W. at 6 in the evening; but on the 21st of December, at the same hour, it will bear S. 74° 53' W., and S. 74° 53' W. From this problem, it appears, that as the declination increases, the altitude increases and the azimuth decreases, and the contrary happens while the declination is decreasing; so that on the days of the equinoxes, when the fun has no declination, the altitude at 6 o'clock will be nothing, or the fun will be in the horizon; and the azimuth being then 90°, the fun will be due east in the morning, and west in the evening; that is, on the days of the equinoxes, the fun rises and sets at six, in the east and west points of the horizon.

Again. Given the latitude of a place, the fun's declination and altitude; required the hour from noon, and the fun's azimuth. E. G. In the latitude of 51° 32' N., the fun's altitude was observed to be 46° 20', when his declination was 23° 28' N.; what was the fun's azimuth, and the hour when the observation was made?

Let the primitive circle ZRN (fig. 21.) represent the meridian of London, HR the horizon, and ZN the prime vertical; make RP = 51° 32' the height of the pole at London; draw the axis PS, and the equator EQ; lay off the declination E, QR, 23° 28' N. the altitude HR, RZ, 46° 20'; and describe the parallel of declination n, and the parallel of altitude n, intersecting one another in O; the place of the fun at that time; through Z, O, N, describe an azimuth circle Z ON, and through P, O, S, describe an hour circle P CS; then the angles O ZP, O PZ, being measured, will give the azimuth and hour from noon required; or, they may be computed in the following manner.

In the oblique-angled spherical triangle P Z O,

\[
\text{Given the colat. } ZP = 38° 28' \\
\text{the co-alt. or zenith distance } Z \circ = 43° 49' \\
\text{the co-decl. or polar distance } \circ P = 66° 32'.
\]

Required the azimuth, Z \( \angle \) ZP,

and the hour from noon Z \( \angle \) PZ.

To find the azimuth, or angle Z \( \angle \) PZ.

Here Z \( \circ \) = 43° 49'

ZP = 38° 28'

\[
\begin{align*}
\text{O } Z & \text{- } Z P = 5° 12' = D. \\
\circ P & = 66° 32'.
\end{align*}
\]

Then co-arith. fin. co-lat. = 38° 28' - 0.25917

cos-lat. fin. co-lat. = 43° 49' - 0.16286

fin. \( \frac{1}{2} \) fun. co-decl. and D = 35° 52' - 9.79782

fin. \( \frac{1}{2} \) diff. co-decl. and D = 30° 49' - 9.79761

The sum of the four logs -

-19.84246

The \( \frac{1}{2} \) fun gives 36° 31\( \frac{1}{2} \)°

And 59° 31\( \frac{1}{2} \)° doubled gives 115° 3° for the azimuth sought, reckoning from the north.

To find the hour from noon, or Z \( \angle \) PZ.

Here P \( \circ \) = 66° 32'
PZ = 38° 28'

\[
\begin{align*}
P Z & \text{- } P Z = 28° 4' = D . \\
O C & = 43° 49'
\end{align*}
\]

Then co-arith. fin. co-decl. = 66° 32' - 0.03749

cos-lat. fin. co-lat. = 38° 28' - 0.20617

fin. \( \frac{1}{2} \) fun. co-alt. and D = 35° 52' - 1.76782

fin. \( \frac{1}{2} \) diff. co-alt. and D = 7° 48' - 9.31203

The sum of the four logs -

-19.14411

The \( \frac{1}{2} \) fun gives 21° 55'

And 21° 55° doubled gives 43° 50° for the measure of the hour from noon, which is 21° 55° 20'.

Hence it appears that the observation was made either at 9° 4°.
AZO

9° 4' 40" in the morning, or at 2° 55' 20" in the afternoon.

The azimuth being first found, the hour from noon might have been found by the proportion between opposite sides and angles. If the declination and latitude had been of contrary names, the same kind of process would have served for finding the things required, except that the compass would have been obtused by adding the declination to 90°, instead of subtracting it, as in the case of the latitude and declination having like names.

To find the azimuth by the Globe, see Globe.

AZIMUTH, Magnetic, is an arc of the horizon contained between the azimuth circle of the celestial object, and the magnetic meridian; or it is the apparent distance of the object from the north or south point of the compass. This is found by observing the object with an azimuth compass, when it is about ten or fifteen degrees high, either in the forenoon or afternoon. See Compass.

AZIMUTH COMPASS, is an instrument used at sea for finding the sun's magnetic azimuth.

The description and use of the azimuth compass, see under Azimuth Compass.

AZIMUTH Dial, or a dial whose whole face or gnomon is at right angles to the plane of the horizon.

AZIMUTHS, called also Vertical Circles, are great circles of the sphere intersecting each other in the zenith and nadir, and cutting the horizon at right angles. The horizon being divided into 360°, there are utally reckoned 360 azimuths. The azimuths are represented by the rhumbs on common sea-charts; and on the globe these circles are represented by the quadrant of altitude, when foewed in the zenith.

On these azimuths is reckoned the height of the stars, and of the sun, when he is not in the meridian; that is, the azimuths show what distance there are from the horizon.

AZINCOURT, in Geography. See Azincourt.

AZIO, a town of European Turkey, in the province of Livadia, sixty-four miles north-east of Lepanto.

AZIRIS, in Ancient Geography, an ancient town of Armenia Minor. Prot—Als, a place of Africa, in Libya, where, as Herodotus says, the Cyrenseans established themselves.

AZIRUSTUM, an agreeable place in Armenia Minor, over against Thera, surrounded by hills, and watered by a river. Herodotus.

AZIZUS, in Mythology, derived from the Syrian azas, force, an epithet given to Mars, adored at Edea. Bryant says (Anal. Anc. Myth, vol. i. p. 27.), that Az or As was one of the titles of the sun, and that Azizus, formed by a reduplication of the same term, denoted the deity of Edea and Syria, and was the same as Asis and Isis, made feminine in Egypt, who was supposed to be the father of Osiris, the fun.

AZMAVETH, AZNOH, or Beth Shemesh, in Ancient Geography, a city probably in the tribe of Judah, adjacent to Jerusalem and Anathoth. Nehem. vii. 28. xii. 29.

AZMERE, in Geography. See Agimere.

AZMON, in Ancient Geography. See Assenom.

AZNALCHA, in Geography. See Agimere.

AZNOTH-TABOR, or Aznoth, in Ancient Geography, is placed by Eusebius in the plain, not far from Damascus. Jos. xix. 34.

AZOCHIS, a town of Palestine, in Galilee. It was situated near Sephonia, and taken by Ptolemy—Als, an ancient town of Aisa, in Mepotamia. Pliny.

AZOF, in Geography, a town and fortress on the Don, containing about 3800 inhabitants; distant from St Petersburg 1998, and from Moscow 1268 veres. It is well known that the Don is the Tanais of antiquity. Now, in this region, many ages ago, flowed a town of the same name with the river, which had been built by the Greeks. Chardin pretends that Azof is situate fifteen Italian miles inland from the river; whereas the old town of Tanais is only three Italian miles distant from the river. What reasons there were for giving this statement, concerning one or the other, it is difficult to determine. Though we cannot absolutely prove that the town Tanais stood precisely on the site of the present Azof, yet it is manifest that it was in this district. The more ancient a town is, the more likely it is to have undergone considerable and frequent alterations; and the less reason there is for imagining that it stands exactly on the old primitive spot, of which Rome alone may afford an example. Concerning Tanais, however, Claudius Ptolemaeus affirms it to have been situate near the present Azof. For admitting, as he does, the Don to be the boundary between Europe and Asia, he gives the town Tanais to the Asiatic division. Strabo (p. 215. 342. ed. Caland.), placing the town on the same side, at the same time infers that it was built by the Bosphoran Greeks. Greeks, in its earlier periods, was extremely populous; and some parts of it, from the nature of their soil, were not productive enough for the nourishment and support of their prolific inhabitants. Hence they were necessitated to construct numerous towns on the sea-coast and on several islands, in order to devise means for remedying so great a defect. The commerce, to which the sea gave them all necessary accommodations, furnished this people at the same time with other means of freeing themselves from poverty. For, at one time, particular towns, at another whole tribes, united to found colonies to different places out of Greece. These new settlers gradually formed colonies on the shores of Pontus, Sicily, the inferior parts of Italy, in France, and several other countries; so that the commerce of almost the whole world then known was imperceptibly drawn into their hands. In like manner they planted their colonies round the whole coast of the Euxine, where, on the coasts of the peninsulas of the Crimea, Theodoria, Cherion, Pantikapaum, and other towns, became particularly famous. At what time the town Tana, or the present Azof, fell into the possession of the Genoese, is not now to be ascertained. It may however be surmised, that they obtained it from the Polovtzes before the incursion of the Tartars, and therefore prior to the year 1297, as they would not have been able to cope with the Tartarian forces. The Genoese were still in possession of the Crimea, and at the same time of Tanais or Azof, in 1424, though the Turks had conquered Constantinople in the year 1453. In 1637, Azof was captured from the Turks by Candor; and in 1642, after being reduced to ashes, it was reconquered by the Turks. On the twenty-eighth of July 1656, it surrendered to the arms of Peter the Great; who in 1711, in consequence of the unfortunate affair at the Pruth, restored it to the Turks at the treaty of Bender; from the Turks it was again captured by the Russians in 1739; but by the treaty of Belgrade they were obliged to raise it to the foundations. It remained in an abandoned state during thirty years. But in the last war against the Turks, Catharine II. caused it to be re-erected, and it is now in the best state of defence. Coins of Azof have been found, bearing on them the name of Khan Taktamyan. Azof is situate in the government of Ekatkarinolass; which belonging partly to Little Russia and partly to the Zaporogian Koakats, till the year 1751, when it began to be occupied by colonists from all nations, was one continued waste rape, entirely void of inhabitants, but has since proved a great acquisition to the industry and trade of the country, under the name of New Servia. The ecclesiastical affairs of the
the Russians are under the archbishop of Ekatarinoslav and Cherfonetourida; and in his absence under his vicar the bishop of Feodosia and Marmopol. The other religious communions are governed by their own spiritual prefects.

AZOR, Sea of, called by the ancient Phals Mucitis, formerly by the Russians the Putrid sea, and in some maps Zabachea sea, is a gulf in the Euxine, to which it is joined by a strait. It is situated in the dominions of Russia, between 52° to 57° east Ferro; lat. 45° 26′ to 47° 20′ N. It is of 210 miles in length, and from 40 to 60 in breadth. It has six harbours: Taganarok, Marmopol, and the little port of Petropil close to the town, Azof, Maftakof, and fort St. Dimitri near the mouth of the Don. Of all these, Taganarok has the greatest trade in exports; being next to that of Chariton in the Euxine. Azof at present is not far by of so much consequence as it formerly was, Russia having now so many harbours on the Turkish waters, and as that arm of the Don, on which Azof lies, is gradually filling with sand from year to year. The other harbours are for the most part of little significance as to foreign commerce. From Taganarok, in 1793, were exported bariron, tallow and tallow-candles, butter, wheat, and various kinds of grain, hemp, building and carding, wax and wax-candles, silk, linens, cloth, goats hair, borax, and various kinds of drugs, opium, medicinal drugs, pearls, precious stones, gold and silver, &c. The whole northern coast of the sea of Azof, from the Don to Potokop, is laid out in fisheries, to which occupation these districts are extremely favourable. They fish with nets that have in the middle a conical bag, in which the fish assemble; and one single draught, which generally lasts only six hours, yields 60,000 fish; among which, however, are found but few vigorous, shads, and other large kinds of fish. The salted and smoked mackerel, called by the Turks akkun are an important article of trade in the Crimea, and are frequently sent from Feodosia and Balaklava to Constantinople, and to all the maritime towns of Natolia and Romedia. These fish are transported in barrels, and a thousand of them are loaded on the spot for three and a half or four pinnaces. Tuycke's View of the Russin Empire, ii. 75.

AZORIA Ships, in Commerce, are those Spanish ships commonly called the quicksilver ships, from their carrying quicksilver to the Spanish West Indies, in order to extract the silver out of the mines in Peru and Mexico. But it is a great mistake to imagine that these ships are absolutely laden with quicksilver only; for though fraudulently speaking, they are to carry no goods unless on the king of Spain's account, they are usually full laden, notwithstanding this regulation, by reason that the merchants procure special licences of the king to load, upon paying a consideration for such licences.

AZONI, derived from the privative a and zon, zone, or country, in Miykel 25, a term anciently applied to such of the gods as were not the peculiar divinities of any particular country or people, but were acknowledged as gods in every country, and worshipped by every nation. See GOD.

These azoni were of a degree above the visible and sensible gods, which were called zoni; who inhabited some particular part of the world, and never filled out of the district or zone that was allotted them. Such in Egypt were Osiris, Isis, and Bacchus; and in Greece, the Sun, Mars, the Moon, and Pluto. They were called by the Romans dii communis.

AZOOGHAGUS, from s, zeon, animal, and p, to eat, in Natural History, a term used by authors to express such insects or animals as feed on herbs, never eating the flowers or seeds which are more living, and the fury of the waves, which are frequently very injurious, by overthrowing whole fields
fields of grain and folds of cattle, breaking down their fences, and overwhelming their hovels. Nevertheless they produce wheat, wine, fruits, and abundance of wood; and they have many quadrupeds both wild and tame. One of the lateest accounts we have of These Islands is that of Mr. Adamson, who visited them in 1753, on his return from Senegal; but it is to be regretted, that the interesting islands, like all the other Portuguese settlements, are almost unknown.

AZORIUM, or Azores, in Ancient Geography, a town of Greece, in Pelagonia Tripolitidis, according to Strabo and Livy. It was situated among the Phereasarians, at the confluence of two rivers which formed the river Curatius.

AZOP, in Agriculture, a substance which is only distinguishable in its different fires of combination with other matters. Its effects on vegetation, when in the state of gas, are probably not yet fully ascertained. According to the observations of Humboldt and Scopoli, some sorts of plants when exposed to form droop and die, while others, as ashes, continue to increase and grow in a perfect manner.

AZOT, in Chemistry, is one of the most important of the substances hitherto considered as elementary, existing very abundantly in nature, forming the greater part of the atmosphere, the peculiar and almost characteristical ingredient of animal matter, the basis of the nitric acid, and one of the constituents of the volatile alkalis.

Pure or uncombined azot is only known in the form of a gas; it is then synonymous with the phlogisitified air of Scheele and Priestley, the atmospheric phlogisit, of Lavoisier, and the nitrogen gas of Chartal and some other French chemists.

It was by experiments on the various substances which alter, corrupt, and deteriorate common air, that the properties of azotic gas became first familiar to chemists. In all these, and in the direct eudiometric experiments, or such as decompose the air in order to ascertain its purity, it is the oxygen, together with the carbonic acid, and other usual ingredients, which is subtracted by the chemical re-agents; whilst the azotic gas alone remains unaltered and unabsoorbed. Hence, chemists had at first no other knowledge of azot than as a residue untouched in chemical operations, and its properties could only be described by negatives, till the important discoveries of the composition of nitric acid, of ammonia, and of animal matter, gave a new interest to azot as a chemical element.

Azotic gas may be obtained in various methods. In every eudiometric process, as we have just mentioned, the residue is azotic gas of greater or less purity. Thus, if phosphorus be burned in a confined quantity of common air, after the combustion has ceased, the residue is azotic gas in considerable purity, generally however holding some of the phosphorus in solution.

Another method of obtaining this gas, first employed by Scheele, is to moisten a quantity of iron filings and sulphur, mix them in a glass vessel full of common air inverted over water, and in a few days by the absorption of all the oxygen of the air, the azotic gas will be left pure.

Another, and a very speedy method of procuring this gas in great purity, is by agitating common air in contact with a solution of sulphate of iron saturated with nitrous gas.

These methods, with the precautions to be observed, will be further noticed under the article Eudiometry, in which it will be seen that the proportion of azot to 28 in the atmosphere, is, with little variation, about 73 per cent.

Azotic gas may also be readily procured in large quantities by the decomposition of animal matter by means of nitric acid.

If very dilute nitric acid be poured on any animal matter, particularly muscular flesh or the coagulum of blood, and a gentle heat is used, azotic gas is given out in great purity. This experiment is one of a series of excellent observations on Animal Matter made by Bethollet, which we have already noticed under that article. The azot in this instance proceeds from the animal matter, and not from the acid.

In the decomposition of Ammoniaca by the oxymuriatic acid, and in the reduction of some metallic oxides by this alkali, azotic gas is also given out in great purity.

In a single instance, azotic gas may be laid to be mineral, for a very considerable number of this air rises up in bubbles through the springs of several of the native hot springs, such as Thole of Bath and Buxton. The nature of the air thus obtained was first observed by Dr. Priestley.

Azotic gas is absolutely incapable of supporting combustion. When a lighted taper is dipped in a jar of this air, it becomes instantly extinguished without any noise or explosion. It is equally deleterious to animal life (whence its derivation, from α, and δέείρον, depriving of life) and the fatal effects to an animal immered in it come on so speedily, that it has been thought by some to pollute a positively noxious power independent of the mere absence of oxygen.

Azotic gas is somewhat lighter than common air. Its specific gravity when obtained from common air by iron filings and sulphur, is stated by Kirwan to be 0.9912, or in the proportion of 985:1000 compared with atmospheric air. Lavoisier makes it only 0.99115, or to common air, as 941.6:1000.

With oxygen, azot forms a variety of combinations. That of atmospheric air has already been mentioned. A simple admixture of oxygen with a small proportion of azotic gas produces no particular effect, but when the combination is absorbed by the electric spark, a true combustion of azot takes place, and the product is the Nitric Acid. This beautiful discovery we owe to Mr. Cavendish.

When azot and hydrogen are mixed together, both in the gaseous form, no union appears to take place; but under different circumstances Ammonia is produced.

Azotic gas, when heated with Charcoal, with Sulphur, or with Phosphorus, dissolves a small portion of these simple substances, and holds them in suspension for a considerable time.

Very little is known concerning the action of azot in its simple form upon metallic or saline substances; and in the state of gas, it appears to be more inactive and unwilling to enter into combination than any other substance in nature.

Azot has not hitherto been decomposed, so that it must be considered as a chemical element. Several attempts, however, have been made for this purpose, but none of them have proved satisfactory. The last of these, which excited much attention in Germany, was that of Weigh-b, a justly eminent chemist, an account of which he published in Crell's Annals for 1756. The chief experiment on which this philosopher grounds his theory of the composition of azot is the following: if an earthen tube of small diameter (the stem of a tobacco-pipe for instance), be heated quite red-hot, and the stem of water be run through the tube in this state without any visible connection with the external air, a considerable quantity of a gas is generated, which consists almost entirely of azotic gas, mixed with a small quantity of carbonic acid. Hence, this chemist would infer, that as nothing but water and heat are present, the azotic gas here produced is formed by the union of the vapour of water with caloric at a very high temperature. A second experiment is to pass the vapour of water over the oxyd of manganese,
manganese, enclosed in an earthen tube, and already heated for a considerable time, so as to expel all the oxygen which it will yield: in this case also, there will be a very considerable production of azotic gas. A third experiment is to pass the vapour of water through heated glass tubes, of no more than two lines in diameter, when azotic gas will be equally produced. The inference of the composition of azotic gas derived from these experiments, would be very legitimate, if no cause of error could be detected; but the society of Dutch chemists, who have enriched the science with so many valuable observations, on repeating the experiments, fully explained the reason of this singular phenomenon, in demonstrating the permeability of every kind of earthen-ware got glazed, when exposed to a considerable heat. Therefore in these experiments, the vapour of water in passing through the tube, is found partly to make its way through its pores into the surrounding coals; and at the same time the air circulating through the furnace, partly enters the tube, and is collected at the further extremity; and this air being vivatied by the burning fuel, is principally azotic gas, mixed with a certain portion of carbonic acid. This permeability of heated earthen-ware (which had been before observed by Dr. Prichley), should always be kept in mind by chemists; as many of the most important experiments of research are performed by the ingestious apparatus of a heated tube. With regard to the production of azotic gas, when the vapour of water was sent through a red-hot glass tube, it was fully ascertained by the above-mentioned chemists, that no gas of whatever kind appears whilst the tube remains perfect, but that the leaf crack or fissure is sufficient to give admittance to the air of the furnace with as much ease as the pores of the earthen tube. As an additional proof that the gas in these infinances came from without, we may add, that on removing the fire from the earthen tube, and continuing the transmission of the aqueous vapour, some gas still continued to be given out, whilst it remained red-hot; and this latter portion was atmospheric air, or that which now surrounded the heated tube.

Several other circumstances relating to azotic gas, are connected with the theory of Philistia, to which we shall further refer the reader. Ann. de Chem. tom. 26 and 29.

AZOT, Gaseous Oxid of See Nitrous Oxid.

AZOTH, among the Ancient Chemists, signified the first matter of metals; or the mercury of the metal, more particularly that which they call the mercury of the philosophers, which they pretend to draw from all sorts of metallic bodies.

Paracelsus's azoth, which he boasted of as an universal remedy, is pretended to have been a preparation of gold, silver, and mercury; a quantity of this he is said to have always carried with him in the pomme of his sword.

AZOTUS, AZOTH, or Ashdod, in Ancient Geography, one of the five Philistine fatrapies, was a celebrated sea-port of Phoenicia, on the Mediterranean, situate about fourteen or fifteen miles south of Ekron or Accaron, between that and Ascalon, and about thirty miles distant from Gaza, towards Joppa. It fell at first to the lot of Judah, but continued for a considerable time in the hands of its ancient owners. It was in this city that the ark of God triumphed over the idol Dagon, which fell down and was crushed before it (1 Sam. v. 2.); and it was to this place that Philip was conveyed, after he had baptized the Ethiopian eunuch. Acts, viii. 40. This place was fortified by the Egyptians as a barrier against the Assyrians; and it was fo strong, if we may believe Herodotus, that it sustained a blockade and siege of twenty-nine years, under Ptolemy, king of Egypt, about 631 years before the Christian era. It was again re-established, but taken, and its fortresses and towers burned, by the Maccabees, in the year 137 B.C. Afterwards Gabinius, the Roman president of Syria, ordered it to be rebuilt. It was again captured by Vespasian, on the Jewish war, under the reign of Nero, A.D. 67. The ruins of that once famous city are now called "Azield"; it is distinguished, from Volney (Travels in Egypt and Syria, vol. ii. p. 133.), at present by its horrions, but exhibits no proofs of its ancient importance. Three leagues from Azond, is the village of El-Majdel, where they flay the finest cottons in Palestine, which, however, are very coarse. This traveller reports, that the whole coast is daily accumulating rude, and confound with few parts as all an oracle of law. When his friend Bartholomew Carrara, archbishop of Toledo, was summoned to Rome by the inquisition on a charge of heresy, Azulcuet, though eighty years of age, went thither to plead for him; and at this advanced age he retained his faculties in their full vigour. Such was his charity to the poor, that he seldom paid a beggar without giving him alms; and it is said, that the mule on which he usually rode would drop of its own accord when he saw a beggar. He died at Rome, in 1566, at the great age of ninety-two years. A collection of his works was printed at Lyons, in 6 volumes fol. in 1597; and at Venice, in 1602. Nouv. Dict. Histo.

AZAILL, in the Mahometan Theology, the angel of death, whose office it is, according to the Mahometans (who relate many ridiculous stories concerning this angel), to separate the souls of men from their bodies.

AZATL, in Ornithology, a name by which a kind of white heron is known in Mexico.

AZUA DE COMPOSTELA, or AZUCA, in Geography, a sea-port town on the sea-coast of St. Domingo; twelve leagues S.S.E. of Cape Salinas.

AZUAGA, a town of Spain, in the province of Extremadura; three leagues south-east of Llerana.

AZUIS, in Ancient Geography, an ancient town of Africa Propria. Ptolemy.

AZUMAR, in Geography, a town of Portugal, in the province of Alentejo.

AZUN, a valley in that part of the department of the Upper Pyrenees, formerly called Bigore, in France, distinguished by the number of its valuable mines of silver, copper, iron, lead, and tin. Those that are already known amount to no fewer than twenty; but lead chiefly abounds throughout the whole of this mountainous country.

AZURE, the blue colour of the sky. See Blue, Cloud, and Sky.

AZURE, in Heraldry, signifies blue; in heraldic engravings it is expressed by horizontal lines.

AZURE. See Ultramarine.

AZURE, or SMALL. See Cobalt.

AZUREA, in Entomology, a species of Phryganus, with black wings, violet behind. Linnaeus. The lower wings are obliquely violet. It inhabits the north of Europe.

AZUREA, in Zoology, a species of Lacerta that inhabits Africa, and is distinguished by having the tail verticillated, short, with mucronated scales. Linnaeus. Guerin speaks of two
two varieties of this creature; one, a native of Africa, is rather larger than the preceding, and is described under the name of cordulus brachyus: Laur. Amp.: the other has a deep chestnut coloured stripe on the shoulders.

The colour of this species in its natural state, Dr. Shaw imagines to be an elegant pale blue, fuscated on the body and tail with several transverse and somewhat alternate bands either of black, or very deep blue. This kind figured in the Gen. Zool. of Dr. Shaw, and illustrated the species, appears to be the second variety mentioned by Gmelin, having a dark band on the shoulders. Dr. Shaw observes that the head is rather obtuse; the body moderately thick, and covered as well as the limbs with very small smooth scales; and the tail on the contrary, which is of a moderate length, is very distinctly and strongly verticillated by rows of large ciliated scales, the extremities of which project considerably so as to form so many shining points.

AZURENSIS, or, Aurensis, in Ancient Geography, an episcopal see of Africa, in Numidia.

AZUREUS, in Entomology, a species of Carabus, of an azure colour, with red legs and antennae. Inhabit Leipiec. Fabricius.

AZURUS, a species of Cistus, of a middle size; dull green colour; and yellowish mouth and legs. This kind inhabits Guinea. Of. The abdomen is yellowish, with black dots in the middle.

AZURIN, in Ornithology, a name assigned by Buffon Hist. Off. to the species of Turdus, since called specifically cyanurus by Gmelin, which see.

AZUROUX, a name given by Buffon to the emberiza carulola of Gmelin. See Emberiza Carula.

AZYGOS, in Anatomy, a vein arising out of the cava, otherwise called vena flave pari, because single, whence its name. See Veins, Descript. of the.

AZYMITES, in Ecclesiastical History, Chaldaia, which communicate in bread not leavened or fermented. See Azymus. This appellation is given by Cerularius to those of the Latin church, upon his excommunicating them in the eleventh century. Du-Cange. The Armenians and Ma-ronites also use azymus, or unleavened bread, in their office; on which account some Greeks call them azymites.

AZYMUS, composed of the privative α and ζυμη, fer-ment, something not fermented, or that is made without leaven.

The term azymus is much used in the disputes betwixt those of the Greek and Roman church; the latter of whom contend that the bread in the mass ought to be azymus, unleavened, in imitation of the paschal bread of the Jews, and of our Saviour, who instituted the sacrament on the day of the passover; and the former strenuously maintaining the contrary, from tradition and the constant usage of the church. This dispute was not the occasion of the rupture between the Greek and Latin churches; Photius having broken with the popes 200 years before; though it is urged that before the time of Photius, A.D. 866, azymus was used in the Roman church; and that it was more generally used through the West, for which the authority of Alcuin, who died in 794, is alleged. St. Thomas, in 4 Sent. dift. 2, q. 11, art. 2, quod linctum, 3, relates, that during the first ages of the church, none but unleavened bread was used in the eucharist, till such time as the Ebionites arose, who held that all the observances prescribed by Moses were still in force; upon which both the eastern and western churches took to the use of leavened bread; and, after the extinction of that heresy, the western church returned to the azymus; the eastern perniciously adhering to the former usages.

This account is contested by father Sirmond, in a dissertation on the subject; wherein he shews, that the Latins had constantly communicated in leavened bread, till the tenth century, and cardinal Bonn, Rerum Liturg. c. 23, p. 185, greatly distinguishes what St. Thomas alleges.—In the council of Florence it was decreed, that the point lay at the discretion of the church; and that either leavened or unleavened bread might be used; the western church has preferred the latter.

AZZALUM, in the Ancient Physiology, a species of iron, reputed the most excellent of all, supposed to have been brought from India, whence it was called Indianum, but in reality, according to some, brought from China. Plin. Hift. Nat. lib. xxxiv. c. 14.

AZZO, Portius, in Biography, an eminent Italian lawyer, who held the professorship of jurisprudence at Bologna, from the year 1192, till his death, which probably happened not long after 1226, and at this time the university was attended by 10,000 students. Such was his affluence as a lecturer, that he paid he never was ill but in the vacations. He was the author of a “Summary of the Code and the Institutes,” which has passed through several editions. Of this work, Gravina says, (De Orig. Jur. v. i p. 93.) that it is so ingenious and profound, that although written in a barbarous age, we cannot, with all our present erudition, be safely without it. One of his scholars collected the “Introduction to the Code” of this author, which has been printed; and several of his writings remain in manuscript. Sour. Dict. Hist. 

AZZOGLOIO, in Geography, a town of Italy, in the principality of Mafferao; six miles N. N. E. of Maffe- rano.
B

The second letter of our alphabet, and of most others.

This observation fails in the ancient Irish alphabet; where B is the first, and A the seventeenth; and in the Abyssinian, where A is the thirteenth.

B is the first consonant, and first mute, and in its pronunciation is supposed to resemble the bleating of a sheep; upon which account Pierius tells us, in his Hieroglyphics, that the Egyptians represented the sound of this letter by the figure of that animal.

B is also one of those letters which the eastern grammarians call labial, because the principal organs employed in its pronunciation are the lips. It has a near affinity with the other labials P and V, and is often used for P, both by the Armenians, and other orientals; as in Betrus for Petrus, affinis for absens, &c.; and by the Romans for V, as in amavit for amatus, Berna for bernia, &c.; whence arose that jell of Aurelian, on the emperor Bonosius, Non ut vivat natus est, sed ut bilat. See V.

The final B was also sometimes changed into L in the ancient languages, as Bethzabul for Bethzaphub. Bochart (Hieroz. p. ii. iv. c. 9. p. 501.) and Grotius (in Matth. x. 25.), have given instances of such changes.

B and C, or the K of the Greeks, are often substituted for one another. Thus, the Greeks say, βαδαγος for Kopexagov; and the Latins Basso for Caflno. B and D are also used interchangeably, as in Bellum and Duellum. See Quesnel, de Ort. c. 45.

Plutarch observes that the Macedonians changed φ into B, and pronounced Bilph, Berenice, &c. for Philip, Pherecides, &c.; and that those of Delphos used B, instead of H; as βατοσ for ετιομ νευατοσ for ετιομ νευατοσ. See P.

The ΕὐΔΟΣ change the Ι into γ, as βαθαγος for βαθαγος.

The modern Greeks call the beta, vita.

The Latins said suprano, oppresso, for subprano, etpreno, and pronounced optimus, though they wrote olimus, as Quiniellian has observed. They also used B for F or Ph; thus in an ancient inscription mentioned by Gruter, oinfraeido is used for offaeido. See F, &c.

B requires an entire closure and preasure of the lips, and is pronounced by forcing them open with a strong breath. This letter also, if it pass through the mouth, becomes an M; as appears by those who have the nozils plugged by a cold or otherwise, when they endeavour to pronounce the letter M; for infl. cc, many men, is by such a one sounded many ben. See M.

With the ancient B, as a numeral, flood for 300, as appears by this verse:

"Et B trecentum per se retinere videtur."
pellation to their respective idols; and thus were introduced a variety of deities under the denomination of Baal, called Baalim, or Baal, with some epithet annexed to it, as Baal-Berith, Baal-Gad, Baal-Molah, Baal-Peor, Baal-Zebub, &c. Some have supposed that the descendants of Ham first worshipped the sun under the title of Baal (1 Es 2 Kings. xxii. 11.), and that they afterwards added to it the patriarch who was the head of their line; making the sun only an emblem of his influence and power. It is certain, however, that when the custom prevailed of deifying and worshipping those who were in any respect distinguished amongst mankind, the appellation of Baal was not restricted to the sun, but extended to those eminent persons who were deified, and who became objects of worship in different nations. The Phenicians had several deities of this kind, who were not intended to represent the sun. It is probable that Baal, Belus, or Bel, the great god of the Carthaginians, and also of the Sidonians, Babylonians, and Assyrians, who from the testimony of scripture appears to have been delighted with human sacrifices, was the Moloch of the Ammonites, the Chronus of the Greeks, who was the chief object of adoration in Italy, Crete, Cyprus, and Rhodes, and all other countries where divine honours were paid him, and the Saturn of the Latins. In process of time, many other deities, besides the principal ones just mentioned, were distinguished by the title of Baal amongst the Phenicians, particularly those of Tyre, and of course among the Carthaginians, and other nations. Such were Jupiter, Mars, Bacchus, and Apollo or the sun.

The term Baal, as we have already observed, denoted God or Lord among the orientals; and the Zeus of the Greeks had the same meaning. Servius (in Æn. i.), who is followed by Vossius (Theol. Gent. l. i. c. 4.), observes, that Baal in the Punic language had two significations, either denoting Saturn, or being equivalent to the Latin dux or god. Accordingly, if Baal and Zeus, or Jupiter, be words of the same import in different languages, we may apply to the former what Varro, cited by Tertullian, says of the latter, that the number of these deities who passed under this denomination amounted to 369. Some, however, are of opinion, that there were originally only two gods of the Phenicians, and consequently of the Carthaginians; and that all the other deities were comprehended under two; viz. Baal and Ashtaroth, or Belus and Altar. See Sold. de Dios Syr. Syn. 2. c. 2. p. 125. Shuckford's Connexion, b. v.

The temples and altars of Baal were generally placed on eminences; they were places inclosed with walls, wherein was maintained a perpetual fire; and some of them had statues or images, called in scripture "Chammath." Maundrell, in his journey from Aleppo to Jerusalem, observed some remains of these idolatrous altars in Syria. Baal had his prophets and his priests in great numbers; accordingly we read of 450 of them that were fed at the table of Jezoel only; and they condescended to worship the deity, by offering sacrifices, by dancing round his altar with violont gestures, and exclamation; by cutting their bodies with knives, and lancets, and by running in processions to the temple, as if they were possessed by some irresistible power. Several of these practices, and particularly that of cutting the body, were, according to Mode (vol. ii. p. 774.), cemetery sites, as appears from Lev. xxii. 5. xiii. 28. Deut. xiv. 1. Jerem. xxvii. 37. xxvi. 6; and they were retained, says this learned author, in the funeral worship of those that were deified after their death. Hence, and from other circumstances, he infers, that Baal was a demon-god. See BAALIM, DEMON, and IDOLATRY.

BAALBEK, in Geography. See Balbec.

BAAL-BERITH, in Ancient Mythology, derived from bedel, savorign, and berith, covenant; a deity acknowledged under this title by the Carthaginians and Phenicians in their alliances.

Jupiter was worshipped by these people under the denomination of Belus or Baal; to him they addressed their oaths, and they placed them at the head of their treaties. Hence force have not scrupled to affirm, that he was the Baal-Berith of the Phenicians (see Baal, in Mythol. vol. i.), but Cumberland (see Sanchoniah's Phon. Hist. p. 153.) supposes that Baal-Berith was Cronus, or Ham, worshipped anecdotally at Berytus. See Judg. xiii. 13. 14.

According to Bryant (Anal. Anc. Mythol. vol. ii. p. 359.), the Baal-Berith of the Canaanites was no other than the Akite god; with whose idolatry the Hrodites in general were infected, soon after they were settled in the land of Canaan. (See DERRY.) The Greeks, however, had their Laripers, or Jupiter, the avengers and arbitrator of oaths; and the Latins their Deus Fidus, or Jupiter Plinhus, whom they regarded as the god of honesty and integrity, and who presided at treaties and alliances.

BAAL-GAD, BAGAD, or BEGAD, an idol of the Syrians, whose name was composed of baal, lord, and god, chance or fortune; the god of chance or fortune. After the god of thunder, the god of chance was one of the first worshipped by mankind. See Philo. Trans. vol. iv. N. 2. an. 1706.

BAAL-GAD, in Ancient Geography, a city of Palestine, at the foot of mount Hermon, so called from the deity Baal-Gad, who was worshipped in this place. Jer. xii. 4.

BAAL-HAMMON. See Bacot.

BAAL-Hazor, a city of Ephraim, where Abishal kept his flocks. 2 Sam. xii. 23.

BAAL-HERMON, a town of Palestine, generally placed north of the tribe of Issachar. 1 Chron. xii. 23.

The temple of Baal-Heron in mount Libanus (Judges, iii. 1, 3.), was probably founded, says Bryant (Anal. Anc. Mythol. vol. ii. p. 163.), by the Cdminians, who formed one of the Hivite nations in those parts.

BAALIM, in Antiquity Mythology, inferior deities among the Phenicians.

The learned Joseph Mele (vol. ii. p. 774.) having suggested that Baal, or in the Chaldee dialect Bel, was the first king of Babyl after Nimrod, and that the first that was deified and reputed a god after his death, apprehends that this gave occasion for denominating all other deities Baalim. Thede Baalim, he conceives, were the deified souls of the dead. Bryant also (vol. ii. p. 529.) is of opinion that the most early devotion to idolatry confided in the worship of the sun, and that of deities, called Baalim. See DEMON.

BAAL-MEON, in Ancient Geography, a city of Canaan, in the tribe of Reuben, taken by the Moabites, and pofticed by them in the time of Ezekiel. Num. xxxix. 38. 1 Chron. v. 8. Ezek. xxv. 9. Ezechias and Jerom place it nine miles from Eibus or Elephon, at the foot of mount B orn or Aharon.

BAAL-Peor, or BAAL-PHAGOR, in Mythology, an idol deity of the Moabitids and Midianites, supported by force to have been Pharaus, whose worship was conducted with great impurity; by others to have been Adonis; and by others to have been Saturn, adored under this appellation in Arabia. The learned Mele, supposing Peor to be the name of a mountain in Moab, upon which a temple of Baal was erected, concludes that Baal-Peor was only another name of Baal, derived from the situation of his temple; and to add no more, Selden (De Dies Syris, Syntag. 1. c. 5.) observes that Baal-Peor is Pluto, founding his conjecture on Pt. civ. 28. where it is said, "They joined themselves unto Baal-Peor, and ate the offerings of the dead." The sacrifices to which these words refer, says this author, were offered.
offered to appease the manes of the dead. But these sacrifices or offerings of the dead may mean no more than the sacrifices or offerings made to idols, or false gods, whose properly called "the dead," in contradistinction to the true God, called in scripture "the living God." BAAL-PERAZIM, in Ancient Geography, a place of Palestine, in the valley of Rephaim, not far from Jerusalem, where David put to flight the Philistines. 2 Sam. x. 20.

BAAL-SAMMAI, or BAAL-SHEMMAI, according to the Hebrew mode of expression, q. d. the Lord of honour, in Mythology, a deity of the Phenicians, which was, probably, the fun, to whom they and the Carthaginians paid divine honours, added to him with their arms extended, Belahm, or the queen of heaven, was the moon.

BAAL-TAMAR, in Ancient Geography, a place of Judaea, in the tribe of Benjamin, situate, according to Eusebius, near Gibeah, where the children of Israel engaged the tribe of Benjamin. Judg. xx. 33.

BAAL, in Mythology, a goddes among the Phenicians, chiefly worshipped at Byblos; supplicated by fome to have been the same with Diana of the Greeks.

BAAL-ZEBUB, See Beelzebub.

BAAL-ZEPHON, or BAAL-TZEEPHON, q. d. the god or idol of the north, in Mythology, a deity of the ancient Egyptians, so called, according to Dr. Shaw, (Trav. p. 309.) in contradistinction, perhaps, to others of the lower Thibasis, whose places of worship were to the south or east. But if Tzefon be derived from 7ESE, to fly, act, or adverbe, then Baal-tzephon will probably signify the "god of the watch-tower," or "the guardian god," such as the Hermes or Terminus of the Romans, the EZEH-GOD of the Greeks, &c. At the temple of this deity, according to the Jerusalem Targum, Pharaoh, when he was pursuing the Israelites in their exodus, offered sacrifice, waiting till the next day for an attack upon Israel, whom he believed his god had delivered into his hands; but, in the mean time, they passed the Red sea, and escaped.

BAAL-ZEPHON, in Ancient Geography, a place thought by some to be a city, opposite to Pihahiroth, where the Israelites encamped before they passed the Red sea. It was distinguished either by its northern situation, 7ESE, signifying the north, in Exod. xxv. 26. Josh. viii. 11. from his in other places of scripture; or by some watch-tower or idol temple that was extended upon it. Dr. Shaw supposes, that this place was at the eastern extremity of the mountains of Suez, or Atsam, the most conspicuous of these deferts; insomuch as it overlooks a great part of the lower Thibasis, as well as the wilderness that reaches towards, or which rather makes a part of, the land of the Philistines. Accordingly Migdol might lie to the north, and Baal-tzephon to the north of Pihahiroth. For the march of the Israelites from the edge of the wilderness being towards the sea, or the south-east, their encampments betwixt Migdol and the sea, or before Migdol, could not well have another situation. See Exod. xiv. 2. xiv. 2. q. Numb. xxxviii. 7. Eusebius reports, from ancient traditions, that the Israelites passed at Chafera, the Kofoun of the Arabs, both of the terms signifying destruction, which was a very expressive appellation, if it was deduced from the destruction of the Egyptian army. The situation of Kofoun, it has been said, is near Suez; and hence it has been thought, that Baal-tzephon was at Suez, though Poecocke, Shaw, and Bruce, place it farther to the south. In support of this opinion it has been further alleged, that the appellation Baal-tzephon, the god of the north, implies, that the temple of this deity stood on the northern extremity of the Red sea itself, or on the northern extremity of the gullet called Pihahiroth. "Baal-tzephon," says Bruce (Travels, vol. i. p. 233.) "was probably none

idol's temple, which served as a signal-house upon the cape which forms the north entrance of the bay, opposite to Jubb-el Atakah, where there is still a mosque, or saint's tomb. It was probably a light-house, for the direction of ships going to the bottom of the gulf, to prevent missing it for another foul bay, under the high land, where is also a tomb of a saint, called Abou Derage." See PIBAHIROTH.

BAAL'S RIVER, and BAY, in Geography, lie in West Greeneland, between Bear Sound on the south-east, and Delft's Point on the north-west, and opposite to the mouth of Hudson's Strait.

BAAN, John Dr., in Biography, an eminent portrait-painter, was born at Haelem, in 1653, and after receiving instructions in the art of painting from his uncle Piemans, pursued his studies with singular ability under Bakker, at Amsterdam. Having determined to form himself upon the model of Van Dyck, his merit was soon universally known; and he was invited by Charles I. to London, where he painted the portraits of the king, queen, and chief nobility at court, and was much admired for the elegance of his attitudes, and also for his clean, natural, and lively tone of colouring. Upon his return to the Hague, he painted a noble portrait of the duke of Zell, for which he received a sum amounting nearly to 500l. The bell of De Baan's performances is the portrait of prince Maurice of Nassau, in the execution of which he exerted the utmost efforts of his pen. He died in 1702. Pilkington.

BAAN, Jacob Dr., the son of the former, was born at the Hague in 1673; and having acquired eminence as a painter under the instruction and by the example of his father, he came over to England about the age of twenty, among the attendants of William III., and he was favourably received. From England, where he gained by his performances in portrait-painting distinguished reputation, he travelled through Tuscany to Rome, and there devoted himself to the prosecution of his studies. However, though he gained a considerable sum of money by painting several portraits and conversations, during his residence at Rome, he squandered it away by various modes of prodigality and excess. His premature death, at the age of twenty-four, A. D. 1700, and the previous interruption of his abilities, prevented his arriving at that excellence of which his talents were capable. Pilkington.

BAANITES, in Ecclesiastical History, the followers of Baanes, who adopted and disseminated the Manichean notions in the ninth century, about the year 810.

BAAR, in Geography, a lordugrave of Germany, in the circle of Swabia, belonging to Furlenstein, situate to the east of Brieg, The source of the Danube is in this territory.

BAARBAS, BOBARAS, or BACHARAS, in Botany, an extraordinary kind of root, said to grow on mount Lebanon, in a valley called Baraur, whence the name, near the city Macheron.

By the account which Josephus gives of it, it seems to be a root of vegetable phosphorus, for he represents it as of a flame colour, emitting rays of light in the night, and disappearing by day.

BAARIOS, in Geography, a river of Asia, in Kamb chanthe, which runs in a valley between two mountains.

BAAT, in the language of the Samae, anwering to ticeul in that of the Chinefe, denotes a weight and coin current in those kingdoms. It weighs about half an ounce.

BABA, in Biography, a Turcoman impolrot, and pretender to prophesy, who appeared among the Mahometans, in the city of Amaha in Natalia, in the year of the Hegira 638, A. D. 1240, and who seduced a great multitude of followers. One of his disciples, named Isaac, published his commission, and gained a number of adherents. Baba and Isaac concurred in commencing acts of hostility against all
all who would not adopt their profession of faith, viz. "There is but one God, and Baha is his apostle," and all they put several Mahometans and Christians, who refided them, to death. At length, the Mahometans and Curilians uniting together, raised an army, which entirely routed their followers, destroyed many of them, and took their two chief captives, who were afterwards beheaded: and thus their left was totally annihilated. Herbelot. Bib. Orient. Sale's Korâ. Introd. p. 187.

Baba, in Geography, a territory in the jurisdiction of Guayaquil, in South America, extending to the skirts of the Cordilleras, or the mountains of Anga Marcia, belonging to the jurisdiction of Latacunga. Beside the principal town of the same name, at some distance from a river of the same appellation, there are two other places called San Lorenzo and Palenque, from the capital, and near the Cordilleras, whose inhabitants are little civilized. The cacao-trees, which abound in this district, produce fruit twice in the year.

Baba, or Tenisfaro, a town of European Tukey, in Bulgaria, 64 miles east of Siliistra.

Baba, Cape, a cape of Natalia, in Asia Minor, between the islands of Tenedos and Lesbos, and near the gulf of Arademyt, on the coast of the Archipelago. N. lat. 39° 33'. E. long. 26° 22'. It was formerly the promontory Leitoa. A small town of the same name, situated to the east of the cape, on a lofty ground, has a small harbour for boats; it is famous in Turkey for the knife and sword blades which are manufactured there for the use of the orientals. It is peopled by Turks and Greeks; the adjacent soil is tolerably good, and furnishes the same productions as that of Troas. Olivier's Trav. vol. ii. p. 56.

Baba, in Ornithology, the Russian name of the Pelican.

BABACHIKA, in Geography, one of the Bilbafos islands.

BABAHOYO, a territory and town of the jurisdiction of Guayaquil, in South America. The town is the site of the grand cullom-house, where account is taken of the various commodities that are conveyed to or from the Cordilleras and adjacent countries. Beside the principal town, this district contains Ujiba, Caracol, Queila, and Mangaches; the two latt border on the Cordilleras, and are at a considerable distance from Ujiba, where the principal roads diverge during winter, and whence he removes to Babahoyo in the summer. The capital, besides its settled inhabitants, has always a great number of traders from other ports. This country, being level and low, is overflowed by the streamings of the rivers Calama, Ujiba, and Caracol; so that at Babahoyo the water rises to the first story of the houses; and during winter it is entirely defetered. In this district cacao is abundant. It also produces cotton, rice, Guinea pepper, and a great variety of fruits. It has likewise large droves of black cattle, horses, and mules, which, in winter, are kept in the mountains, and in summer are removed to the low lands to feed on the cullomate, a plant so luxuriant as to cover the ground, and rising to the height of two or three yards high.

BABAIN, a town of Perâia, in the province of Kerman, ninety miles south-east of Sergian.

Babain, a village orburgh of Egypt, built on the ruins of an ancient town, about six miles west of Acmounain.

BABA-BABA, one of the richest countries of Abyssinia, about five miles from the river Baha, and near the lake Tana. This on the fourth, and Weeroona on the north, are the two granaries that supply the rest of the kingdom. It contains a number of small villages; in which the queen and many of her relations have their houses and possessions. Thee villages are all surrounded with Kolquall tree, as large in the trunk as those of the province of Tigré, but less beautiful, and furnished with fewer branches. Bruce's Travels, vol. iii. p. 504.

BABBI, Gregorio, in Biography, a tenor singer in the Italian operas, with the sweetest, most flexible, and most powerful voice of his kind, that his country could boast at the time. He flourished from 1720 to 1730; never was in England; but we have seen the principal songs that were composed for him, and concerted with many good judges that heard him sing them, and have no doubt but that he was a dignified, splendid, and powerful performer.

BABBINI, Matteo, in Biography, fo named from being the scholar or imitator of Babbi, arrived in England in 1760, at the same time as Rubini. He had a tenor voice that was sweet, though not powerful, had an elegant and pleasing style of singing; but it was easy to imagine that his voice had been better; and not difficult to discern, though his taste was modern, and many of his rifferamenti refined and judicious, that his graces were sometimes redundant, and his manner affected. His importance was very much diminished, when he sung with the Mara; and after the arrival of Rubinielli, he sunk into insignificance.

BABBLING, among Hunters, is when the hounds are too buily after they have found a good scent.

ABEL, William, in Biography, organist of All-hallows, Bread-street, seems to have been the first, in this country at least, who thinned, simplified, and divested the music of keyed-instruments of the crowded and complicated harmony, with which, from the convenience of the clavier, and passion for full and elaborate music, it had been embrafed from its earliest cultivation. This author acquired great celebrity by wire-drawing the favourite songs of the opera of Rinaldo, and others of the same period, into flowy and brilliant legons, which, by mere rapidity of finger in playing finge founds, without the affittance of taffe, expression, harmony, or modulation, enabled the performer to affonish ignorance, and acquire the reputation of a great player, at a small expence. There is no instrument fo favurable to such frotthy and unmeaning music as the harpsichord. Arpeggios, which lie under the fingers, and running up and down the scales of cley keys with velocity, are not difficult, on an inftument of which neither the tone nor tuning depends on the player; as neither his breath nor bow-hand is requisite to give exellence or fweetnefs to its founds. And Mr. Abel, by avoiding its chief difficulties of full harp-wire, and diftinguifhing motion of the parts, at once gratified thefe dfires and vanity. We remember well, in the early part of our life, being dappled to the glare and glister of this kind of tinfel; this pouffeir dales les yeux, which Mr. Felton continued, and other dealers in notes, et rien que des notes, till Jozzi, the finger, by his neat and elegant manner of executing the brilliant, graceful, and pleafing legons of Alberis, rendered them the objects of imitation. At knithg, on the arrival of the late Mr. Bach, and conftruction of pianoforces in this country, the performers on keyed-instruments were obliged wholly to change their ground; and instead of furipifying by the seeming labour and dexterity of execution, had the real and more useful difficulties of taffe, expression, and light and shade, to encounter. Abel, who was one of his Majesty George the First's private mufic, died about the year 1772.

ABEL, in Ancient Geography, a city and tower built by Noah's posterity in the plain of Shinar, Gen. xii. 9. Its precise situation is not ascertained; nor is it of any great importance to determine it. It was within the province of Shinar, and probably the ancient Babylon was erected on or near its ruins. (See SHINAR, and BABYLON.) Some trave

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vellers, led by a tradition of the inhabitants, have judged a place about eight or nine miles to the west, or northwest of Bagdad, to be the tower of Babel. This is called the tower of Nimrod, and is conspicuous at a great distance, being insulated in an extensive plain between the Euphrates and Tigris, and referred by its ruins a shapeless mountain more than a tower. Ranwulf supposes he found the ruins of Babylon upon the Euphrates, near Pelhja, about 36 miles to the south-west of Bagdad; and Della Valle directed, by another tradition, to seek it about two days journey lower, near an ancient city called Hella, seated on the same river. After all, there is no end to conjectures; the ruins described by many authors seeming to be rather the remains of some later structures raised by the Arabs, than those of the original tower of Babel. The time of this enterprise is generally allowed to have been before the birth of Phege, about the year 2247 B.C., in the year of the flood 101 according to the Hebrew calculation; in the year 401, according to the Samaritan; and, according to the Septuagint, in 531. The perfoms concerned in this undertaking were, according to the history, the potter of Noah; who journeying from the east, found the plain of Shinar, where they dwelt, and conccurred in this enterprise. There is no reason, therefore, for excluding the family of Shem, as some have done, from any share in this memorable transaction. Bryant, however, maintains that Shem and his potterty had no concern in it; and that the chief agents were the sons of Chus, or Chuthites; and that they were the ancient Pisrs, or worthy traders of Babel. The motives which induced them all to unite and co-operate in the execution of this design have been differently assigned. Accordingly, the meaning of the paffage which announces it, has been differently interpreted. It is as follows: "And they said, go to, let us build us a city and a tower, whose top may reach unto heaven; and let us make us a name, lest we be scattered abroad upon the face of the whole earth." Some have supposed, that they apprehended a second deluge, and in order to secure for themselves a refuge in case of danger, they determined to erect this lofty building. Others, who imagine, that if this had been their purpose, they should have selected an eminence, and not a plain, for the site of their proposed edifice, suppose that they engaged in this undertaking in order to prevent that separation and dispersion of which they had been previously admonished. The scripture, say these perfoms, expressly affirms the intention of the conccrd, which was "to make for themselves a name," or establish a memorial of themselves, "lest they should be scattered," or, as the words are otherwise rendered, "before they should be scattered abroad." Other interpreters allege, that the word יִשָּׂר, ishm, should be translated "a sign," and not "a name;" and they render the paffage "let us make us a sign, lest we be scattered;" and thus as Perizonius (Orig. Babyl. c. 10. p. 168. c. 11. p. 193. c. 12. p. 223.) explains it, the tower, to serve them as a beacon, or mark, by the sight of which, or of a signal from the top of it, they might avoid dividing in the open plains with their flocks (the first men being shepherds), and he brought back again into the city, which they had built for a place of abode, as they were unwilling to be dispersed. As to the expression "of its top reaching unto heaven," it is a Hebrew paraphrase, merely devoting its great height; and for this purpose we read of cities walked up to heaven. Some, however, have supposed, that the phrase was intended to denote the use to which this tower was to be appropriated, or that it was to be consecrated to the heavens, or to the worship of the sun, moon, and stars, of the fire and air, and other natural powers, as deities; and as it indicated a tendency towards idolatry, the true God interposed to prevent a total and irreclaimable defection. Whatever was the design with which this edifice was constructed, Almighty God thought proper to restrain the execution of it (Gen. xi. 6.), by the confusion of language and dispersion which ensued. See Confusion of Languages, and Dispersion of Mankind. From this confusion, the city and tower were denominated Babel. By altering in the word Babel the second beth into a lamed, the paffage (Gen. xi. 9.) might be thus rendered, "the name of it was called Babel, because there the Lord did build; that is, confounded the lip of all the earth:" or thus, "the name of it was called confusio, because there the Lord confounded the lip of all the earth." Some have supposed, deviating indeed too far from the literal history (vid. Bocharti Oper. t. i. p. 36.), that Moses did not mean any particular tower, but that he spoke in general of a turreted city, or a city with turrets on its walls. Such a city, compared with the caverns in which the first men unquestionably lodged, might well appear a tower with a heavenly or very elevated top, like the habitations of the Anakims; these being furnished with natural rocks or peaks, and that with artificial elevations. See Gen. xi. 4. Deut. i. 28. The materials of which this tower was constructed were, as the scripture informs us (Gen. xi. 3.), burnt bricks instead of stone, and slime instead of water. According to an enlerr tradition, three years were employed in making and burning these bricks, and each of them was 12 cubits long, 10 broad, and 5 thick. The slime was of a pitchy substance, or bitumen, brought from a city in the neighbourhood of Babylon, called Is or Hi. Oriental writers, on whose report we can repose little confidence, pretend that the city was 313 fathoms in length, and 151 in breadth; that the walls were 5533 fathoms high, and 33 broad; and that the tower itself was no less than 10,000 fathoms or 12 miles high. St. Jerome affirms, from the testimony of eye-witnesses, who, as he says, examined the remains of the tower, that it was four miles high. But it is needless to recount more of these fables. See Babilon. BABEL-MANDEB, sometimes called BABEL-MANDES, in Geography, a narrow strait at the entrance into the Red sea, which connects it with the Indian ocean, lying between the south-western coast of Yemen or Arabia Felix, and the coast of Adel in Africa, and formed by the projecting head of Arabia on the east, and that of Abyssinia on the west. The width of this strait is about 30 geographical miles; and within it, about a league from the coast of Yemen, is the small barren island of Perim, sometimes called Babel-mandeb, which has a good port, but is without fresh water. This island is called by Arrian the isle of Diomirns. Near the African coast are several small islands, and on the continent is the town of Zeita, which is subject to the Imam of Yemen. Vessels that navigate this strait most commonly pass between the isle of Perim and Arabia, though the paffage is narrow, on account of the number of small islands on the African coast. The currents are strong, and the swell high, so that it is difficult to pass without a fair wind; hence this navigation has been dreaded by the unskillful mariners of the adjoining countries. In ancient times the navigation of the Arabian gulf, which is even now flow and difficult, was considered by nations around it to be so extremely perilous, that it led them to give such names to several of its promontories, bays, and harbours, as convey a striking idea of the impression which the dread of this danger had made upon their imagination. Accordingly, the entry into the gulf, they called Babel-mandeb, which signifies the gate or port of...
of destruction; to a harbour not far distant, they gave the name of Mts., or death; and an adjacent headland they called Gardefan, or the cape of burial. Near this strait Ptolemy places a town, which he calls in the Greek Dandref, probably a corruption of Mande; and the promontory on the south side of the strait, and the city upon it, is Dirae, which means the Hades, or Hell, by Ptolemy called Aes. A cluster of islands met with in the canal, after passing Moqba, is called Jibbel Zekir, or the islands of prayer for the remembrance of the dead. And in the same course up the gulf, others are called Schast Gizer, praise or glory to God, as we may suppose, for the return from this dangerous navigation. Niebuhr and Bruce.

In the "Periplus of the Erythraean sea," by Dr. Vincent, the straits of Babel-mandeb are conducted to 23 miles, and divided into two channels, by the intervention of Perim and other islands; and they open in an easterly direction to Cans or Cape Fatuque on the Arabian side, and to Aramata or Gardefan, on the coast of Africa; which two promontories form the proper entrance to the straits from the Indian ocean, and are about 250 geographical miles asunder.

BABENHAUSEN, a town of Germany in the circle of Swabia, to which belongs a lordship of the counts of Fugger, seated on the Guzzo; 26 miles W. S. W. of Augsburg, and 16 S. E. of Ulm. N. lat. 48° 11'. E. long. 9° 16'.

BABENKOV, a town of Russia, in the government of Archangel, 95 miles S. S. W. of Kola.

BABIA, a river of Russian Lapland, which runs into the White sea, six miles south of Palizada.

BABA, in Mythology, a goddes of Syria, worshipped particularly at Damascus. She was supposed to be the goddess of youth, and to have been Venus, whose pre-eminence in love and marriage. Selden, De Dis Syria, Synag. 11. c. 4.

BABIBA, in Ancient Geography, a town of Africa, in Libya interior, on the Western coast, between the rivers Aradus and Stachis.

BABICA, in Geography, a town of Poland, in the palatinate of Mindk, eight miles east of Myszy.

BABIN, Francis, in Biography, a theologian and canonist of France, was born at Angers in 1651, and elected professor of divinity in the university of his native city. Here he read lectures to numerous classes for 20 years. In 1706, he was appointed by the bishop of Angers one of his grand vicars, and employed to collect and regulate the minutes of the conferences of the diocese. This work was published in 18 volumes 12mo, and is much esteemed for its method and style. In 1697, Babin published in 4to. a work, intitled "A Narrative of what passed in the university of Angers, on the subject of Fanenin and Carteclinin." Louis XIV. allowed him a pension of 2000 livres, and appointed him to several lucrative and honourable offices, which he enjoyed till his death in 1734, at the age of 85. He retained his faculties to the last, and was often consulted on ecclesiastical questions and cases of conscience. Nouv. Dict. Hist.

BABEN, in Geography, a town of Poland, in the palatinate of Lublin; eight miles south-west of Lublin.—Alto, a town of Poland, in the palatinate of Braslawa; twenty-eight miles north-east of Braslawa.—Alto, a town of Poland, in the palatinate of Belez, thirty-six miles east of Belez.

BABINGTON, Germain, in Biography, an English bishop, was born about the middle of the sixteenth century, in Nottinghamshire, as some say, but according to others, in Devonshire, and educated in Trinity college, Cambridge. Whill he was domestic chaplain to Henry earl of Pembroke, president of the council in the marches of Wales, he is said to have afflicted lady Mary Sidney, the countess of Pembroke, in her English metrical version of the Psalms of David. By the inter ed of his patron, he was appointed treasurer of the church of Landaff, and in 1591 became bishop of that see, from which he was translated first to Exeter, and afterwards to Worcestor, where he remained for thirteen years, till the time of his death in 1610. Notwithstanding his liberality in repairing the cathedral of the diocese, and bequeathing to it his library, no monument was erected on his grave. For learning and piety, and as a pathetic and popular preacher, Dr. Bishington has been highly extolled.

He was also humble and diligent, and with the exception of having alienated from the bishopric of Exeter the rich manor of Creden in Devonshire, he has been deemed unobtrusive to the charge of avassor. His works, published in 1615 and 1637, contain "Comfortable Notes on the Pentateuch," an "Exposition of the Creed, Commandments, and Lord's Prayer," a "Conference between Man's Frailty and Faith," and three sermons. They are written in the quaint style of the times, and are distinguished by their piety more than by their literary merit. Log. Brit.

BABINOVITCH, in Geography, a district of the government of Mohile, in Russia, on the river Lutchof, falling into the Duna. N. lat. 54° 52'. E. long. 30° 14'.

BABROSA, BABRONIA, and BABRIBOSA. See BARTROSSA.

BABITZ, in Geography, a town of Bohemia, in the circle of Carlsbad; five miles W. N. W. of Tschich Brodu.

BADEFEUF, a town of France, in the department of the Oise, and chief place of a canton in the district of Noyon; two miles E. N. E. of Noyon.

BABOZLA, a town of Lower Hungary, in Schalvonia, between Poheg and Zigeth, towards the Drave; supposed by some to have been the ancient Manfueifinum, or Pons Manfueifius.

BADOON, in Zoology, the name of that tribe of Aces (Simitia Linn.) which have short tails;—cauda abbreviata; papioœna naiitilu nectarum, Gmel. Linn. Syn. Nat.; and comprehending the species nemetinnis, specia, sphæos, morhn, mânon, and porcaria. The baboons of Dr. Shaw are fuch of the Simitia genus as have very muscular bodies, and whose tails are commonly short. Baboon in the English language has the fame application as babuin in the French, and of which many accounts have been given by Buffon, Sommerv, and others. Virey observes, that the babuinus are a ferocious and very lascivious kind of ape, found in many parts of the old world, and especially in Africa. Their muzzle, he remarks, is a little lengthened in the fame manner as that of a dog, and on that account they have sometimes been called fingers cyanoscephalus, and also magatos. They live on fruits, seeds, roots, leaves, insects, &c. like the other kinds of aces; and are observed to be a mischievous and thievish race. In a state of captivity they are altogether untameable, are fond of wine and Spiritous liquors; and the females it is asserted, have an antipathy to the fair sex, as the males have against men. See Simitia.

BABOPAS, in Geography, a town in the interior part of New Albion, caif of the long range of mountains which extend northward from the head of the peninsula of California. N. lat. 37° 45'. W. long. 114° 25'.

BABORA, a town of Poland, in the palatinate of Lemberg; twelve miles south of Lemberg.

BABOUCARD, in Ornithology, the name given by Buffon to the Senegal variety of Alcedo Ispida (3 Gmelin), or common king-fisher; and which Brison calls Ispida Senegalensis. 311 BABOUIN.
BABOUN, a Museum de Chien, in Somali (ed. D. Dutten, in Zoology, the "Stellipinnias". Jahn; and the ref. cits. Perm. See SIMIA HAMÁDAN.

BABRA, in Geography, a town of North America, in the country of New Naxare; 265 miles south of Cahuiz. 

BABCUB, a small town of Italy, in the Campagna of Rome.

BABY, a town of the East Indies, in an island of the river I. las, sup. by force to be Cambaqui, and by others Patan, stretching out towards the islands Formosa and Leueus.

BABYANES, a cluster of six or seven small islands, about nineteen leagues north of the island of Lagon, in the Pacific ocean; one of them contains about 500 inhabitants; and the chief produce is wax, choya, bananas, cocoa, and plants.

BALEUEA, a town of North America, in the province of Ciliânas; 65 miles north-north of Ciliânas.

BABYAS, in Biography, a celebrated martyr of the Christians, was chosen bishop of the see of Antioch, A. D. 228, under the emperor Gordian; and after governing this church for thirteen years, he either died in prison, or was put to death in the perfecution of Decius. Chry- sotom applauds his courage for refusing admittance into the church to an emperor who had killed the son of a king, whom he had received as an heitage; and this emperor is supposed to have been Philip, who put his colleague, the young Gordian, to death. This is said to have been the cause of the bishop's death. But there are several circumstances that invalidate the truth of this story. However this be, the remains of Babylas were transported about one hundred years after his death, by order of the Cesar Gallus, into the midst of the grove of Daphne, where was a temple of Apollo; a magnificent church was erected over them; a portion of the sacred lands was appropriated to the maintenance of the clergy, and the burial of the Christians at Antioch; and the heathen oracle was silenced, as it was supposed by the presence of the saint's dust, but more probably, as Van Dale suggests (De Oraculis, p. 392.), by an apprehension of the priests, that the Christians, who daily visited the tomb of the martyr, would detect their imposture. Julian, soon after demolished this church; and the Christians removed the relics of St. Babylas, with acclamations of triumph, to their former habitation within the walls of Antioch. On this occasion, Julian exerted his pride to dissemble his repentance; but during the night which terminated this procession, the temple of Daphne was in flames, the statue of Apollo was consumed, and the walls of the edifice were left a naked and awful monument of ruin. The Christians of Antioch confidently asserted, that the powerful intercession of St. Babylas had pointed the lightnings of heaven against the devoted roof. Julian, however, could disguise and restrain his indignation no longer. Imputing the fire of Daphne to the revenge of the Christians, whom he apprehensively denominated Gaiéans, he ordered the doors of the cathedral at Antioch to be shut, and its wealth to be confiscated. For the purpose of discovering the criminals several ecclesiastics were tortured, and a prebendary of the name of Theodorot was heheaded. Eu- feb. E. H. I vi. c. 29. c. 39. Julian in Misopogon, p. 361. Ammianus Març. I xxi. c. 13. Gen. Dict. Gibbon's Hist. vol. iv. p. 121, 14.

BABLON, in Ancient Geography, the capital of the ancient Babylonia, or Chaldaea, supposed to have been situated in N. lat. 34° 34', E. long. 43° 46' 36"; or according to the observations of M. Beauchamp (Mem. Ac. St. Paris, 1737'), N. lat. 32° 34', and E. long. 44° 12' 30". This ancient city, reckoned for many ages one of the wonders of the world, was built on the Euphrates: and its ruins, of the four villages now remain, and placed by most learned writers at a town called Hilla, or Eulus, about fifteen leagues to the south-west of Bagdad. It was fated on a plain, and surrounded by water; and hence appears the propriety of the scripture expression (H. xxi. 1.) the bur- der of the defect of the sea," or rather "of the plain of the sea;" and besides, the places about Babylon, as Aby- denus informs us from Megasthenes (Encl. Prep. Evangel. I. xvi. p. 347.), are said from the beginning to have been overshadowed with waters, and to have been called "the sea." Nevertheless it is no less properly denominated "a mountain." Jer. ii. 35. on account of the great height of its walls and towers, its palaces and temples; and accordingly Eusebius cited by Josephus (ubi infra), lays some of the buildings, that they resembled mountains. It was founded, as some say, by Semiramis, and according to others, by Belus, who is thought by many to be the same with Nimrod. But whoever was the first founder of it, it was in process of time much improved; and Nebuchadnezzar, in particular, repaired, enlarged, and beautified it to such a degree, that he may be said to have built it, according to his own vain-glorious boast Dan. iv. 31. "Is not this great Babylon, that I have built for the house of the king- dom, by the might of my power, and for the honour of my majesty?" Nor is this afforded only in scripture, but it is likewise attested by heathen authors, Megasthenes, Berenec, and Abydenus, whose words are quoted by Josephus (Antig. l. xiii. v. t. t. i. p. 376. ed. Hieron.) and Eusebius (I. xvi. p. 345. ed. Vigil.). By one means or other Babylon became a city to great and famous, that it gave name to a very large empire; and it is denominated by a variety of just and appropriate terms in scripture, such as "great Babylon" (Dan. iv. 1; "the glory of kingdoms," and "the beauty of the Chaldees excellency" (II. xvin. 14; "the golden city") (II. xiv. 4; "the lady of kingdoms" (II. xvin. 5); "abundant in treasures" (Jer. li. 13); and "the praise of the whole earth" (Jer. li. 41.)

The most famous works in and about this ancient city, as they are enumerated and described by Ptolemaeus from ancient authors, were the walls, the temple of Belus, the palace of Nebuchadnezzar, the hanging gardens, the banks of the river, the artificial lake, and the canals.

This city was surrounded with walls, which, according to the account of Herodotus (I. iii. the most ancient author who mentions them, and who himself had been at Babylon, were 87 feet thick, 450 feet high, and in compass 480 furlongs, or 62 miles. Other writers, who differ from Herodotus in some particulars, give nearly the same account of the dimensions of the walls. Dioidorus Siculus indeed (I. ii.) has very considerably diminished the circumference of these walls, and somewhat reduced their height as stated by Herodotus, but he has enlarged their breadth, by saying that six chariots might drive upon them abreast; whereas the former observers, that one chariot only might turn upon them: but then he places buildings on each side of the top of these walls, which, according to him, were only one story high; and thus these two writers may be tolerated reconciled. As for those who affix fifty cubicas as the height of these walls, they represent them as they were after the time of Darius Hystaspes, who had caused them to be beaten down to that level. See Strabo, l. xvi. p. 743. Pliny H. N. I. vi. c. 26. Philostrat. I. l. p. 148.

These walls formed an exact square, each side of which was.
BABYLON.

was 120 furlongs or 15 miles long, built of large bricks cemented together with bitumen, a glutinous slime which sticks out of the earth in that country, and in a short time becomes harder than the brick or stone cemented by it. Without the walls, the city was encompassed by a large ditch, filled with water, and lined on both sides with bricks made of earth dug out of the site of the ditch, whose dimensions are indicated by those of the walls. In the compass of the walls there were 100 gates, or 25 in each of the four sides, all of which were formed of solid bricks, referred to by the prophet Hesiah, ch. xlv. 2. Between every two of these gates were three towers, and four more at the four angles of this large square, and three between each angle and the next gate on either side; and each of these towers was ten feet higher than the walls. This, however, is to be understood merely of those parts of the walls where towers were necessary for defence; for as some parts were faced on a morass, and consequently inaccessible by an enemy, there the labour and expense were spared; and therefore the whole number of these towers amounted to no more than 250. From the 25 gates on each side of this square proceeded 25 streets, extending in straight lines to the corresponding gates in the opposite sides, so that the number of the streets was 50, each of them being about 15 miles long, and all crossing one another respectively at right angles. Besides these there were also four half streets, which were rows of houses, facing the four inner sides of the walls. These latter were properly the four sides of the city within the walls, and each of them was 200 feet broad; the whole streets being about 150 feet in breadth. By this intersecion of the 50 streets, the city was divided into 676 squares, each of which was 14.250 furlongs and a half on each side, or two miles and a quarter in compass. Round these squares on every side toward the streets floor the houses, all of three or four stories in height, and beautified with every kind of ornament; and the space within each of the squares was vacant, and occupied only by courts or gardens, adapted to convenience or pleasure.

A branch of the river Euphrates intersected the city, running through the middle of it from north to south; and over the river, in the central part of the city, was a bridge, a furlong, as some say, but according to others, much more, in length, and thirty feet broad; which bridge was ingeniously constructed, in order to supply a defect in the bed of the river, which was composed of sand. At the two ends of this bridge were two palaces; the old palace on the eait side, and the other on the west side of the river; the former occupying four of the above-mentioned squares, and the latter nine. The temple of Belus, which stood next to the old palace took up another of these squares.

The whole city stood on a large plain, in a flat and deep valley; part or half of it which lay on the eait side of the river was the old city; the other on the west was added by Nebuchadnezzar; and both were included within the square, bounded by the walls already described. The form of the whole was seemingly borrowed from Nineveh, which was also 480 furlongs in compass, but its form was that of a parallelogram, whereas that of Babylon was an exact square. Nebuchadnezzar, who had destroyed that old seat of the Assyrian empire, is supposed to have designed that this new one should exceed it in size and in magnificence. It appears, however, that it was never wholly inhabited, though Nebuchadnezzar carried thither a great number of captives out of Judea and other conquered countries; nor was time allowed for its arriving at that population and glory, which were the objects aimed at by Nebuchadnezzar; for Cyrus removing the seat of empire to Shushan, Babylon gradually sunk into utter decay. When Alexander came to Babylon, we learn from Quintus Curtius, that no more than 8,000 square furlongs were then occupied by buildings; but the whole space within the walls contained 14,000 square furlongs; and therefore there must have been 6250 square furlongs, which, as Curtius informs us, were ploughed and sown. Nor indeed were the houses contiguous, but a void space was left on each side between one house and another.

According to the observations of Major Kennell (Geographical System of Herodotus examined and explained, &c. p. 331), there seems to be no mode of invalidating the fact respecting the extent of the space inclosed by the walls of ancient Babylon: "nor, says he, can it be unfair idea be reduced to less than a square of about 81 British miles, giving an area of 72 square miles. But that even 72 contiguous square miles should have been in any degree covered with buildings, is on every account too improbable for belief."

The inhabitants of London, taken at a small part of the whole population of South Britain (say about 7,000,000, or for London 800,000), require for their supply of provisions and necessaries, a proportion of land equal to about 6600 square British miles, on a supposition that they were confined to its produce alone, and that it was taken as it generally runs throughout the kingdom." If there be allowed to Babylon an area of seventy-two miles, we conceive that it would then bear a proportion to the space which the buildings of London occupy, taking in all its suburbs and members, whether contiguous or otherwise, and allowing the usual area of 15 British miles, as 9 is to 2 nearly. As to all the large Asiatic cities that we have seen or heard of, scarcely contain within the same space half the number of inhabitants that European cities do, we must reckon the proportion of population that Babylon would have contained to that of London, as 9 to 4. In this case 15,000 square miles of such land as the common run of that in England would have been required for the support of the people of Babylon. But as the simpler manner of living among the lower classes of people in Asia requires a less quantity of land to support it a considerate deduction may be made, and instead of 15,000 square miles, we may perhaps subsume 12,000. Now it will appear that this reduced sum of square miles equals, within one-twelfth part, the whole area of Lower Mesopotamia; and even the whole tract properly denominated Babylon and Chaldea, including all the arable and pasture land, from whence Babylon could have been conveniently supplied by the inland navigation, was little more than double the above aggregate, taken at 13,000 square miles. And though it be true, that the quantity of the Babylonian lands, in such places, was superior in fertility to that of England; yet, on the other hand, a prodigious deduction must be made for the marshes and lakes of Lower Mesoopotamia and Chaldea." Hence the author very justly infers, that the houses occupied only a part of the wall space inclosed by the walls, and he further adds, "a modern instance in the same region of a city inclosed by a wall seven miles in circuit; and yet Bath 14 miles only from 40 to 50,000 inhabitants; the wall including date groves and corn fields. Besides, it should be remembered that the Euphrates flowed through the centre of Babylon, in which part of its course it is from 300 to 500 feet wide. The palace of the Babylonian kings, the temple of Belus, and other public buildings must also have occupied a considerable part of the space within the walls, 14,000 square miles.

The next object particularly worthy of notice in the city of Babylon, was the temple of Belus. In the middle of this temple stood the ancient tower, proposed by Bechart 3.11.
BABYLON.

(Phæleg. p. i. l. i. c. 9.) to have been the famous tower of Babylon. This tower was at its base a square of a furlong on each side, or half a mile in compass, and consisted of eight towers, as they appeared to be, built one above the other, the height of each being 75 feet, and that of the whole 600 feet. The ascent to its top was by flights on the outside, formed by a sloping line from the bottom to the top eight times round it, so as to exhibit the appearance of eight towers. As these compartments or stories had many rooms with arched roofs supported by pillars, they made parts of the temple, when the tower became consecrated to idolatrous purposes. The uppermost story was the most sacred, and the most suitable to the uses of devotion. Over the whole of the top of the tower there was, it is said, an observatory (Diod. Sic. i. ii.), by the advantage of which the Babylonians extended their skill in astronomy beyond other nations. For when Alexander took Babylon, Callisthenes the philosopher, who accompanied him thither, found they had astronomical observations for 1903 years from that time, which carried up the account as high as the 115th year after the flood, or within 15 years after the tower of Babel was built, or to the year B.C. 2354. Till the time of Nebuchadnezzar, the temple of Belus contained only this tower, the rooms of which served all the occasions of its idolatrous worship. But he enlarged it by erecting edifices round it in a square of two furlongs on every side, and a mile in circumference, exceeding the square at the temple of Jerusalem by 1800 feet. The whole of these buildings was enclosed by a wall, which is computed to have been two miles and a half in circumference. In this wall were several gates of solid brass suppos'd to have been formed out of the bronze sea, brazen pillars, and other vessels and ornaments, which Nebuchadnezzar had brought to Babylon from Jerusalem; for he is said to have dedicated in this temple the spoils of that expedition. Dan. i. 2. 2 Chron. xxxvi. 7. In the same places were several images or idols of maily gold; one of them which was a statue of Belus, in an erect posture forty feet high, crowning the summit, and reposing on a pedestal of fifty feet in height. As this is said to have weighed 1000 Babylonian talents, it is computed to have been worth three millions and a half of our money. According to Diodorus Siculus (ubi supra), the weight of the statues and decorations amounted to five thousand and odd talents in gold, and their value has been estimated at above twenty-one millions of our money; and the like sum is allowed for the treasures, utensils, and ornaments.

On the east side of the river stood the old palace of the kings of Babylon, four miles in circuit; and opposite to it, on the other side of the river, was the new palace built by Nebuchadnezzar, which was eight miles in circumference.

For an account of the hanging gardens of Babylon, see Pausanias. Horti. The other works ascribed to Nebuchadnezzar, by Berosus and Abydenus, were the banks of the river, the artificial canals, and the completion of the artificial lake, said to have been sunk by Semiramis. The canals were cut out on the east side of the Euphrates, in order to convey the waters of the river, when it overflowed its banks, into the Tigris, before they reached Babylon.

The chief of these was the Naarmalcha. The lake was on the west of Babylon, and, according to the lowest computation, 40 miles square, 160 in compasses, and 35 deep as Herodotus says, and 75 according to Megasthenes. It was dug to receive the waters of the river, while the banks were building on each side of it; but the lake, and the canal that led to it, were afterwards preserved, and found useful to prevent inundations, and to serve as a reservoir, from which water was occasionally let out by sluices for improving the land. The banks were constructed of bricks and bitumen, on both sides of the river, to keep it within its channel, and were extended through and beyond the city, occupying an interval of twenty miles. Opposite to each street, on either side of the river, was a brazen gate in the wall, with towers leading down from it to the river; which gates were open in the day, and shut in the night.

All these works are attributed by Berosus, Megasthenes, and Abydenus, to Nebuchadnezzar; but Herodotus says that the bridge, the banks, and the lake, were the work of a queen who reigned after him, called Nitocris, who probably finished what Nebuchadnezzar had begun and left imperfect. Babylon fulfilled with singular reputation, and was for a long time considered as one of the wonders of the east. At length Cyrus, having subdued the several nations that inhabited the great continent from the Egean sea to the Euphrates, and likewise Syria and Arabia, entered Assyria, and directed his march towards Babylon. Nabonadius, Labynitus, or Belhazzar, who reigned at Babylon, hearing that he was advancing to his metropolis, marched out to give him battle; but being put to flight, he returned into the city, where he was closely besieged by Cyrus. But the capture of a place so strong, and furnished with all kinds of provisions for twenty years, was no easy enterprise. Despairing of succeeding against it by force, he drew round it a line of circumvalation, with a large and deep ditch, to intercept its communication with the country. He also divided his army into twelve bodies, each being appointed to guard the trenches for a month; but the besieged, triumphing in the height of their walls, and the amplitude of their stores, insulted Cyrus from the ramparts, and seemed to defy all his efforts. Cyrus, having spent two years before Babylon without making any impression, adopted the following stratagem, which proved successful. Informed that a great annual solemnity was to be kept in the city, and that the Babylonians were accustomed, on this occasion, to spend the whole night in drinking and debauchery, he thought this a proper time for surprizing them. Accordingly he sent a strong detachment to the head of the canal leading to the great lake, already described, with orders, at an appointed time, to break down the bank which separated between the lake and the canal, and to turn the whole current of the river into the lake. At the same time he appointed one body of troops to occupy the place where the river entered into the city, and another to flation themselves where it came out; and he ordered them to march in by the bed of the river, which was two fathoms broad, as soon as they should find it fordable. Towards the evening he opened the head of the trenches on both sides of the river above the city, that the water might discharge itself into them, and by these means, and the breaking down of the great dam, the river was soon drained. Then the two bodies of troops above-mentioned entered the channel, according to the instructions which they had received; and advancing towards the city, they found the gates left open, in consequence of the riot and disorder of the night, and penetrated into the city without opposition. Meeting at the palace, according to their previous agreement, they surprised the guards, and cut them in pieces. Those who were in the palace, opening the gates to know the cause of the confusion, made way for the Persians to rush in: and thus they took possession of the palace and killed the king, who with his sword in his hand came out to meet them. The king being killed, and those who were about him being put to flight, the rest submitted, and the Medes and Persians became masters of the place; B. C. 538. The reduction of Babylon put an end to the Babylonian empire, and finally fulfilled, in the name and character...
rader of the conqueror, and in the various circumstances that attended this event, the prophecies which Isaiah, Jeremiah, and Daniel, had uttered against this proud metropolis. However, the tower or temple stood to the time of Xerxes; but in his return from the Grecian expedition, he first plundered it of its wealth, then demolished the whole, and laid it in ruins. Alexander, on his return to Babylon from his Indian expedition, proposed to rebuild it, and to make it the seat of his empire; but his death prevented his accomplishing that design. After the death of Alexander, the city of Babylon began to decline speedily, and its decay was directly owing to the vicinity of Seleucia, which was built by Seleucus Nicator, as it is said to mortify the Babylonians, and populated with 500,000 persons drawn from Babylon.

We learn further from a fragment of Diodorus Siculus, produced by Valeius, and quoted from him by Vitringa (Comment. in Sacram. c. 13. vol. i. p. 421.), that a king of Parthia sent many of the Babylonians, under the most trivial pretences, into slavery, burnt the forum and some of the temples of Babylon, and demolished the best parts of the city. This happened about 150 years B. C. Diodorus Siculus (i. ii.) describes the buildings as ruined or destroyed in his time (B. C. 44.), and affirms that only a small part of the city was inhabited, but that the greatest part of it within the walls was titles. Strabo (i. vi. p. 1073.) wrote not long after Diodorus (B. C. 105.) says, that part of the city was demolished by the Persians, and part of it decayed by time and the neglect of the Macedonians, particularly after the building of Seleucia, and the removal of the royal court thither. Strabo applies to Babylon what a comic poet said of Megalopolis in Arcadia: "The great city is now become a great desert." Pliny also (H. N. i. 6. c. 30.) affirms (A. D. 66.), that it was reduced to solitude by the neighbourhood of Seleucia. Pausanias, about A. D. 153, compares Megalopolis to Babylon, and says (Arcad. c. 35. p. 668. ed. Kuhnii), that of Babylon, the greatest city which the sun ever saw, nothing remained but the walls. Maximus Tyrius (Diff. 6.) mentions it as lying neglected and forsaken, and Lucian intimates (Peri cors., fifth Contemplators), that in a little time it would be fought for and not be found, like Nineveh. Constantine the Great, in an oration preferred by Eusebius, says, that he himself was upon the spot, and beheld the desolate and miserable condition of the city. In the time of Jerome, about the close of the fourth century, it was converted into a chase for keeping wild beasts within the compass of its walls, for the hunting of the later kings of Persia. St. Jerome adds, that, excepting the brick walls, which after many years are repaired for the inclosing of wild beasts, the whole space within its defoliation. Hieron. Comment. in Isai. c. 15. c. 14. vol. iii. p. 111. 115. ed. Benedict. Benjamin of Tudela, who lived in the twelfth century, affirms (Itin. p. 76.), that ancient Babylon is now laid walled, but that some ruins are still to be seen of Nebuchadnezzar's palace, into which men fear to enter on account of the serpents and scorpions that are in the midst of it. Tvecina, a Portugueze, in his description of his travels from India to Italy, cited by Bochart (Phileg. l. 4. c. 15.), and by Pridaques (pt. 1. b. 8. a. affirms, that of this great and famous city nothing but a few vestiges remained, and that there was not any place in the whole region less frequented. Rauwolf, a German traveller, whose travels have been edited by Ray, passed this way, A. D. 1574, and describes the ruins of this famous city, which he found in the village of Elugs, not far from Bagdad. He mentions some piers and arches of the old bridge over the Euphrates, and the ruins of the cafile and tower, which are the habitations of venomous creatures, that are so dangerous as not to be accessible with safety, except during two months in winter, when these animals never stir out of their holes. Petrus Valensiis, or Delia Valles, was at Bagdad in 1616, and visited the ruins, as they are thought to be, of ancient Babylon, which he says, appear in confusion like a huge mountain, and exhibit a mass corresponding in form and situation to the pyramid called by Strabo the tower of Belus, and being probably the tower of Nimrod in Babylon, or Babel, as the place is called. But besides this large mass, there are no traces of ruins sufficient to convince an observer that so great a city as Babylon was ever situated in that place. Tavernier says, that at the parting of the Tigris, which is but a little way from Bagdad, there is the foundation of a city which may seem to have been a large league in compass. Some of the walls, he says, are yet standing, upon which fish cooks may pass abreast. They are made of burnt brick, ten feet square and three thick. The chronicles of the country represent this as the site of the ancient Babylon. But this intelligent traveller adopts the opinion of the Arabs, and conceives the ruins observed by himself, and also by Benjamin the Jew, Rauwolf, and Delia Valles, to be the remains, not of Nebuchadnezzar's palace, or of the tower of Babel, but of some tower built by one of their princes, and designed as a beacon to assemble his subjects in time of war. Hanway (Trav. vol. iv. pt. 3. c. 10. p. 178.) says, that the ruins of Babylon, placed on the north of the road from the south of Bagdad, are now for so much effaced, that there are hardly any vestiges of them to point out the situation.

Whoever compares these accounts, given more in detail by the authors above cited, with the predictions of the ancient prophets, will perceive, and be led to acknowledge, how punctually the ravages of time have contributed to accomplish them. To this purpose bishop Newton observes (Differt. on the Prophecies, vol. vii. p. 285.), that when Babylon "was converted into a chase for wild beasts to feed and breed there;" then were exactly accomplished the words of the prophets, that "The wild beasts of the desert, with the wild beasts of the islands, should dwell there, and cry in their defolated houles." One part of the country was overflowed by the river's having been turned out of its course, and never restored again to its former channel, and hence became boggy and marshy, so that it might literally be said to be "a pollution for the bittar, and pools of water." Another part is dereried as dry and naked, and barren of every thing, so that thereby was fulfilled another prophecy, which seemed in some measure to contradict the former, "Her cities are a defoliation, a dry land and a wilderness, a land wherein no man dwelleth, neither doth any son of man pass thereby." The place thereabout is represented as overrun with serpents, scorpions, and all sorts of venomous and unclean creatures, so that "their houses are full of doleful creatures, and dragons cry in their defolated places; and Babylon become heaps, a dwelling for dragons, an abomination and an hillaring, without an inhabitant." For all these reasons, "neither can the Arabian pitch his tent there, neither can the shepherd water the folds there." And when we find that modern travellers cannot now certainly discover the spot of ground whereon this renowned city was once situated, we may very properly say, "How is Babylon become a defoliation among the nations! Every purpose of the Lord hath he performed against Babylon, to make the land of Babylon a defoliation, without an inhabitant:" and the expression is no less true than sublime, that "The Lord of holies hath swept it with the beom of destruction.">" How wonderful (adds the prelate) are such predictions compared with the events, and what a convincing argument of the truth and divinity of the holy scriptures! Well
BAB

night God allege this as a memorable influence of his preference, and challenge all the false gods and their votaries to produce the like. If xlv. 21. xlvii. 10. And indeed where you can find a similar influence, but in Scripture, from the beginning of the world to this day?" The triumphant ode upon the fall of Babylon, recited in the fourteenth chapter of Isaiah, merits particular attention, as it is truly admirable for the fervent lyrics of irony, as well as for the sublime strains of poetry. "The Greek poet Alcucus, who is celebrated for his hatred to tyrants, and whose odes were animated with the spirit of liberty no less than with the spirit of poetry, we may presume to say, never wrote anything comparable to it." Bishop Lowth, in his excellent lectures upon the sacred poetry of the Hebrews, hath justly described it as one of the most spirited, most sublime, and most perfect compositions of the lyric kind, superior to any of the productions of Greece or Rome. See his Preached. xiii. p. 170, &c. Preached. xviii. p. 277, &c. Mr. Masius hath also imitated it in an English ode, published with some other odes, in 1756.

BABYLON, a city of Egypt, which was watered by the river Trajanus, according to Ptolemy. It was situated near the Nile, where Grand Cairo now stands, or at a small distance from it, and had a castle strongly fortified both by nature and art. Some say, that it was founded by the Persians when they ravaged Egypt under Cambyses, (B. Bel.) when Crassus Antioch, and that it was erected in the place where Latopolis stood; or according to others, when Semiramis visited this country at the head of a formidable army, Strabo says (I. xvii.), that it was built by some Barbarians, who retired thither by permission of their sovereign, and that in his time the Romans kept in garrison there one of the three legions that were stationed in Egypt. From the fortresses of Babylon, the mountain gently sloped to the bank of the Nile; and 150 stades were continually employed there in raising the water by means of wheels and an aqueduct. The Persians, who were worshippers of the sun, kept up a perpetual fire in this place, which occasioned its being called by the Arabs "The castle of the lights." See Cairo, and Fostat.

BABYLON, in Scripture History, is a name figuratively given by the sacred writers, particularly by St. Peter, 1. Ep. ch. v. v. 13. and by the author of the Revelations, ch. xvii. and xviii., and also by the fathers, to Rome: partly on account of her greatness, pride, and appellation of God's people, and partly for her resemblance of it in idolatry; that kingdom so fully representing the idolatry of the church of Rome in the description given of it in the sixth chapter of Baruch, that fearfully any real difference between them can be observed. Whitby's Paraphrase, vol. ii. p. 661. p. 753.

BABYLONIA, or CHALDAEA, an ancient kingdom of Asia, was founded by Nimrod, the grandson of Ham, and continued distinct and separate from that of Assyria, till Ninos conquered Babylon, and made it tributary to the Assyrian empire. (See Assyria.) This country was known in ancient times, by the names of Shinar, and Shihara, which appellation it seems to have retained even in the time of Daniel. The name of Babylon is universally supposed to have been derived from that of the tower of Babel; and the name of Chaldaea arose from the Chaldeans, or Chaldan. (Joseph. Ant. i. i. c. 7.) These two names sometimes extend to the whole country, being indifferently taken for each other; and sometimes they are limited to certain parts. By Babylon, or Babylonia, is meant the country more immediately in the neighbourhood of the city of Babylon; and by Chaldaea, that which extends southward to the Persian gulf. Chaldaea is used by the writers of the Old Testament for the whole country (Jer. xxv. 4. xxv. 12. 1. 8. Ezek. xiii. 15; and Babylonia, generally speaking, by profane authors. (Diodor. Sic. i. c. 11. 12. Strabo, i. xvi. sub. init.) It lies between thirty and thirty-five degrees of north latitude; and was bounded, according to Ptolemy, on the north by Mesopotamia, on the east by the Tigris, on the west by Arabian Deserts, and on the south by the Persian Gulf and part of Arabia Felix. In Babylonia, properly so called and considered as a distinct province from Chaldaea, were the following cities; viz., Babylon, the metropolis, (See Babylon); Vologaesus, or Vologojercota, built on the Euphrates by Vologesis, king of the Parthians, in the time of Vep-sian; Barbita, probably Strabo's Borippa, sacred to Diana and Apollo, famous in the time of this geographer for a woollen manufacture, and for being the habitation of a certain sect of Chaldæans, thence called Donippones; Idicarca, on the Euphrates and the borders of Arabian Deserts; Cacce, in the island Mene, formed by the Tigris; Saura; and Pombeditha, of which the situation is very uncertain. In ancient times the Babylonian name, extending far beyond the limits both of Babylonia and Chaldaea, comprised all, or the greater part of the provinces subject to the Babylonian empire. See Eschat.

The air of this country was generally temperate and salubrious; though it was occasionally subject to extraordinary heat and a pestilential wind. As it seldom rained, the inhabitants were under the necessity of watering their lands by means of wheels and engines, and of trenches and canals, which flowed from the Euphrates to the Tigris. The soil was rich, the climate was for the most part excellent, and the inhabitants were industrious; and therefore this country vied, in respect of fertility, with any other spot on the face of the earth. The southern parts of it, between the rivers, have been compared with the Delta of Egypt, which it resembles by its natural and artificial islands, and by being almost under the same parallel of latitude; and the northern part, or Chaldaea properly so called, between the Euphrates and the mountains of Babylon, as they are commonly termed, is not much less watered by rivers and canals conducted from the Euphrates, and large reservoirs of lakes borrowed from the same river. Hence Herodotus (i. c. 191), compares this country with Egypt; and he says, that, with regard to the plenty of its productions, it was reckoned to be equal to a third part of Asia, or of the Persian empire; and that, in the same year, it yielded 300 talents of gold, but generally 200. As it was low, flat, and well watered, it abounded with willows, and was called "the valley of willows," as Prideaux, Com. p. i. b. 1. p. 105; after Bochart, corrects the text, Is. xv. 7. The palm also flourished naturally every where, and particularly the date kind, which afforded bread, wine, and honey; but the vine, olive, and fig-tree, did not succeed here any more than in Egypt. But as to grain, it exceeded every other land; the millet and feemak being the rooted up to the size of trees; and the loaves of barley and wheat were usually four fingers broad. The fig-tree afforded oil, instead of the olive; and the palm yielded wine instead of the grape. This fertility was owing in a great measure to the inundation of the Euphrates and Tigris, in the months of June, July, and August; the frou of the mountains of Armenia melting in those months; and to guard against injury from these inundations, the inhabitants formed artificial rivers and canals, by which they distributed the waters, and maintained thus easy communication with one another. For the purpose of mutual intercourse, and particularly of navigating the Euphrates, they had boats, of a round form, constructed like wicker-baskets, which were covered
cease with hides, and guided by two oars or paddles. They had neither head nor item; but being of different sizes, they served for carrying various quantities of their commodities to Babylon, whence they returned by land, the rapidity of the stream not allowing them to return by water.

The government of Babylon, like that of Assyria, was despotic, and the fepteet from that time have been hereditary. There were three in each family, who received divine honours, and governed their country by a variety of officers, civil and military; and these were divided into three classes: the first had the charge of vigils, and of their disposal in marriage, and were to judge in cases of adultery, and similar matters; the second took cognizance of thefts; and the third of all other crimes. The chief officers of the king's household were the captain of his guard, who had the execution of his arbitrary andimaginatory commands; the prince of the eunuchs, who had the charge of the education and sublimation of the youth of the palace; and the prime minister, resembling the Turkish vizier, who sat in the king's gate; as it was called, to hear complaints, and to pass judgment. Besides these, there was also a master of the magistrates, who presided in the courts to satisfy the king on subjects that respected the proclivity of futurity. Among their laws, which were vague and variable, one of the bell deemed to have been that which respected marriage, and which was calculated to increase the number of inhabitants; for, which, see Assyria. Their punishments were arbitrary, and depended upon the will of a capricious monarch. Beheading, cutting to pieces, turning the house of the criminal into a dunghill, and burning in a fiery furnace, were penalties, which were executed by order of the kings of Babylon. The religion and boasted learning of the Babylonians were so blended together, that they are not easily separated: for the Chaldees, properly so called, were not only their priest, but also their learned men; whole science seems to have been subservient to the purposes of superstition. (See Belus, and Nabataem.) As the Babylonians gave rise to all the idolatries and superstitions that prevailed among the neighbouring nations, they are charged with having introduced the horrible custom of sacroligizing human victims, in order to appease or conciliate their deities. The Babylonians were much addicted to judicial astrology; and ascribed an influence to the stars and planets, in the explication of which their chief science consisted. Astronomy was with them subservient to astrology, and the former was cultivated in subordination to the latter. Indeed, the principal part, if not the whole, of their philosophv and learning, constituted the application of this fanciful and unfounded science. However, some have discriminated, with justice, between the Chaldees, and Babylonians, ascribing to the latter a more accurate and extensive acquaintance with the principles of astronomy, mathematics, and mechanics, than the former. (See Chaldean Philosophy.) Of their music and poetry we have few certain records. They are said to have excelled in architecture and sculpture, in the arts of designing, and of cutting metals, as the ornaments of their metropolis seem to testify. Their manufactures, particularly of rich embroideries, sumptuous vestments, magnificent carpets, and fine linen, were famous; and they sent their purple into the eastern parts as an article of traffic. Their commerce, especially when Babylon was in the meridian of her glory, must have been considerable. The metropolis was advantageously situated for this purpose; being as it were in the midst of the world, and having, by means of the Tigris and Euphrates, a easy communication with the western and northern parts, and also with the eastern by means of the Persian gulf. With regard to their schools, we may mention in particular their mode of treating sick persons. Having no physicians, they exposed them publicly in the most frequented places, that all who law them might offer their advice, if they had, either from their own experience or that of others, any knowledge of their case. Their death they embalmed with honey and wax, and their manner of mourning resembled that of the Egyptians. The Babylonians were of a high degree of credulity and superstition; and much addicted to licentiousness and debauchery in their general conduct. In their dress, they affected pride and effeminacy. Their under garment was a linen veil, which hung down to their heels; over this they had another of woolen; and their outer garment was a white mantle or cloak. They suffered their hair to grow; adorned their heads with a turban or mitre; and anointed their bodies with the oil of feme. Every individual wore a ring with a seal on his finger, and bore in his hand a carved staff or sceptre, the head of which was adorned with some figure, as that of an apple, rose, lily, eagle, or some such emblem. On their feet they wore a kind of slippers. The inhabitants of this country were divided not only into two great tribes, the Babylonians, and Chaldeans, properly so called, but into other subordinate sects. Three of these are said to have fed upon nothing but fish, which they dried in the sun, and formed into pills, thus supplying the want of bread.

As to the history of the kingdom of Babylon, distinguished from the kingdom of Assyria, the first king of this country mentioned in Ituley's Astronomical Canon, is Nabonassar, to whom Pul or Pol bequeathed it, as he did that of Assyria to Turgath-Pilefer, in the year 747, B.C. The latter reigned at Nineveh; and the former at Babylon. From this period commonly denominated the era of Nabonassar, to the year 665 B.C. when Nabopolassar began his reign, nothing remarkable occurs in the history of the kings of Babylon excepting that Assuradinus or Esharaddon, king of Assyria, the brother and successor of Senacherib, took possession of the kingdom of Babylon in B.C. 680; and that upon his death, their kingdoms of Assyria and Babylon were again separated, B.C. 668. In the twentieth year of Nabopolassar, B.C. 606, Nineveh was taken and destroyed by the united armies of Cyaxares and Nabopolassar, and the feat of the empire transferred to Babylon. This Nabopolassar, sometimes called Nebuchadnezzar, was the father of the famous Nebuchadnezzar, or Nabopalese, whose history occurs in the sacred writings, and who commenced his reign in the year 604 B.C. From this period, to the conquest of Babylon by Cyrus, in the reign of Nabonadius, Babylon, Sibonius of Herodotus, and Belhazir of Scripture, the son of Eder-Merodach by Nitocris, and the grandson of Nebuchadnezzar, in the year 538 B.C. the history of Babylon presents nothing worthy of particular notice. For an account of the conquest of Cyrus, which terminated the Babylonian empire, and subjected it to the Persians, see BABYLON. From this time, Babylon was never erected into a distinct kingdom, but has shared the vicissitudes of the great conquerors who have at different times appeared in Asia. It is now frequently the object of contention between the Turks and Persians. Anc. Un. Hist. vol. iii. p. 367—437. Rollin's Anc. Hist. vol. ii. p. 1—153.

BABYLONIAN, BABYLONIC, of BABYLONISH, Capiti- nity, Empire, Epocha, Genoral, Hour, Talmud, Year, &c. See the several articles.

BABYLONICA TEXTA, in Antiquity, denote a rich sort of weavings or hangings, denominated from the city of Babylon, where the practice of interweaving divers colours in their hangings first obtained. Philo, H. N. Lib. viii. p. 32. Hence also Babylonian garments, Babylonian skins, Babylonian carpets, houings, &c.; and Babylonica solana, which were
were coverings laid over couches, &c. painted with gold, purple, and other colours.

Babylonian, Babylonian, is also used in some Ancient Writers, for an astrologer, or any thing relating to astrology; hence Babylonica Cursa, the art of calling nativities; and numeri: Babylonii, the computation of astrologers. Hor. lib. i. od. 12.

Babylonics, or Chaldæics, in Literary History, a fragment of the ancient history of the world, ending at 267 years before Christ; and composed by Berosus or a priest of Babyl., about the time of Alexander. Stanley Hill. Phil.

The Babylonics were very consonant with Scripture, as Josephus and the ancient Chaldaic chronologers affirme us; whence the author is usually supposed to have confuted the Jewish writers. He speaks of an universal deluge, an ark, &c.; he reckoneth ten generations between the first man and the deluge; and he marks the duration of the several generations by Sauri or periods of 253 lunar months, which reduced to years, differ but little from the chronology of Moses. There now remain only a few imperfect extracts, preferrd chiefly by Josephus and Syncellus. They were forged by Annis of Viterbo. Fabr. Bibl. Græc. tom. xiv. p. 175. See Berosus, and Chaldaean Philosophy.

Babysrs, in Ancient Geography, a strong place of Armenia Major, situate in the mountains, near Artasates, where were kept the treasures of Tigranes and Artabazus.

Babysrs, in Zoology, a species of Sus, or hog, having two tusks growing from the lower part of the back. This is the horned-hog of Grew; porcus indicus babysrus dictus of Ray; and bab-ryussa of Buffon. In the arrangement of the French naturalists, it belongs to the genus of swine and order pac杨幂s.

The babysrus is described by Dr. Shaw, to be nearly of the size of a common hog: but of a somewhat longer form, and with more slender limbs; and to be covered, instead of bristles, with fine, short, and somewhat woolly hair, of a deep brown or blackish colour, interpersed with a few bristles on the upper and hinder part of the back. It is also distinguished by the very extraordinary polish and form of the upper tusks, which instead of being situated internally on the edge of the jaw as in other animals are placed externally, perforating the skin of the mouth, and turning upwards towards the forehead; and as the animal advances in age, becoming so extremely long and curved as to touch the forehead. These continue their curvature downwards, by which means they must of necessity lose their power as offensive weapons, which they probably possess in the younger animals; the tusks of the lower jaw are formed as in the rest of the genus, and are also long, sharp, and curved; but not of equal magnitude with those of the upper. The upper tusks are of a fine hard grain, like that of ivory; the eyes are small; the ears somewhat erect, and pointed the tail rather long, slender, and tufted at the end with long hairs.

The babysrus is a precarious animal, and is found in large herds in many parts of Java, Ambon, and some other Indian islands, but is said never to be found on the continent of India. Their food is entirely of a vegetable nature, and they often feed on the leaves of trees. When sleepimg, or retining themselves in a flandering posture, they are said often to hook or support themselves by placing the upper tusks across the lower branches of the trees. When pursued, they will often plunge into a river, or even into the sea, if near, and can swim with great vigour and facility, and to a vast distance. The voice of the babysrus is said to resemble that of the common hog, but it occasionally utters also a strong or loud growling note. It is sometimes tamed by the inhabitants of the Indian islands, and the flesh is considered as wholesome food, Vide Shaw Gen. Zool. Erxleben, &c.

Some writers imagine this quadruped to have been mentioned by Urian, Pliny, and other ancient writers. It is thought to be the animal noticed under the name of tetrachromes, or four-horned, by the former; and that kind of Indian boar, described by Pliny as having two very long bent teeth in the lower jaw, and two others rising in front. Aper in India, Aper cotura, &c. Aper comatus. Calpurn; aper indicus orientalis babi mela dicitus, Seba; farange hogs, hogs with horns, Porch. pilgr.; cherhirefh or hirschner, Knorhelic, &c.

Babyseng, in Ancient Geography, an ancient town of India, on the other side of the Ganges. Ptolemy.

Babysrus, in Ancient Geography, a town of Asia, seated on the northern bank of the Tigris. Pliny.

Bac, in Navigation, is used for a pram or ferry-boat.

Bac, in Brewing. See Back.

Baca, or Bacatha, in Ancient Geography, a village of Palestine, which served as a boundary between the Tyrians and Galilees.

Baca, in Geography, a town of North America, in New Navarre, forty miles north-east of Cinaloa.

Baca. See Baza.

Bacacum, or Baccacum, in Ancient Geography, a town of the Nevis, in Gallis Belgica: now Baxcy.

Bacaduchi, in Geography, a town of North America, in New Navarre, 240 miles north of Cinaloa.

Bacaime, or bacalim. See Basseen.

Bacala, a town of India, on this side of the Ganges, on the eastern coast in the kingdom of Arracan.

Bacalal, a lake and small country of North America, in the peninsula of Yacuan.

Bacalan, a town of Alia, in Tokareflan, one of the southern provinces of Great Bucharia, at a small distance N. W. from Andera. N. lat. 36° 12'. E. long. 67° 35'.

Bacaleo, Bacalieu, Bacollom, or Baccolan, an island on the east coast of Newfoundland, about nine leagues from cape St. Francis, and eight leagues north by eail from Portugal cove, is about two leagues long, and half a league broad. This island is about a league from the main, with a fair channel between for any ships. N. lat. 48° 24'. W. long. 52° 54'.

Bacam, a town of North America, in New Navarre, 165 miles north-west of Cinaloa.

Bacano, a small lake of Italy, near a village of the same name, in the patrimony of St. Peter, out of which flows the small river Cremera.

Bacanora, a town of North America, in New Navarre, 230 miles south of Cafa Grand.

Bacantib, in Ecclesiastical Antiquity, wandering clerks, who itrolled from church to church. Bingham.

The word feems formed by corruption from vocantiti.

Bacapa, in Geography, a town of North America, in New Navarre, 120 miles south-west of Cafa Grand.

Bacar. See Bahar.

Bacarat, or Baccarat, a town of France, in the department of the Meuse, and chief place of a canton in the district of Lunelville; four leagues south-east of Luneville. The place contains 1315, and the canton 14,759 inhabitants: the territory includes 315 kilometres and 31 communes.

Bacardo, a town of Italy, in the flate of Genoa, three miles N. N. E. of Viutimiglia.

Bacaseray, or Baktschisaray, a town in the peninsula of the Crim-Tartary, where the khan usually resided, seventy miles south of Perekop. It was partly burnt by the Russians in 1736. N. lat. 45° 30'. E. long. 35° 10'.

Bacay, a town of India, on the other side of the Ganges.
Ganges, the capital of a country of the same name, on the eastern bank of the river Ayn.

BACBAKIRI, in Oryzabolus, the name by which le melé "pallur noir de Ceylon of Boston, is known at the cape of Good Hope; because its note very exactly expresses the syllables bac-ba-kiri. This is the green-pye from Ceylon of Edwards; Ceylon thorn of Latham; and turdus Zeylonus of Linnaeus.

BACCA, BERRY, in Botany, denotes such fruits as consist of a pericarpium full of juice and seeds, without any valves. The seeds have no membranous case or covering, but are disposed promiscuously throughout the pulp, as in pomegranate, &c., and are generally placed on foot-stalks attached to receptacles within the pulp, as in rubus, &c. The berry is said to be proper when it is a true pericarpium, formed of a germin and impregnated, when it is formed from other parts of the fructification, as in morus, roda, juniperus, taxus, &c. A large succulent calyx becomes a berry; in junipers the three petals become the umbilics; in poterinum the berry is formed of the tube of the corolla; in fragaria, &c., it is formed of the top of the receptacle; in rubus, &c., it is formed from a seed, which is the receptacle of the berry; in rubus, &c. It is inclosed within, and is part of the necary. The berry is commonly either round or oval; and is frequently furnished with an umbilics, as in rubus, &c. It does not naturally open to disperse the seeds like the capsule; that office being performed by birds and other animals.

BACCÆ Ornithologus, in the Materia Medica, the name of the fruit or berries of the faphlidus, or fap-ferry-tree. BACCALÆ, in Ancient Geography, a town of Asia, in Syria, leant on a plain between the mountains and the river Orontis.

BACCALAN, in Geography, a small island in the Red sea, on the coast of Arabia Felix, about 36 geographical miles N.W. of Loheia. It is inhabited by fishermen, and has no water in summer, which is then brought from Foostel.

BACCALLARIA, in Middle Age Writers, denotes a kind of country farms, consisting of several manors. Du Cange.

Bacallaria Dominiciana, or Indomincata, was more particularly used for a farm belonging to the lord, and kept in his own hands.

BACCANELUS, Johannes, in Biography, a native of Rheggio, lived in the early part of the sixteenth century. He was deformed in body, and of a diminutive stature, but these defects were abundantly compensated by the powers of his mind, as Brafilavul's tellies. We have of him the following works, which were much esteemed: "De confusis Medicorum, in curHad morbis," lib 4.; and "De confusis Medicorum in cognoscendis simplicibus Liber," Lut. 1554, Venet. 1555 and 1558, and Lugd. 1572, 12mo. containing a judicious abridgment of the opinions of the early Greek writers, on these subjects. Linden. Rediv. p. 524.

BACCARACH, in Geography, a town of Germany, in the Lower Palatinate, formerly imperial and free, but now subject to the elector palatine, who has contributed to its prosperity by allowing the Calvinists and Lutherians to establish their forms of worship there, under equal privileges with the Roman Catholics; seated on the left bank of the Rhine, at the foot of a mountain called Vortigern. It is famous for its wines; whence it is supposed to have its name corrupted from "Bacchus argy," the altar of Bacchus. Baccarach was so completely pillaged by the troops of Louis XIV. in 1689, that the French commander was obliged, on the night before he left the town, to sleep on straw, which was used next day for burning its eight miles north of Deux Ponts, and Vol. III.

BACCARACH Wine, a name of a particular kind of wine, by some esteemed a kind of Rhenish; but Portzius, who has written expressly on the subject, observes that it differs from all the common Rhenish wine, in colour, odour, and virtue.

BACCARUM, in Entomology, a species of ACGARUS, found on gooseberries, currants, and other fruit-trees. The abdomen is dilated, red, and dusty on the sides. Linn. Fn. Succ.

BACCARUM, a species of CINEX, of a somewhat fulvous colour; margin of the abdomen spotted with brown. De Geer. Cimeling. Inhabits Europe.

BACCHALÆ, in Antiquities, the prieleflies of Bacchus, who celebrated the orgia, or mysteries of that god.

The word was also used for the ivy crowns and garlands worn by the priests of Bacchus, in offering sacrifices to him.

BACCHANALIA, religious feasts in honour of Bacchus, celebrated with much solemnity among the ancients, particularly the Athenians, who even computed their years by them, till the commencement of Olympiads. The bacchanalia are sometimes also called orgia, derived, as some conceive, from the Greek orgè, orgy; on account of the madness and enthusiasm wherewith the people appeared to be possessed at the time of their celebration.

They were held in autumn, and took their rise, according to Herodotus, from Egypt, where they were known under the name of the mysteries of Isis and Osiris; whence, according to Diodorus, they were brought into Greece by Melampus; and they afterwards passed into Italy and Gaul, and were adopted almost throughout the whole Pagan world.

The form and disposition of the solemnity depended, at Athens, on the archon, and was at first exceedingly simple; but, by degrees, it became incumbered with a number of ridiculous ceremonies, and attended with much disfutation and debauchery; infoimch that the Romans, who grew ashamed of them, suppressed them by a senatus-consultum throughout all Italy, A.U.C. 568. B.C. 186. It was a saying of Plato, recorded by Diogenes Laertius, (I. iii. Seg. 59.), that to drink to excess was not allowable, except upon the festival of that god who is the giver of wine.

The women had a great share in the solemnity, which is said to have been instituted on their account; for a great number of them attended Bacchus in his expedition to India, carrying in their hands the thymi, i.e. a little lance, covered with ivy and vine leaves, swinging his victories and triumphs wherever they went; the ceremony was kept up after Bacchus's deification, under the title of Bacchanalia, and the women were installed prieleflies thereof, under that of Bacca or Bacchantes.

These prieleflies, at the time of the feast, ran through the streets, and over the mountains, covered with tiger's skins, their hair dishevelled, their thymi in one hand, and torches in the other, howling and shrieking BACCHUS, BACCHUS, or Tß BACCHUS, or Tß BACCHUS.

Men and women met promiscuously at the feast, all perfectly naked, except only for the vine-leaves and cloths of grapes, which bound their heads and hips; here they danced and jumped tumultuously, and, with strange gesticulations, sung hymns to Bacchus, till, being weary and giddy, they tumbled down.

The licentiousness of these, and of some other festivals, was so well known, that it was the advice of wise men to
BAC

married women to abstain from the feasts of Bacchus, and Ceres, and the mother of the gods. Hence that saying of Arifippus, mentioned by Sextus Empiricus, concerning a chaste woman, "That she will not be corrupted even at the Bacchanals;" intimating the great importance of being virtuous that attended these festivals.

BACCHANALIA, Bacchanalia, is also a name given to pictures, or baison-relievo, whereon the feast is represented, consisting chiefly of dancings, nuditie, and the like. Of these baison-relievo, we have some of eight in the "Monumenti inediti" of Winkelmann. They are also exhibited on a fine vase of agate, preferred in the abbey of St. Denis, in France.

There are antique bacchanals still seen on several ancient friezes. The bacchanals painted by Poulin are excellent.

In the Julianian garden at Rome, there is a marble vase of most precious workmanship, upon which is a representation of these orgies of Bacchus. The vase, from the beauty of its sculpture, is supposed to be by the hand of Saurus. The whole pomp of one of these processions is there admirably represented; in which are introduced Bacchus, the Bacchanals, the Menedes, the players on flutes, matrons and virgins, with the cresulum or cymbalum, and tympanum; fawns and satyrs, holding in their hands vases and cups; priests leading the victors defined for sacrifice, such as the boar, the he-goat, and the bull; and, lastly, old Silenus, drunk, upon his ass, which he is hardly able to guide. Burney's Hill Msul. vol. i. p. 320.

Some writers call the Comeliia Carnavat, the Christian Bacchanalia.


Species. 1. B. foelschii, Peruvian ploughman's spikenard. 2. Eupatorium Africanum, &c. Pluck. Phyt. 1. 328. f. 2. Leaves lanceolate, longitudinally tooth-ferrate. Five or six feet high. The female florets with a triad corolla are very abundant. The hermaphrodites at the dikes are few and five-cleft; scales of the calyx in a state of maturity spread very much; florets of the dike barren, of the ray fertile, fimbulate, scarcely toothed; recept. conical. A native of America. Cultivated at the Chelsea garden in 1696. 2. B. aurifolius, oleana-leaved ploughman's spikenard. "Leaves lanceolate, ferrate at the upper part with one or two toothlets. This rife, with a loft shrubby thallus, to the height of eight or ten feet. Flowers of an herbaceous colour, produced in spikes at the extremities of the branches. 3. B. arboresa. "Leaves elliptic-lanceolate, quite entire, naked, petiolate. "About three feet high, with a trunk the thickness of the human arm. Leaves alternate, acute, rough; the terminal corollus panicked. Observed in woods on the island of Johanna, by Koenig.

4. B. balmi-folius, sea-purpurea-leaved ploughman's spikenard, or ground-lilac tree. "Leaves obovate, emarginate-crenate in the upper part." Stems shrubby, six feet high; leaves many, like those of goose-foot, but stiffer, irregularly placed on the branches; flowers crowded, naked, at the ends of the twigs, not handsome, so that it is rather for the foliage of the plant, which continues green throughout the year, that it is usually cultivated. A native of North America. Cultivated by bishop Compton in 1688. 5. B. Distichus. "Leaves broad, lanceolate, toothed, sessile, ruffled." A shrubby, six feet high; leaves alternate, half stem-clasping, deeply indented at the base, soft; panicles small, calyx shorter than the flower. It is wrongly named Baccharis of Diocorides, see Supp. Plant. 567. A native of Egypt. 6. B. irredens. "Leaves ovate, toothed, petiolate." Leaves smooth; branches with railed breaks; corystis large, terminating; peduncles angular, with subulate branches; calyces cylindric, smooth. A native of Ceylon, and the cape of Good Hope. 7. B. brachyspis. "Leaves obovate, entire, feebrous, sessile, veined underneath." Stem somewhat angular; leaves obtuse, almost quite entire; panicles nearly naked, with remote alternate flowers; down ferruginous. It differs from the index in having four, feebly and scarcely toothed leaves, and its flowers larger, fewer, and more remote. A native of Brasil. 8. B. foetida. "Leaves lanceolate, ferrate-toothed, corystis leafy." Six or seven feet high; leaves long, hoary on the under side, of a disagreeable smell when handled; corystis terminal. A native of North America. Cultivated here in 1729. 9. B. chinenlts. Lour. Coeh. 494. "Leaves lanceolate, quite entire, tomentose beneath, hialked; peduncles many-flowered, axillary." An under-shrub, three feet high, effec, simple, round; leaves alternate, flanged; flowers yellow, oblong. A native of China, near Canton.

Propagation and Culture. Species 1. may be propagated by cuttings, planted in a flabby border, during any of the summer months; or by seeds sown on a common border in the spring. If planted in a warm situation, it will live in mild winters in the open air; but it is usually kept in the green-house, and placed out in summer. It requires much water in warm weather. The second species is difficult to propagate, for the cuttings will seldom take root, and it rarely has shoots near the ground to lay down, so that in Holland they lay down the entire head of young plants, flitting the smaller branches, in the same manner as is practised for carnations, laying them into the ground, and farking each down to prevent their rising: the, when duly watered, will put out roots in one year, when they may be taken off, and planted in small pots filled with light earth, and placed in the flade till they have taken new root. In summer they ought to be kept in a sheltered situation, and in the green-house in winter. The fourth species may be propagated by cuttings planted in April or May, in a flabby border, and if properly watered they will be fit for transplanting in the places where they are to remain at Michaelmas. The eighth species may be also propagated by cuttings, which in about two months take root, when they are to be potted and kept under a frame during the winter. The others are more tender and require the protection of a stove, but are little known in this country. See Martyn's Miller's Diet.

Baccharis. See Athanasia, Chrysocoma, Conyza.

Baccharis was also the name of a sweet ointment among the ancients, so called perhaps from this herb's being a principal ingredient in it.

BACCHAROIDES. See Conyza.

BACCHI, in Mechanica, a kind of ancient machines, in form of goads, used by Jupiter in his wars against the giants. Rudbeck.
BACCHUS

Rudbeck describes two kinds of bacchi, one made like the battering-ram, wherewith Jupiter demolished the enemies' fortifications; the other contrived to call fire out of, from which the Greeks are conjectured to have framed their idea of chimera.

BACCHIAS, and ANTIBACCHIAS, in Ancient Geography, the name of two islands in the Arabian gulf, according to Pliny. They are called by Ptolemy and Stephanus, Bacchi and Antibacchi insula.

BACCHIC, something relating to the ceremonies of Bacchus. The celebrated intaglio, called Michael Angelo's ring, is a representation of a bacchic seal.

BACCHUS, in Music, is sometimes used for a chant à boire, or composition to inspire jollity. But, in a more proper sense, it is redefined to a dithyrambic ode, or hymn.

BACCHICA, in Botany, is a term used for helix, or ivy.

BACCHIGLIONE, in Geography, a river of Italy, in the flate of Venice, which, after watering Vicenza and Padua, discharges itself into the gulf of Venice, near Chioggia.

BACCHINI, Benedict, in Biography, a learned monk, was born at Borgo San Donino, in the duchy of Parma, in the year 1651. At the age of sixteen he entered into the order of St. Benedict, in the monastery of Mount Caffin, and applied to his studies so intently as to injure his health. After having travelled with Arcioni, abbot of the Benedicines at Ferrara, to whom he was secretary, he resigned his office, and settled at Parma. Here he published a literary journal, manifesting great learning and judgment; but it excited against him many enemies, who prevailed with the duke of Parma to banish him from his territory. Bacchini then retired to Modena, where he was patronized by the duke of Modena, and appointed his historiographer and librarian. The materials which he collected for investigating the genealogy and history of the house of Este, were transferred to his successor Maratori, upon his removal to the abbacy of the Benedicines of Modena. In 1705, he founded at Modena an academy of ecclesiastical literature. His last preoccupation was that of professor of ecclesiastical history in the university of Bologna, where he died, at the age of seventy, in the year 1721. Bacchini was one of the most celebrated scholars of his age, distinguished by his universal learning, refined taste, theological skill, and ecclesiastical philology; to all which he added in early life eloquence as a preacher; and in more mature years critical acumen, and eminent skill in deciphering manuscripts. Besides his literary journal, commenced at Parma in 1668, and continued to 1695, resumed at Modena from 1692 to 1697, and extant in nine volumes 4to. 1 wrote in Italian the History of the Benedicines Monastery of Polignoi, and in Latin, De Silvorum Figuris ac Differentiis, 4to. Bonomie, 1691, and reprinted at Utrecht, 1696, with notes by Tollius; De Ecclesiastice Hierarchie Originibus, 4to. Modena, 1703; and some other small pieces. Nouv. Dict. Histoire. Gen. Bioi.

BACCINUS, in Ancient Geography, a town of Egypt, near the lake Marris. Ptolemy.

BACCIUM, an island of the Ægean sea, opposite to Phocaea, at the entrance of the gulf of Smyrna. The temples and flats, with which it was richly adorned, were ransacked by the Romans.

BACCHIUS, in the Latin Poetry, a kind of foot, consisting of three syllables; whereof the first is short, and the two latter long; as ēgūsā.

The bacchius is the reverse of a dactyl, and takes its name from that of Bacchus, because frequently used in the hymns composed in his honour. It was also called among the ancients, ἀνθρῖς, τριπαθίς, ἔλλος; and by the Greeks, ἀνθρῖς.

BACCHIIUS SENIOR, in Biography, one of the seven Greek writers, who, like Ptolemy, allowed of no more than seven modes. See Modes. On the subject of rhythm, he quotes Arisfoenus, Nicomachus, Leophantus, and Didymus; so that it is certain he wrote subfrequent to all those authors.

BACCHIUS, in Entomology, a large species of Scarabæus, that inhabits the Cape of Good Hope. The shield of the head is four-toothed; thorax gibbous, and with the wing-cases gibbrous. Fabricius.

BACCHUS, a species of Curculio that inhabits Europe. It is coppery, with the snout and ends of the feet black. Fabricius, &c.

BACCHUS, a species of Monoculus, with an orbicular shell; antennæ extended horizontally; tail denticulated on each side. Müller entomol. Inhabits rivers.

BACCHUS in Mythology, a name synonymous among the Phoenicians with "mourning," and supposed to be derived from the Phoenician term bakal, to weep, and given to several deities, or rather to the same god, acknowledged under various distinct epithets and characters in the different countries where he was worshipped. In Egypt, he was called Osiris; in Arabia, Adamus; in Mylba, Phanazer; in India, Dionysus, or Dionysius; by the Lucanians, Penusus; throughout the Roman dominions, Liber, &c. &c. The reasons assigned for these different appellations, by which the same god was distinguished, are listed by Banier in the second volume of his "Mythology." It is natural to suppose that the Greeks and Romans, in their usual manner, bestowed upon the one Bacchus whom they worshipped, the several actions and attributes of the many divinities known by that name, and by other equivalent denominations in different countries. Cicero (de Nat. Deor. iii. 23.) mentions five divinities known by the name of Bacchus, and thus adds two to the three of Diodorus Siculus and Philostratus Antiquity, however, has chiefly distinguished two gods, under the title of Bacchus; that of Egypt, the son of Ammon, and the name with Osiris; and that of the Greeks, or of Thebes in Bocotia, the son of Jupiter and Semelé. The Bacchus of Egypt was the Dionysus of the Hindus, so called from the city of Nysa in Arabia Felix, where he was brought up, and worshipped by them in consequence of the glory he had acquired by leading his army into India. (See Dionysus.) According to Sir Isaac Newton (Chron. apud Op. vol. p. 77-80.), this great Bacchus, whom the Arabs did denominate from a word which in their language signified "great," was the same with Sesac or Sesostris, who became king of Egypt in the reign of Solomon. (1 Kings xi. 40.) See Sesac, and Sesostris.

All agree (says this author) that Bacchus was the fame king of Egypt with Osiris (see Osiris); and he supposes that the Osiris, or Uranus, or Jupiter Uranus of the Arabians, the other god besides Dionysus whom they worshipped, was the same king of Egypt with Ammon, the father of Bacchus, according to the poet:

"Quamvis
"Quamvis Ethiopum populis, Arabumque bestia
Gratibus, utique Indis unus fit Jupiter Ammon."
(See Amm. Sir Isaac Newton adds, that when Ariadne, the daughter of Minos, was defeated by Theseus in the island Naxos or Dia, and taken up by Chaucus, an Egyptian commander at sea, she became the mistress of the great Bacchus, who was at that time returning from India in triumph; and by him she had two sons, Phyllas and Eunomus, who were Argonauts. This Bacchus was caught in bed by Phrygia with Venus, the mother of Zneas, according to Homer (Od. cl. viii. v. 202), just before he came over the Hellepont and invaded Thrace; and he married Ariadne, the daughter of Minos, according to Heliod (Theb. c. v. 947); and therefore, by the testimony of both Homer and Heliod, who wrote before the Greeks and Egyptians corrupted their antiquities, this Bacchus was one generation older than the Argonauts; and he being king of Egypt at the same time with Sesostris, they must be one and the same king. They also agree in their actions: Bacchus invaded India and Greece; and after he was routed by the army of Perseus, and the war was compos'd, the Greeks did him great honours, and built a temple to him at Argos, and called it the temple of the Ctesian Bacchus, because, as Paufanias relates (l. 2. c. 23.), Ariadne was buried in it.

The distinctive character of this Indian Bacchus was a long beard, whence he was denominated "the bearded Bacchus," or Καίαρειος. Some have supposed that there was another Bacchus peculiar to Egypt, and the most ancient of all; and, indeed, Diodorus Siculus seems to warrant this opinion, by mentioning three different deities under this appellation. Accordingly, Bochart (Geog. Sac. l. i. c. 18. apud Oper. t. i. col. 439, &c.) conjectures, that Bacchus was the same with Nimrod, the father of Ninus; and he supposes that the worship of this deity originated in Assyria, and from thence was transmitted to the Syrians and Phenicians; and that it was communicated by the Phœcians to the Greeks. Many of his names, attributes, and actions bear an obvious allusion to the scripture history, and are most satisfactorily elucidated by it. Amongst those who have referred the origin of Bacchus, and the worship that was performed in honour of him, to the earliest antiquity, and very nearly to the derivation at Babel, we may mention the learned Mr. Bryant, who discourses in the history of the exploits of this illustrious person, references to the migrations of the Cuthite colonies, or of the sons of Chus, who, upon their departure, betook themselves eastward to the Indus and Ganges, and finally passed into Egypt. See Cuthites, and Dispersion.

The Theban Bacchus, or Grecian Bacchus, is particularly distinguished by Diodorus Siculus, l. iii. This historian informs us, that Orpheus first deified the son of Semele, by the name of Bacchus, and that he appointed his ceremonies in Greece, in order to render the family of Cadmus, the grandfather of the Grecian Bacchus, illustrious. Semele, it is said, was struck with lightning at the very instant of her son's birth; and the child was probably denominated Bacchus, from the grief which this melancholy accident might have occasioned in the family. Cadmus, with a view of concealing his daughter's dishonour, conveyed away his infant grandson, as it should seem, to some of his relations in Phœnicia or Egypt. After having been there instructed in the mysteries of Isis and Osiris, and initiated in all the magical or juggling tricks of the Egyptian priests and hierophants, and having attained the maturity of age, he returned to Thebes with the traditional retinue of the original deity of the same name, and claimed divine honours; which, after some opposition, were allowed him. To this Grecian Bacchus the actions of Osiris were ascribed, together with a variety of absurd and disgraceful adventures in which his prototype had no concern. Hence the Theban Bacchus became a monstrosity of licentiousness and debauchery; whereas the Egyptian was of a very contrary character. Of course the mysteries of the former were attended with the most shocking abominations. See Bacchus, Dispersion.

According to the account of Diodorus Siculus (l. iii. p. 275.) there was no nation upon earth, neither Grecian nor foreign, that was not indebted to this deity for some mark of his munificence and favour. He taught the people to plant the vine, and to preserve the juice of the grape, and to lay up the fruits of the earth in proper repositories. Those who partook of his labors and ungenial soil, not adapted to the cultivation of the vine, were shown the art of making a drink from barley, not less grateful than that which proceeded from the grape. He adds (l. iv. p. 210), that the person, from whom these blessings were derived, is represented of the highest antiquity, and the greatest benefactor ever known by mankind. Such is also the history given of Osiris, under which character, says Bryant (Anc. Myth. vol. iii. p. 445), we are to understand a people who went forth and performed all that has been mentioned. Their religion conflicted in the worship of the sun under various titles; accordingly however Dionysus or Bacchus may be diversified by various names or titles, all of them, as this learned writer imagines, with regard to worship, relate ultimately to the sun. Such was also the opinion of Selden (De Dis Syris, p. 77.) 'To this worship were added, by the ancient people to whom Bryant refers, divine honours paid to their ancestors, the Baalim of the first ages: all which were attended with particular mystical rites, in which were commemorated the circumstances of the deluge, and the history of the great patriarch by whom mankind was preferred. Bacchus was esteemed one of the founders of medicine.

Diodorus Siculus further informs us, that it was Bacchus, the son of Semele, who invented fairs and theatres, and who first established a music school, exempting from all military functions such musicians as discovered great abilities in their art; on which account, says the same author, musicians formed into companies have since frequently enjoyed great privileges.

Dr. Burney (Hist. Music, vol. i. p. 298.) observes, that the dithyrambs, which gave birth to dramatic representations, are as ancient as the worship of Bacchus in Greece; and there is little doubt, but that the ceremonies of his mysteries gave rise to the pompe and illusions of the theatre. Many of the most splendid exhibitions upon the stage for the entertainment of the people at Athens and Rome being performed upon the festivals of Bacchus, gave occasion to the calling all those that were employed in them, whether for singing, dancing, or reciting, "servants of Bacchus," Paufanias, in his Attics (p. 7. ed. Kuhnii), speaks of a place at Athens consecrated to Bacchus the singers; thus named, he says, for the same reason as Apollo is called the chief and conductor of the Muses. Whence it should seem, says Burney (ubi supra), that "Bacchus was regarded by the Athenians not only as the god of wine, but of song; and it must be owned, that his followers, in their cups, have been much inclined to singing ever since. Indeed we are certain, that in none of the orgies, processions, triumphs, and festivals, instituted by the ancients to the honour and memory of this prince of the vineyard, music was forgotten, as may be still gathered from ancient sculpture, where we find not only that musicians, male and female, reigned him with the lyre,
lyre, the flute, and with song; but that he was accompanied by fawns and futes playing upon timbrels, cymbals, bagpipes, and horns; these Suidas calls his mindfrefs; and Strobo gives them the appellations of Bacchi, Sikeli, Salyi, Baccus, Linos, Thyrs, Mamillones, Naiades, Nymphs, and Thymi. These representations have furnished subjefts for the finest remains of ancient sculpture; and the most voluptuous passages of ancient poetry are defcriptions of the orgies and festivals of Bacchus.

Nonnus, an Egyptian of Pentapolis, who lived in the fifth century, has collected all the fabulous adventures of Bacchus, and exhibited them in a beautiful, but irregular, poem, under the title of "Dionysiacs." See Dionysiacs, and Nonnus.

The Grecian Bacchus, the god of wine and fong, is usually represented under the figure of a jolly bearded youth, crowned with ivy (that plant, as it is faid, being reputed an antidote to the intoxicating effects of wine), and also vine-leaves: bearing in one hand a spear or thyrsus, wrapped with the fame, and in the other, grapes, a cup or a horn for drinking; and drawn on a car by tigers and panthers. He is sometimes exhibited with a mitre on the head, or a kind of band or fillet raised in front, and falling back over the shoulders, and with his temples ornamented by horns. These horns originated from the relation he fupported to the fun, whose rays were thus reprehended. On the Greek medals, Bacchus is known by his crown of ivy or vine, his diadem and horn, with a tiger and futes around him.

Bacchus, in Experimental Philosophy, is the name of a small brass apparatus (Pneumatics, Pl. IX. fig. 73.) feated on a culf, with a tube proceeding from the mouth to the barrel; this is filled with red wine, or coloured water, fo that being put under a receiver, when the air is exhaufted, the liquor is thrown up into his mouth, by the expansion of confined air, and the rofy god fems to be at his usual employment; while he is drinking, his belly expands, which is effected by a bladder, containing a small quantity of air, concealed under his shirt.

Bacchylides, in Biography, a celebrated Greek lyric poet, the nephew of Simonides, was a native of the island of Cees, and flourished in the 82d olympiad, B.C. 425. He is reckoned the laft of the nine lyric poets of ancient Greece. The purity of his style, the correctness of his manner, and the regular and connected beauties of his work (See Longin. de Sublim. c. 33.), obtained for him an applause of which Pindar might have been jealous. These two poets divided, for some time, the favour of king Hiero, and the fatisfactions of his courtiers; but when the royal patronage no longer prevented each from taking his true place, Pindar foared to the skies, and Bacchylides remained on earth. The compositions of Bacchylides confifted of hymns, odes, and epigrams, which abounded in moral sentiment; fo that the emperor Julian, according to Ammianus Marcellinus, was fo much delighted with them, that he was frequently accustomed to repeat his verses. Horace is faid sometimes to have imitated him in some of his pieces, particularly in the prophecy of Nerus, which was fuggelied by the Greek poet's veneration of Caffander. Some fragments only of Bacchylides now remain. Anacharsis, vol. vi. p. 342.

Bacchylus, a Christian divine, was bishop of Corinth in the second century. He is mentioned by Eusebius, with Polyenae bishop of Antioch, and others, who had left testimonials of the orthodoxy of their faith in writing. He afterwards speaks of a letter written by Bacchylus about the time of celebrating Easter. Jerom, in his Catalogue, says, that Bacchylus, bishop of Corinth, who flourished in the time of the emperor Severus, wrote an elegant book about Easter, in the name of all the bishops of Achaea. His works are lost. Eufeb. H. E. l. v. c. 22, 23. p. 192. Hieron. de Vir. Illustr. c. 44. Lardner's Works, vol. ii. p. 305.

Bacciferous Plants, in Botany, are fuch as bear berries, i.e. fruit, covered with a thin membrane, wherein is contained a pulp, which grows soft and moift when ripe, and infletes the feed within its fubftance. The bacciferous trees Mr. Ray divides into four kinds: 1. Such as bear a calculate, or naked berry, the flower and calyx both falling off together, and leaving the berry bare, as the fall-fras tree, &c. 2. Such as have a naked monoporous fruit, that is, containing in it only one feed; as the arbatus, the cerchurus, lentificus, &c. 3. Such as have a naked, but a polyporous fruit, that is, containing two or more kernels or feeds within it, as the jafinum, ligurium, &c. 4. Such as have their fruit composed of many allices or round foft balls, fet close together, like a bunch of grapes; as the aca marina, the rubus vulgaris, rubus Idæus, and the rubus minor fructu ceurolo.

Bacchinium, or Baccina, in Antiquity, a bafoon or vessel to hold water to wash the hands. The holding the bafoon, or waiting at the bafoon, on the day of the king's coronation, was an ancient tenure in ferjeantry. Lib. Rub. Senecc. f. 137.

Baccici, or Bacci, in Biography. See Gaull.

Baccio, Fra. Bartolomeo, called Bartoloni di S. Marco, a painter of history and portrait, was born at Savignoise, near Florence, in 1490, and became a disciple of Cosimo Rotelli; but derived his principal knowledge in the art of painting from Leonardo da Vinci. He understood the true principles of design better than most masters of his time, and was also a considerable painter in perspective; so that he directed the studies of Raphael with regard to the art of managing and uniting colours, as well as the rules of perspective. Some years after Raphael left Florence, Baccio visited Rome; and by the observations he made on the antiques, and the works of Raphael, he made great improvement, which was manifested in his picture of St. Sebastian. This picture, which he finished after his return to Florence, was so well designed, so naturally and beautifully coloured, and had also such an expression of pain and agony, that it was removed from public view in the chapel of the convent, because it made too strong an impression on the imaginations of many women who beheld it. He was very laborious, and studied nature; he designated the naked correctly; his figures had much grace, and his colorings admirable. To him is ascribed the first invention of the machine called by the artificts a layman, and at this day generally used. Upon this he placed his draperies, for the purpose of more accurately observing their natural and their more elegant folds. A capital picture of the Assumption by Baccio is in the Florentine Collection. He died in 1517. Parkington.

Baccius, Andrew, a native of Ancona, practised medicine at Rome, towards the end of the 16th century. He was physician to Cardinal Aeciano Columna, and afterwards pope Sixtus the fifth. A man of indefatigable industry, and of great genius and learning, as his numerous publications testify. The principal of them "De Thermis, Lacubus, Fluminibus, et Balneis totius Orbis," lib. viii. was first printed at Venice, 1571; again 1588; then at Rome, 1622; at Padua, 1711, folio. The last edition is augmented with an eighth book, containing analyses of the different mineral waters, with observations extracted from other writers on the subject. We have also of this author, treatises, "De Venenis, et de Antidotis," 4to. Rome, 1586; "De Dignitate

BACCOFOE, in Bontany, the name of a fruit very common in Guinea. It is like the banana, except that it is whiter, thicker, and flunter. The taste and smell are both very agreeable, and some pretend, that on cutting it through transfervely, there is the figure of a crucifix on each side of it. Phil. Trans. No. 1608.

BACH, Sebastian, in Biography. The illustrious family of Bach has produced more great musicians, than any other single family in Germany, or, perhaps, in Europe; as previous to the great eminence to which Sebastian had arrived, early in the last century, his family, according to Walther, had distinguished itself in the profession of music, particularly in organ-playing, for four generations. Innumerable are the stories full circulating in Germany, of Sebastian Bach’s conduct and triumphs over his great competitors, till at length, like a courtier often victorious, his form was so high, as to discourage all competition. He was as superior to all organ-players on the continent, as Handel was in England.

The performances and compositions of these two great musicians, not only surpassed those of all their contemporaries, but established a style of playing and writing for the organ, which is still respected and imitated by the greatest organists in Germany, where men of superior abilities have always abounded, and been celebrated, not only for treating the manuals, but the pedals of that noble instrument.

Sebastian Bach is said by Marpurg, in his "Art de la Tugue," to have been "very great musician in one, profound in science, fertile in fancy, and in taste easy and natural;" he should rather have said, original and refined, for to the epithets easy and natural many are unwilling to assent; as this truly great man feems by his works for the organ, to have been constantly in search of what was new and difficult, without the least attention to nature and facility.

Old Kirman, the harpsichord maker, used to relate the extraordinary curiosity excited at Salzburg, when Handel and Sebastian Bach happened to meet in that city. On their going together to the cathedral, they found it so full that they could scarcely get to the organ-loft; and when one of them opened the organ, it was not possible for more persons to crowd into the church. But so great was the fame of these performers, that those who could not gain admission into the interior of the building, procured ladders, and placed them at the windows, in order to gratify their ears with all the passages which the full organ could convey to them through all impediments.

Of Sebastian Bach, who was successively cantor, organist, and music director, at Leipzig, all the musical writers of Germany for these last forty years, have born testimony to the abilities. Quantz in his "Art of Playing the Flute," written during the life of Bach, says, that this admirable musician had brought organ playing to the highest degree of perfection.

The challenge which he received and accepted, from the celebrated French organist Marchand, at Dresden, is well known in Germany. Upon the arrival of Marchand in that city, after he had vanquished all the organists of France and Italy, he offered to play extempore with any German whom the king of Poland could prevail upon to enter the lists against him; no one at Dresden had the courage to encounter so successful a champion; but an express being sent to

Sebastian Bach, who was at that time a young man, and residing at Weimar, he came away immediately, and, like another David, vanquished this Goliath. It must not, however, be concluded from this defeat, that Marchand was a mean performer; if that had been the case, the victory over him would have added nothing to the fame of his competitor. It was an honour to Pompey that he was conquered by Caesar, and to Marchand to be only vanquished by Bach.

This was the Bach whom the learned editor of the Latin Theatrustus, John Matthias Gessuer, has celebrated in his notes on Quintilian, i. xii. p. 61, where the ancient citharists are extolled for the use they made of their feet as well as their hands (perhaps merely to beat time) in their performance. The critic addressing himself to the flade of Quintilian, exclaims; "you would think but slight, my dear Fabius, of all those exertions of the citharists, if you could rivitate the world, and attend the exhibitions of Bach, one of my colleagues in the university of Leipzig; who, when at the great organ, while every finger of both hands is engaged at the manuals, his feet are running over the pedals with a skill and velocity which several of your citharists with 500 tibiae could not emulate; nor is his destiny inferior in directing a band of thirty or forty performer, all employed at once; correcting the time of one by his nod, of another by his foot, and of a third by holding up a threatening finger; giving the right note to one from the top of his voice, to another from the bottom, and to a third from the middle of it; if you could have seen him amid the very powerful sounds with which he was surrounded, performing a very difficult part himself, yet marking whence proceeded the least discordance, and aiming those that erred; favourer as I am of antiquity, the exertions of our Bach appear to me to effect what not many Orpheuses, nor twenty Ariods, could achieve. "Maximus aequo antiquitatis fanus, multos unam Orpeus et viginti Arionas complexum Bachiuminem et quis illi similis sit forte, arbitrator." Sebastian Bach died at Leipzig in 1754.

BACH, Charles Philip Emanuel, son of Sebastian, refided many years at Berlin, in the service of Frederic II. king of Prufia; he was afterwards music-director at Hamburg, and long regarded as the greatest composer and performer on keyed instruments of his time; he was certainly the founder of the present style of composition for the piano-forte, as his father and Handel had been for that of the organ. It was observed by Abel, that if Sebastian Bach and his admirable son Emanuel, instead of being music-directors in commercial cities, had been fortunately employed to compose for the stage and public of great capitals, such as Naples, Paris, or London, and for performers of the first class, they would doubtless have simplified their style more to the level of their judges; the one would have sacrificed all unmeaning art and contrivance, and the other have been left fantastical and recherche, and both, by writing in a style more popular, and generally intelligible and pleasing, would have extended their fame, and been indistinguishably the greatest musicians of the eighteenth century.

Emanuel Bach, in his life, written at our request by himself, has some excellent reflections on his own style, which he formed and polished by hearing the greatest performers, vocal and instrumental, of his youth, who visited his father, or were employed in the theatre at Berlin. When the critics, says he, are disposed to judge impartially, which seldom happens, they are frequently too severe on works that come under their lash, from not knowing the circumstances that gave them birth, or remembering
ing the author’s original intention. But how seldom are critics found to poise their feeling, science, probity, and courage; qualities without which no one should set up for a sovereign judge. It is a melancholy truth, that musical criticism, which ought to be useful to the art, is in Germany a trade, commonly carried on by dry, malignant, and stupid writers. He then declares that of all his works, those for the clavichord or piano-forte are the chief in which he has indulged his own feelings and ideas. His principal work has been to play and compose in the most vocal manner possible, notwithstanding the great defect of all keyed instruments, except the organ, in not fulfilling their tone. But to make a harpsichord or piano-forte sing, is not easily accomplished; as the ear must not be tired by too thin a harmony, nor dinned by too full an accompaniment. In his opinion, music ought to touch the heart, and he never found that this could be effected by running, rattling, drumming, or arpeggios.

If Haydn ever looked up to any great master as a model, it seems to have been C. P. Em. Bach : the bold modulation, refts, pauses, and free use of semitones, and unexpected flights of Haydn, remind us frequently of Bach’s early works more than of any other composer. But in writing for violins, he has surpassed his model in facility and invention; freaks, whims, and even buffoonery, appear natural to Haydn, which in the works of his imitators seem downright caprice and affectation. Em. Bach used to be centred for his extraneous modulation, crudities, and difficulties; but, like the hard words of Dr. Johnson, to which the public by degrees became reconciled, every German composer takes the fame liberties now as Bach, and English writer uses Johnson’s language with impunity. Emanuel Bach died at Hamburg, 1788, at near eighty years of age.

Bach, John Christian, arrived in England 1763, during the opera regency of the admirable female finger and mistress, Colomba Mattei, who had engaged him as composer of the serious opera. He was the youngest son of Sebastian Bach, and had been a confident student in Italy, where he added new lustre to his name and family by his dramatic productions, and had been appointed by the empress queen organist of the Duomo at Milan.

On his arrival here, he was extremely mortified to find that he had no better fingers to write for than Ciardiini and the Cremonini, two performers hardly worthy to be ranked in the second class; and for some time he totally declined composes for our stage, being unwilling as a stranger, to trust his reputation to such performers. But, at length, having heard the De Amicis sing two or three serious songs in private, it suggested to him the idea of giving her the first woman’s part in his serious opera and having communicated his design to Mattei the impresario, matters were soon arranged, and the De Amicis, who afterwards held the first rank among female fingers in the serious operas of Naples and other great cities of Italy, was now first taken from the comic opera, and invested with the character of principal woman in the serious. And during the rest of the season, on Tuesday nights, the delighted the town as the representative of Thalia, and on Saturdays as that of Molpomene.

John Christian Bach’s first opera in England, called Orion, or the Diana Vendicata, was honoured with the preference of their Majesties on the first night, February the 17th, 1763, and extremely applauded by a very numerous audience. Every judge of music perceived the eminence of genius throughout the whole performance; but were chiefly struck with the richness of the harmony, the ingenious texture of the parts, and above all with the new and happy use he had made of wind-instruments; this being the first time that clarinets had obtained admission in our opera orchestra. Their Majesties honoured the second representation likewise with their presence, and no other serious opera was wanting for near three months. Zanarda, however, a first serious opera by this composer, was brought out in May, which ran more than a month, when the season closed.

The principal songs of these two operas, though excellent, being calculated to display the compass of voice and delicate and difficult expression and execution of De Amicis, were not likely to become common or of much use out of the opera house. The bulk of the airs were so indifferently sung, that they were more admired as instrumental pieces, than compositions for the voice. But this excellent matter soon convinced us that he polished every requisite for a great musician, by the songs he afterwards composed in every style of good singing; by his symphonies, quartets, and concertos for almost every species of instrument, as well as by his expressive and masterly performance on the piano-forte. It is with pleasure that we take this opportunity of doing justice to the talents and abilities of a man who improved our taste both in composition and performance. Having very early in life been deprived of the instructions of his father, the great Sebastian Bach, he was for some time a scholar of his elder brother, the celebrated Charles Phil. Emanuel Bach, under whom he became a fine performer on keyed-instruments; but on quitting him and going to Italy, where his chief study was the composition of vocal music, he affixed, that during many years he made little use of a harpsichord or piano forte but to compose for or accompany a voice. When he arrived in England, his style of playing was so much admired that he recovered many of the lost his hand had futilized by disease, and by being continually cramped and crippled with a pen; but he never was able to reinstate it with force and readiness sufficient for great difficulties; and in general his compositions for the piano-forte are such as ladies can execute with little trouble; and the allegros rather resemble bravura songs than instrumental pieces for the display of great execution. On which account, they lose much of their effect when played without the accompaniments, which are admirable, and to masterly and interesting to an audience, that want of hand, or complication in the harpsichord part is never discovered.

There are many admirable airs in the operas he composed for our stage that have remained in fashion. The rich effects of the accompaniments perhaps deserve more praise than the originality of the melodies; which, however, are always natural, elegant, and in the best taste of Italy at the time he came over. The Neapolitan school where he studied, is manifest in his cantilenas, and the science of his father and brother in his harmony. The operas of this master are the first in which Da Capos disappeared, and which, about this time, began to be generally discontinued: the second part being incorporated with the first, to which, after modulating into the fifth of the key, the finger generally returns.

Bach seems to have been the first composer who observed the law of contrapunt, as a principle. Before his time, contrat there frequently was, in the works of others; but it seems to have been accidental. Bach in his symphonies and other instrumental pieces, as well as his songs, seldom failed, after a rapid and noisy passage, to introduce one that was slow and soothing. His symphonies seem infinitely more original than either his songs or harpsichord pieces, of which the harmony, mixture of wind-instruments, and general richness and variety of accompaniment, are certainly the most
most prominent features. In the sonatas and concertos which he composed for his own playing, when his hand was feeble, or likely to tire, he diverted the attention of the audience to some other instrument; and he had Abel, Fischer, Cramer, Croftari, Cervetto, and other excellent musicians to write for, and take his part, whenever he wanted support.

In 1765, he new set Metallello's Adriano in Siria, in the performance of which the rich, powerful, and melodious voice of Manzoli was assigned the principal part. The expectations of the public the first night this drama was performed, occasioned such a crowd at the King's theatre as had been seldom seen there before. It was impossible for a third part of the company collected together on this occasion to obtain places. But whether from heat or inconvenience, the unreasonable stays of expectation, the composer being out of fancy, or too anxious to please, the opera failed. Every one seemed to come out of the theatre disappointed, and the drama was performed but two or three times. This seemed matter of great triumph to the Italians, who began to be jealous of the Germanic body of musicians at this time in the kingdom. The songs were printed by the elder Welcker, and many of them sung afterwards at concerts with great applause, and found, as detached airs, excellent, though they had been unfortunate in their totality.

Soon after his arrival in England, J. C. Bach and his countryman Abel uniting interests, opened a subscription for a weekly concert; and as their own compositions were new and excellent, and the best performers of all kinds which our capital could supply enlisted under their banners, this concert was better patronized and longer supported than perhaps any one had ever been in this country; having continued for full twenty years with uninterrupted prosperity. Bach had not been long in London before he had the honour of being appointed chamber-musician and musfe- matter to her majesty; and his merit seems to have been constantly well understood and royally patronized at St. James's to the end of his life, which he terminated, after a short illness, in 1782. And having much more genius than worldly prudence, he left his widow Mrs. Bach (formerly the signora Graff, first woman at the opera during the run of Gluck's Orfeo) in very indigent circumstances; but her majesty finding that she wished to return to her own country, settled a pension upon her to enable her to end her days there in ease and comfort.

BACH, in Geography. See Batha.

BACH, in Ornithology, a species of Falco figured in the fifteenth plate of Le Vaillant's work on the birds of Africa. It is about the size of that kind of falcon which we call the common buzzard; and it naturally belongs to that tribe of rapacious birds. The prevailing colour is a very deep brown, with the lower parts of the body and belly spotted with white, and a large band of the same white colour disposed transversely upon the tail. On the back of the head is a tuft of white feathers, with black tips, that forms a creft; the beck and legs are yellow. The plumage of the female is varied with whitish and yellow.

This is a solitary and ferocious creature; and its chief haunts are the barren mountainous parts of South America. It utters a piercing cry, which as it redounds among the rocks is truly lamentable. The rapidity of this bird in flight is remarkable; and its patience when waiting for its prey is not less deserving mention; it will remain for hours together in one position, and be during that time immovable as to be mistaken for a point of the rock on which it feeds, but the moment a lizard or any other reptile appears on which it feeds, it darts down upon it with the greatest velocity. These birds build their nests in the craggy hollows of the rock; and the female lays two, or at most three, eggs at a time.

BACHASH, in Geography, a small island among the western islands of Scotland, near the north-east coast of North Vift.

BACHELIERI, La, a town of France, in the department of the Dordogne, and chief place of a canton, in the district of Martignac; four leagues north of Sarlat.

BACHELOR, of Batchelor, Baccalaurevs, in Middle Age Writers, was a denomination given to those who had attained to knighthood, but were not rich enough, or had not a sufficient number of vassals, to have their banners carried before them in battle; or, if they were of the order of bannerets, were not yet of age to display their own banner, but obliged to march to war under the banner of another.

Candcn and others define bachelor, a person of a middle degree between a knight and an esquire, of less age and standing than the former, but superior to the latter.

Others will have bachelor to have been a common name for all degrees between a mere gentleman and a baron.—Thus we find the lord admiral, when he was neither an earl nor baron, denominated a bachelor. — "Ant it is to weet, that when the admiral rideth to appeare a shipp of war, or other, for the busines and affairs of the realm, if he be a bachelor, he shall take for his day-wages four shillings a day; if he be an earl or baron, he shall take wages after his estate and degree." BACHELOR was more peculiarly a title given to a young cavalier, who made his first campaign, and received the military girdle accordingly.

BACHELOR was also a denomination given to him who had overcome another in a tournament, the first time he ever engaged.

BACHELORS, KNIGHTS, in Heraldry. See Knights BACHELORS.

BACHELORS is also used in a college senate, to denote a person possessing of the Baccalaurevs, which is the first degree in the liberal arts or sciences.

The degree of bachelor was first introduced in the thirteenth century by pope Gregory IX. But it remains still unknown in Italy. At Oxford, before a person is entitled to the degree of bachelor of arts, he must have studied there four years; three years more to become master of arts; and seven more to commence bachelor of divinity.

At Cambridge, to commence bachelor of arts, he must have been admitted near four years, and above three years more before he commence master; and seven more full to become bachelor of divinity. He may commence bachelor of law after having studied it six years.

At Paris, to pass bachelor in theology, a person must have studied two years in philosophy and three years in theology; and held two acts of examination in the Sorbonne. Bachelors in the canon law are admitted after two years study in the same, and obtaining an act according to the forms. A bachelor of physic must have studied two years in medicine, after having been four years master of arts in the university; and having flown an examination; after which he is invested with the sur, in order to be baccelled.

In the university of Paris, before the foundation of divinity-professorships, those who had studied divinity five years were admitted to go through their course, whence they were called bacalaurevs curfors; and as there were two courses, the first employed in explaining the Bible, during three succedent years; the second, in explaining the matter of the sentences for one year; those who were in their Bible course were
were called bacallarii Bachi; and those arrived at the Cer-
tences, bacallarii fententiarium; and, lastly, those who had
gone through both, were denominated bacallarii formati, or
formal bachelors.

At present, formal bachelor denotes a person who has
taken the degree regularly after the due course of study and
exercises, required by the statutes; by way of opposition to a
curren bachelor, who is admitted in the way of grace, or
by diploma.

We also find mention of bachelors of the church, bacca-
larii ecclesea.-The bishop with his canons and bacallarii,
cum confitei & confessos omnium canonicorum suorum & bacca-
larium.

There is scarce any word whose origin is more contro-
verted among the critics than that of baccerus, bacallarius, or
bacallarius: the two different acceptations of the word
literary and military, above recited, have each of them their
advocates, who affect each to be the primitive sense, and
derive the word accordingly.

Among those who hold the military bachelor to be the
more ancient, is Cujas, who derives the word from bacel-
larius, a kind of cavalry, anciently in great esteem. Du-
Cange deduces it from bacallarius, a kind of fees, or
farms, consisting of several pieces of ground, each where-
boed contained twelve acres, or as much as two oxen would
plough; the poiffors of which bacallaries were called bac-
callers.

Cafeneue and Altaserra derive bachelor from bacalius,
or baccius, a flaff, because the young cavaliers exercised them-
selves in fighting with staves. Martinus derives it from
bacalarius, i.e. bacisc laured donatus, in allusion to the an-
tic duadem of crowning poets with laurels, baccia lauri; as
was the case with Petrarch at Rome in 1341. Aciat
and Vives are of the same opinion; nor is this etymology
improbable.

Bachelors, in the livery companies of London, are
those not yet admitted to the livery.

These companies generally consist of a master, two war-
dens, the livery, and the bachelors, who are yet but in
expectation of dignity in the company, and have their function
only in attendance on the master and wardens; they are
also called yeomen.

Bachelor is also a name given in the six companies of
merchants at Paris to the elders, and such as having served
the offices, have a right to be called by the masters and ward-
dens to be present with them, and assist them in some of
their functions, particularly in what relates to the chief d'
seure, or master-pieces, of such as are candidates for being
admitted masters.

Bachelor is also particularly used for a man not married,
or who is yet in a state of celibacy.

The Roman censors frequently imposed fines on old bac-
chelors. Dion. Halicarnassus mentions an old constitution,
by which all perions of full age were obliged to marry.
But the most celebrated law of this kind was that made
under Augustus, called the lex Julia de maritiandis ordinibus,
and by Horace (Carm. Secul. v. 5) lex marita, by which
bachelors were made incapable of legacies of inheritances by
will, unless from their near relations. See Papian-Por-
tean Law.

The Rabbins maintain, that, by the laws of Moses, every
person, except some few, is obliged in conscience to marry
at twenty years of age; this makes one of their 673 pre-
ccepts. Hence these maxims to frequent among their ca-
suluts; such as, that he who does not take among them, is
not a man, but ought to be reputed a homicide. Lycurgus was not more favourable;
by his laws bachelors are branded with infamy, excluded
from all offices civil and military, and even from the floors
and public Sports. At certain feasts they were forced to
appear, to be exposed to the public derision, and led naked
round the market-place. At one of their feasts, the women
led them in this condition to the altars, where they obliged
them to make amends honorable to nature, accompanied with
a number of blows, and lashes with a rod at discretion.
To complete the affront, they forced them to sing certain
songs composed in their own derision.

The Christian religion is more indulgent to the bachelor-
slate; the ancient church recommended it as preferable to,
and more perfect than the matrimonial state.

In the canon law, we find injunctions on bachelors, when
arrived at puberty, either to marry, or turn monk and pro-
fects chality in earnest.

In Great Britain, taxes have been occasionally levied on
bachelors, as by 7 W. III. 1695, which imposed a tax on
such, after 25 years of age, of 12s. 10s. for a duke, and
10s. for a common person: and the taxes laid on others have
been increased with regard to bachelors, as in the case of
the duty on servants by 25 Geo. III. c. 43. See Serv-
Vants.

Bachelors, in geography, a river of South America,
which runs into a bay of the same name, on the north side
of the straits of Magellan. N. lat. 53° 39'. W. long. 73°
2'.

BACHER, the name of a chain of Austrian mountains,
the south of Styria.

Bacher's Toxic Pills, in the Materia Medica. See Hel-
phore, and Pills.

BACHLIAIN, or BACHIAN, in geography, one of the
Molucca islands, lying south from Macbian, and polisified,
since the year 1610, by the Dutch. This is the largest of
the little Moluccas, and is governed by a sultan, who is
likewise sovereign of Oubi and Ceram, together with Gor-
ram. This monarch has a pension from the Dutch, either
for the destruction or supply of nutmegs; but he is other-
wise little subservient. Bachian rises into woody hills, and
through the idleness or oppreffion of its inhabitants, is suf-
fected to become wild and defect, although by cultivation it
is capable of becoming fertile and productive, and it was
represented as formerly producing the best cloves in the Mo-
luccas. On the shores, as in most of the other illes of this
archipelago, there are prodigious rocks of coral, of infinite
variety and beauty. Its principal town is Sabongo; it is
about twelve leagues in circuit, and has a burning moun-
tain. It is situated nearly under the equinoctial in S. lat.
17° 25', and E. long. 125° 5'.

BACHINA, in Ancient Geography, an island of the Me-
diterranean sea, near Smyrna, according to Pliny; called
by Livy, Bachium.

BACHMUT, a town of Russia, in the province of
Ekaterinoslaw, 104 miles W. N. W. of Azof. N. lat. 48°
25', E. long. 37° 44'.

BACHIO, a river of North Wales, which runs into the
Severn near Laniolos, in Montgomeryshire.

BACHOLKZ, or BACHUTZ, a town of Poland, in the
Palatinate of Sandemitz, 20 miles south of Rad-

dom.

BACHOVIUS, REIMER, in Biography, a German ci-
vilian, was born at Cologne, in 1544, and refented at Leip-
sie, where he suffered persecution on account of his religious
principles, as he professed attachment to the doctrines of
Calvin, rather than to those of Luther. Compelled not
only to resign his public offices, but to quit Leipzig, he with-
drew into the Palatinat, and found in the Elector a gene-
rous patron. At Heidelberg, he held several honourable
and lucrative places till his death in 1614. In a theological
work, of which he was the author (1585), he held out
the following arguments in proof of the error of the calvinists,

BAC.
tract, intitled, "The Catechism of the Palatinate," he cited the writings of the fathers in defence of Calvinism. His son, of the same name, was professor of civil law in the university of Heidelberg, which he filled with distinguished reputation for more than 20 years, till the city was taken by count Tilly, and the university was dissolved by the elector Palatine. Upon this event, he quitted Heidelberg; but having suffered many disappointments and vexations on account of his Protestant principles, he returned to Heidelberg, and having united with the Catholic church, he was restored to his office upon the re-establishment of the university. His works, besides other law tracts, are "Exercitationes ad partem polliciorem Chiladi Fabri," published in 1624, folio; "De Actionibus," 1626; "De Pignoribus et Hypothecis," 1627; "Difputationes de variis Juris Civiliis Materius," vol. Heidelberg, 1624; and "In Institutionum Juris Civilis Libros quater Commentariori," 4to. Franö. 1628. Gen. Dict. Nouv. Dict. Hist.

BACHSTELZE, (Weisse Bachhelfe), in Ornithology, the name of the Motacilla Alba, or white wag-tail, in Frisch. Hist. Birds.

BACHU, in Geography. See Baku.

BACILLARIA, in Natural History, a genus of VERMES Infusoria in Gmelin's Syll. Nat. of which only a single species is described, viz. "paraspin." In this genus the body contains of straw-like cylinders placed parallel to each other, and frequently changes its direction and arrangement. Müll. Gmel. &c.

BACILLARIS, a species of Tenia, with the head rounded, and proboscis pyriform; joints extremely narrow, and resembling pieces of straw placed on each other. Goethe infests the interlines of the mœl; size of a very fine thread; neck without joints.

BACILLI, or Bacilli, in the Materia Medica, such compositions as are made up in a cylindrical figure, like a stick; thus called from the Latin baculus, a staff. See Lozenge.

BACINET, in Ancient Armour. See Bassinet.

BACK. See Dorsum.

BACK BONE. See Spine.

BACK, in the Mange, and among Farriers. A horse's back should be straight, not hollow, which is called saddle-backed; horses of this kind are generally light, and carry their heads high, but are deficient in strength and service. A horse with a weak back is apt to stumble.

In the French riding-schools, to mount a horse a dos, is to mount him bare backed, without a saddle.

BACK, in Brewing, a large flat kind of tub or vessel, wherein the wort is put to stand and cool before boiling. The ingredients of beer pass through three kinds of vessels.

They are mashed in one, worked in another, and cooled in a third, called backs or coolers.

To gauge a Brewer's Back. Most backs have their sides strait; in case, however, they be not, make either an acute or obtuse angle with the bottom, the true length and breadth must be carefully taken in the middle of every inch in depth; from whence the area may be found upon every tenth. For finding the area of the back, this rule must be observed, to multiply the length by the breadth, and divide by 282; which gives the contents in ale gallons.

To find the true dip of a Back. Because backs are not placed level, but sloping, for convenience of drawing off the wort; therefore, were the dip taken in too deep a place, the subject would be wronged; as would the king, if it were taken in too shallow a part, to guard against which, as many dips as are thought convenient must be taken; these being added together, and divided by the number of dips, will give a mean depth. When this is done, trial being made in different parts of the back, until one is found which answers exactly to the mean depth; let a mark or notch be made at the side of the back, to point it out as the true dipping place for the future.

The bottom of large backs ought to be every where equally and well supported, to secure them from warping, which else they will do, more and more as they grow older. Those who make backs and other vellls for brewers, are denominated back-makers; and the workmanship confits partly of carpentry and partly of cooperage.

BACK, in the Distillery, a vessel in which liquor is put to be fermented.

BACK, or Dutchman's Cap, in Geography, one of the small islands of Scotland, eleven miles south-east of Coll.

BACK, Iron, is a large plate of cast iron, frequently adorned with figures in low relief, intended to preserve the flonework of a chimney-back, and to reflect the heat of the fire.

BACK a Ship, To, in Sea Language: when the wind is crofs, or nearly off shore, or in the opposite direction, ships will always back by the mizen top-fall, affifted, if necessary, by the mizen fflag-fall. If there be no mizen top-fall, the main top-fall is used. In backing, always keep a flight cable, to wind the ship, that the anchor may be drawn round. If the wind be not fufficient for this purpose, the ship must have a-peak.

BACK the Anchor, is to carry out a small anchor a-head of the large one, in order to support it in bad ground, and to prevent its hoisting or coming home.

Back-stern, in rowing, is to impel the boat with her stern foremost, by means of the oars.

BACK of the Poft, See Stern-Post.

BACK the Sails, is to put them in a situation that will occasion the ship to retreat or move a-ftern. This operation, however, is only performed in narrow channels, when a ship is carried along sideways by the tide or current, and strives to avoid any thing that may interrupt her progres, as shoals, vessels at anchor, &c. or in the line of battle, when a ship would put herself into a situation opposite to another with which she is engaged.

BACKBEROND, or Backerend, in Law Writers, denotes a criminal caught carrying off something on his back.

In this fene Breton uifes it for a species of what the civilians call manifett theft, fortum manifestum.

In the Foref Laevos, backerond is one of the four circumnences, or cafes, wherein a forester may arise the body of prevent disorder against vert or venion in the foret. The others areѣtable-band, dog-drown, and bloody-band.

BACK-BOARD, in Maritime Affairs, is of a semicircular figure, placed transversely in the after-part of a boat, like the back of a chair, to recline again hit while fitting in the stern-fheets.

BACKELEYS, in Zoology, a denomination, derived from backley, which in the Hottentot language signifies ear, and given by the Hottentots to those oxen which they train for war and use with风俗, as the Indians employ the elephants in their combats. In all their armies there are considerable troops of these oxen, which are easily governed, and which are let loose by the chief, when a proper opportunity occurs. They instantly dart with impetuousity on the enemy; striking with their horns, kicking, and tramping under their feet every thing that oppokes their fury. By running furiously into the ranks and putting them into disorder, they prepare an easy victory for their masters. These animals are likewise of great use in guarding the flocks. At the smallest signal from the keeper, they collect and bring back those that wander; and they also
also run with great fury upon strangers, and serve to secure the flocks and herds against the attacks of the buffalies, or robbers of cattle. Every kraal has at least six of these backeleyes, which are chosen from among the finest oxen; and after they have been duly trained, they dextrously direct from enemies, understand signals, and obey the voice of their master. If a stranger, and particularly an European, should approach the cattle, without being accompanied by a Hottentot, his life would be in great danger. These backeleyes would soon run round him at full gallop, and if not protected by the herdsmen, by fire-arms, or by suddenly climbing a tree, his destruction would be inevitable. Kolbe, Voyage and Description du cap de Bonne Espérance, cited by Buffon, vol. vi. p. 184. ed. Smellie.

**Backer, or Barker, Jaques, in Biography, an historical painter was born at Antwerp in 1530, and received instruction from his father: after the death of his father, he refided in the house of Jacopo Palermo, a picture-dealer, who, for the gratification of his own avarice, kept him incessantly employed, and dispofed of his pictures at Paris, where they were much admired and fetched a high price; whilst the artist himself was continued in an obscure and depressed condition. He was distinguished by a clean light manner of penciling, and a very pleasing tint of colour. He died in 1560. Pilkington.**

Backer, or Baker, Jacob, a painter of portrait and history, was born at Harlingen, in 1600, but refided chiefly at Amsterdam; where he acquired the reputation of an extraordinary painter, particularly of portraits, which he executed with strength, spirit, and a graceful rel enamour. He was so remarkable for his expedition, that he is said to have painted the half-length portrait of a lady in one day, though he adorned the figure with rich drapery, and several ornamental jewels. He succeeded also in painting historical subjects; and in this style his picture of Cimon and Iphigenia has been much extolled by connoissiers. In delineating academy figures, his expression was so just, and his outline so correct, that he obtained the prize from all his competitors; and his works are bought up at very high prices in the Low Countries. His capital picture of the Last Judgment, preferred in the church of the Carmelites at Amsterdam, is well defined and well coloured. He died in 1651; or, according to Defamps, in 1651. Pilkington.

**Backereel, called Bacquerelle, William, was born at Antwerp, and was a disciple of Rubens, at the same time with Van Dyck. At the commencement of the exercise of their profession, Backereel was deemed little, if at all, inferior to Van Dyck; as appears from the works of the former in the church of the Augustin monks at Antwerp, where these two great artists painted as competitors; and each posessing a mode peculiar to himself, the superiority was not determined in favour of either. Backereel, by the exercise of his poetical talents, and particularly by his fatires against the Jesuits, incurred the persecution of this powerful fraternity, and by their persecution, he was compelled to leave Antwerp, so that his country was deprived of the honour which must have accrued to it from his performances as a painter. In Italy, and the Low Countries, there were few or even eight eminent painters, of the name of Backereel. Pilkington.**

**Back-Gammon, a game played with dice and tables, to be learned only by observation and practice. This game is said to have been invented in Wales, in the period preceding the conquest, and to have derived its name from two Welsh words, bach, little, and gammon, battle. Gloss. ad Leges Wallseas, a voc. Tawkbrwd, cited by Henry, vol. iv. p. 424. $\S$.**

**Back-Heaver, in Agriculture, a machine long used in several parts of England, particularly in Hampshire, Wiltshire, and Suffolk, for winnowing corn. An improved construction of this machine, illustrated by a figure, was proposed by Dr. Hales, in the year 1747, which, he says, will not only render it fit for winnowing corn sooner and better than by any other means hitherto used, but also for clearing it of the small corn, seeds, blacks, linum-balls, &c. to such perfection, as to make it proper for feed-corn. See Hales's Uses of Ventilators, part ii. p. 247, &c.**

**Backhuysen, Ludolf, in Biography, an eminent painter of ships, sea-pieces, and sea-port, was born at Leyden, in 1631, and after receiving early instruction from Albert Van Everdingen, acquired his principal knowledge by frequently the painting-rooms of great masters, and particularly Henry Drubbels, and observing their various methods of touching and colouring. His improvement was very considerable, and his drawings were in such estimation, that several of them were purchased at 100 florins a-piece. Whilst he was painting, his mind was so much engaged, that he would not allow his most intimate friends to have access to him, least his ideas should be interrupted. He studied nature with singular attention in all her forms; in gales, calms, flearn's, clouds, rocks, skies, lights, and shadows; and he expressed every subject with so sweet a pencil, and such a degree of transparence and luflre, as placed him above all the artists of his time in that style, the younger Vander Valkel excepted. It was his frequent custom to go out to sea in a barge, in order to flore his mind with grand images, directly deduced from nature; and at the moment of his landing, he flew to his palette, that the traces of these incidents which had occurred might not be obliterated by delay. Backhuyzen perfectly understood the management of the chiaro-uro; and he was thus able to give uncommon force and beauty to his objects. He also strictly observed the truth of perspective, in the distances of his vessels, the receding of the grounds on the shores, and the different buildings, which he described in the sea-port. His works may be easily distinguished by an obvolent eye, from the freedom and neatness of his touch; from the cleanasts, and natural agitation or quiescence of the water; from a peculiar tint in his clouds and skies; and also from the exact proportions of his ships, and the gracefulness of their position.

For a picture, exhibiting a multitude of vessels, and a view of the city at a distance, he received from the burgomasters of Amsterdam 1500 guilders, and a considerable present; and this picture was afterwards given to the king of France, who placed it in the Louvre. No painter was ever more honoured by the visits of kings and princes than Backhuyzen; the king of Prussia was one of their number; and the Czar Peter the Great took delight in seeing him at work, and often endeavoured to draw, after vessels which he had designed. He was remarkably affidious; and yet the number of pictures which he finished, and the exquisite manner in which they are painted, are astonishing. He died in 1709. Pilkington.**

**Backing a Colt, in the Manege, the operation of breaking him to the yaddle, or bringing him to endure a rider. To back a colt, they usually take him into plunged ground, troth him a while, to rid him of his wantons; then having one flay to his head, and govern the chaining-rein, the muffer mounts his back, not suddenly, but by degrees, first making several offers, or half-rings; when he hears thee patientely, he mounts in earnej, and settles in his place, cherishing him, &c.**

**Backing Warrants, in Law, denotes the signing of 3 K 2 each.**
such as have been issued by a justice of the peace in one county, by a justice of the peace in another county, which is necessary before they can be executed there. This practice, which had long prevailed without law, is authorized by statutes 23 Geo. II. c. 26. and 24 Geo. II. c. 55. And now, by statute 13 Geo. III. c. 31. any warrant for apprehending an English offender, who may have escaped into Scotland, and vice versa, may be endorsed and executed by the local magistrates, and the offender conveyed back to that part of the united kingdom, in which such offence was committed.

Back-Mails. See Nails.

Back Painting. is used by some for the art of pasting of prints and other designs on glass.

The art consists chiefly in laying the print upon a piece of crown-glass, of such a size as fits the print. In order to do this, the print must be soaked in clean water for forty-eight hours, if it be on very strong, cloth, and hard gummed paper; but if on a soft, spongy paper, two hours will sometimes be sufficient. The picture, being well soaked, must be laid between four sheets of paper, two over and two under it, that the moisture may be drawn out of it. Instead of soaking the print, it may be rolled up and boiled for about two hours, more or less, according to the quality of the paper, in water; and this mode will answer the purpose as well as soaking it. In the mean while, let the glass upon which the print is to be laid be warmed at the fire; then with a hog's hair brush dipped in melted Strasbourg turpentine, spread the turpentine smoothly and evenly on the glass. Then lay the print upon the glass, rubbing it gently from one end to the other, that it may lie clothe. With the finger, rub off the paper from the back side of the print, till nothing can be seen but the print, like a thin film left upon the glass, and let it aside to dry. When it is dry, varnish it over with some white transparent varnish, that the print may be seen through it, which is now fit for painting.

Having prepared a variety of oil colours, which must be ground very fine, and tempered very stiff, lay such colours on the transparent print as each particular part requires, the matter-lines of the print guiding the pencil; and thus each colour will appear fair to the eye on the other side of the glass, and look almost as well as a painted piece, if it be done neatly. The shadows of the print are generally sufficient for the shadow of every colour; but if it be desired to give a shadow by the pencil, the shadows should be laid off in at first, and the other colours afterwards. The chief care to be used in this part of the work, is that of laying the colours on thick enough, that they may be struck plainly through the glass.

Back-River, in Geography. See Baltimore.

Backs, among dealers in leather, denote the thickest and bolt tanned hides, used chiefly for soles of shoes. See Butts.

Backs of a Hip. See Hip.

Back-staff, in Navigation, an instrument, by the French called the English quadrant. It was invented by Captain Davis, about the year 1550; and is of good use in taking the sun's altitude at sea. It consists of three vane, A, B, and C, and of two concentric arches (Plate I. Navigation. fig. 2.) the vane at A, called the horizon-vane; that at B, the shade-vane; and that at C, the fight-vane. The lower arch B (or ED) is of 60 degrees, and that of C (or FG) of 30 degrees.

To use the back-staff. The shadow-vane B is set upon the 60 arch, to an even degree of some latitude, less by 10 or 15 degrees than you judge the complement of the sun's altitude will be; the horizon vane is put on at A, and the fight-vane on the 30 arch FG: the observer's back being then turned to the sun (whence the name of back-staff, or back-quadrant), he lifts up the instrument, and looks through the fight-vane, raising or falling the quadrant, till the shadow of the upper edge of the shade-vane fall on the upper edge of the slit of the horizon vane; and then if he can see the horizon through the flat slit, the observation is well made; but if the sea appear instead of the horizon, the fight vane must be moved lower towards F; if the sky appear, it must be moved upward towards G, and thus tried till it comes right: then he observes how many degrees and minutes are cut by that edge of the fight-vane which answers to the fight-hole, and to them adds the degrees cut by the upper edge of the shade-vane: the sum is the sun's distance from the zenith, or the complement of his altitude. To find the sun's meridian, or greatest altitude on any day, continue the observation as long as the altitude is found to increase, which you will perceive by the appearance of the sea, instead of the horizon, removing the fight-vane lower; but when you perceive the sky appear instead of the horizon, the altitude is diminished; therefore, deduct from further observation at that time, and add the degrees upon the 60 arch to the degrees and minutes upon the 30 arch, and the sum is the zenith distance, or co-altitude of the sun's upper limb.

And because it is the zenith distance, or co-altitude of the upper limb of the sun, and not the centre, that is given by the quadrant, in observing by the upper edge of the shade-vane, add 16 minutes, the sun's semidiameter, to that, which is produced by your observation, and the sum is the true zenith distance of the sun's centre. If you observe by the lower part of the shadow of the shade-vane, then the lower limb of the sun gives the shadow; and, therefore, you must subtract 16 minutes from what the instrument gives: but considering the height of the observer above the surface of the sea, which is commonly between 16 and 20 feet, you may take 5 or 6 minutes from the 16 minutes, and make the allowance but of 10 minutes or 12 minutes, to be added instead of 16 minutes.

Mr. Flamsteed contrived a glass lens, or double convex, to be placed in the middle of the shade-vane, which makes a small bright spot on the slit of the horizon-vane, instead of the shade; which is a great improvement, if the glases be truly made; for, by this means, the instrument may be used in hazy weather, and a much more accurate observation made in clear weather than could be by the shadow.

The theory of this quadrant is very intelligible: for the line AC being horizontal, the arc fGC is equal to the height of the sun above the horizon; but this arc fGC is equal to the sum of the arcs BE + GC: and the arc dF = 90° = the altitude and zenith distance taken together; consequently the zenith distance = the arcs fD + CF = DB + CF.

When the horizon is obscured by hazy weather, Davis's quadrant is of no use; and this often occasions disturbing consequences. Means have therefore been sought for to remedy this defect. Mr. Hadley has recommended and described a spirit level for this purpose. Mr. Leigh proposed to fix a water-level to the quadrant; and he has likewise given the description and use of an apparatus to be added to this instrument, consisting of a mercurial level, which he prefers, with reason, to a water-level. See Phil. Trans. N° 420. K. &c. or Martyn's Abr. vol. vi. p. 357, 358, K. &c.

It has been observed, that one great objection against this instrument is the trouble and time lost in sliding the fight-vane upward or downward, which sometimes cannot conveniently
conveniently be done without taking the quadrant from the eye, by which an opportunity may be lost for making the observation. But this defect is easily removed by having a long index or ruler fitted to the quadrant; or end moving round the centre to which the horizon-vane is fixed, and having the light-vane fixed to the other end. By this contrivance the light vane may be readily raised higher, or lowered, by turning the quadrant of the index about its centre; and this may be done without taking the instrument from the eye.

See Quadrant.

BACK-STAYS of a Ship, are ropes belonging to the main-mast and fore-mast, and the masts belonging to them, serving to keep them from pitching forwards, or overboard. See Stays.

BACK-STAYS, Travellings, are used in bad weather to support the fore and main-top masts; they splice into a span, round the top-mast, under the parcel, and let up in the chain, with a luff-tackle, to an eye-bolt. They travel up and down the top-mast occasionally with tricing lines that splice into a thimble, on each side of the span, and through blocks fixed to the top-mast trellice-trees, and lead into the top.

BACK-WORM, a name given by Spartans to a disease very common among hawks, and called also flinder; which fec. BACO, in Geography, the capital of Mindoro, one of the Philippine Islands, where the Alcaide, or governor, resides. Its environs are well watered by springs proceeding from mountains covered with farfaparilla. See Mindoro.

BACOBA, in Botany, a name by which some authors call the banana tree, or nona frutti breviori. Pilo. BACOFEN, in Geography, a town of Bohemia, in the circle of Boleflawl, five miles N. N. E. from Jang Buntalna.

BACON, swine's flesh, salted, and dried in the chimney. Writers on this branch of economics give rules for the hanging, the salting, and curing of bacon, larding with bacon, &c.

This appears to be in general an extremely improper and unwholesome aliment, especially for people who do not use great exercise; for those who do may almost eat any thing without injury. Swine's flesh, confidered as an aliment, is none of the best; and when hardened by salt, and dried by smoke, it is rendered more indigreible, and in consequence of that, productive of obstructions in a very great degree. We may add, that the heat of bacon frequently becomes rank and acrimonious, and often even exacerbat the mouth and throat.

BACON SWORD, denotes the thick outer skin taken off the lard or fat. Old historians and law writers speak of the service of the bacon, a custom in the manor of Withen

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dential advocates, that in his judgment the pope was anti-
christ; and he himself had written freely to the pope, con-
cerning the necessity of a reformation. The efforts of mal-
levolence, whatever might have been the real or pretended
causes from which they originated, could not deprive this
great man of the eftem and respect to which his distin-
guished talents and character entitled him. Such was the
high opinion entertained by the cardinal bishop of Sabina,
who was the pope's legate in England, of his genius and
merit, that he requested from him a complete copy of all
his works. As he was restrained, by the prohibition of his
own fraternity, from communicating any of his works to
any person whatever, he at first declined complying with the
cardinal's request; but as soon as he heard that the cardinal-
legate was raised to the pontifical dignity, under the name of
Clement IV. he signified to him by letter his readiness to
perform what his holiness had desired; and the pope affur-
ed him of protection against any interference of his own
order. Bacon immediately began to collect, arrange, and
improve the pieces he had already written, and having di-
gested them into one volume under the title of "Opus
Majus" (the greater work), he sent it to the pope, in the
year 1267, by a special misseng, whose name was John of
Paris, and who was his own favourite disciple. This John
of Paris was a poor boy, of promising talents, taken by
Bacon under his tuition, in order to try by experience the
efficacy of his peculiar mode of instruction; and, as the re-
result of it, he observes, "that there was no room to conceive
any high notions of the perfection of human wisdom, when
it was possible, in a year's time, to teach a young man all
that, with the utmost industry and application, a zealous
inquirer after knowledge was able either to acquire or to
discover in the space of twenty, or even forty years." (See
Opus Majus, p. 29, and Jebb's Preface.) The pope was
so gratified with the present of this learned work, that it
procured for Bacon extraordinary favour and encouragement
in his studies.

With the life of the enlightened and liberal Clement IV.
terminated the tranquillity of this philosopher; for in 1278,
under the pontificate of Nicholas III. and with the function
of his authority, Jerom de Eufculo, or de Ascoli, general of
the Franciscan order, prohibited the reading of his works,
and sentenced him to imprisonment. The pretended cause
of this severity has been fought by four writers in tracts of
Bacon on necromancy, astrology, and alchemy; but the true
reason was most probably that dread of innovation which
Bacon's improvements in science caused in the minds of
bigotted or interested persons. Bacon continued in prison for
ten years; but upon the accession of Jerom de Eufculo to the
papal see, under the name of Nicholas IV., he attempted
to conciliate the favour of the pope, by presenting to him a
treatise "On the Means of avoiding the Infirmities of Old
Age;" but his endeavours feem to have been ineffectual, as
he still remained in prison, and was not released till about
the latter end of this pontificate, when some English noble-
men interceded in his favour, and obtained for him his li-
8erty. Upon his return to Oxford, he wrote, at the request
of his friends, "A Compendium of Theology," of which a
copy is preferred in the Royal library. This work appears,
from internal evidence, to have been written about the year
12H; and as additions were afterwards made to it, it is
hence inferred that the author lived till the year 1292, or
the seventy-eighth year of his age. The learned editor of
his "Opus Majus" dates his death in 1294; but Anthony
Wood, from two MSS. which he mentions, fixes the time of
it to the 11th of June, 1292; and Dr. Freind acquiesces in
this opinion. He is said to have died in tranquillity, in the
college of his order, and to have been interred in their
church. Tradition reports, that in order to prevent the
un charitable occasioned by his enemies, in the earlier period
of his life, and while he was prosecuting his studies, and per-
forming his experiments at Brazen-nofe hall at Oxford, he was
obliged to retire from the university into a solitary place,
called to this day "Friar Bacon's Study," and Mr. Hearne
informs us, that he sometimes retired in the summer to
Sunning Well.

When we contemplate the extraordinary powers and at-
tainments of Bacon, and review the important and useful
discoveries that were made by him in various branches of
science, and compare them with the period in which he
lived, we shall not be surprised that he was distinguished
by the title of "doctor mirabilis," or wonderful doctor; who-
ever might be the reasons which induced the monks of his
order thus to discriminate him. With respect to his know-
ledge of the languages, which he thought to be the founda-
tion of all true learning, it appears that he was perfect ma-
ter of the Latin, Greek, and Hebrew, and that he had
studied those languages with a degree of critical exactness
which renders some of his observations in that part of the
"Opus Majus," which treats on this subject, judicious and
instructive. With various branches of the mathematics he
was well acquainted; and in mechanics his knowledge was
such, that, in the judgment of Dr. Freind, "his greater ge-
nius had not arisen since the days of Archimedes." Ac-
cordingly, in his treatise, intitled, "Epitola Fratris Rogeri
Baconis de secretis Operibus Artis et Naturae, et de Nulli-
tate Magic," he proposes the construction of wonderful
instruments, which may be artificially contrived, by which
such things (lays he) may he done without the help of magic,
as magic itself is incapable of performing. "For a vessel
may be so constructed, and ours therein so dispofed, as to
make more way with one man in her, than another vessel
fully manned." "It is possible (lays he) to make a chariot
which, without any affittance of animals, shall move with that
irrefuible force which is ascribed to thosc scythed chariots
in which the ancients fought." "It is possible," adds our
author, "to make instruments for flying, so that a man fit-
ting in the middle thereof, and bearing with a kind of
ruder, may manage what is contrived to answer the end of
wings, so as to divide and pass through the air. It is no
less possible to make a machine of a very small size, and yet
capable of raising or sinking the greatest weights, which
may be of infinite use on certain occasions, for the help of
such an instrument, not above three inches high, or less,
a man may be able to deliver himself and his companions
out of prison, and to ascend or descend at pleasure." Hence
it has been inferred that Bacon was acquainted with the per-
petual screw. Our author's knowledge of the science of
optics was so accurate and comprehensive, that he is juftly
allowed to have understood the theory and practice of many
of those discoveries, the application of which has been so
important and useful in more modern times. Besides the
depictions of the camera obscura, and of burning glaffes,
which are found in his writings, we have unquestionable evi-
dence that he was well acquainted with the properties of
convex and concave lenes, and with the effects of refrac-
tion; and some have even ascribed to him the honour of
having invented the telecope. (See these several articles.)
In geography his refarches were various and extensive; and
his acquaintance with astronomy enabled him to discover the
effors of the calendar, and to propone the proper method of
correcting them. See CALENDAR.

Although Roger Bacon was in some instances misled
by the visionary projects of the alchemists of his age, and

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though he indulged chimerical notions of the medicinal virtues of the aurum potabile, or the tincture of gold, and of a secret charm for renewing the native heat of old men, he was led by his chemical processes into an acquaintance with the properties of bodies, and a variety of discoveries that were no less important and useful than novel and curious. Such, in particular, was that of the ingredients and effects of gun-powder, which was for a long time supposed to have been the invention of a much later period. (See Gun-powder.) Of his medical knowledge we have evidence in his "Treatise on Old Age," blended with many things that are obscure and fanciful; and though he so far partook of the superstition of the times as to frame some confidence in judicial astrology, he was an enemy to accursancy and magic. The imputation on his character of his leaning to magic, was altogether unfounded; and the story of his having constructed a brazen head, which proposed and answered questions, is as ridiculous as it is groundless. The full object of this calumny, was his patron Robert Grothhead or Grothhead, bishop of Lincoln; and similar tales have been related of pope Sylvester II., Albertus Magnus, and other eminent philosophers; but they gained credit merely with mean and ignorant persons. In logic and metaphysics, as well as in philosophy, and the polite arts of learning, Bacon was equal, if not superior, to most of his contemporaries; and his treatise on Ethics, or moral philosophy, contains many excellent principles for directing the judgment, and regulating the conduct. To theology, all his other studies were sublificient; and he directed both his actions and his writings to the glory of God, and of the good of his fellow-creatures. To the holy scriptures he paid due deference; and he enforced the study of them in their original languages, and an affidious application to the several branches of learning which he thought necessary for rightly understanding and interpreting them. This seems to have been the object of his last treatise, which he left as a kind of testament to his order. As the whole life of friar Bacon was spent in study and writing, we need not wonder that his works were very numerous. Bale speaks of upwards of fourteen books written by him; and Dr. Jebb has digested a still greater number, under the distinct heads of grammar, mathematics, physics, optics, geography, anatomy, chronology, chemistry, military, magic, medicine, logic, metaphysics, ethics, theology, philology, and micellany. It seems, however, that the number has been multiplied by means of the different titles under which various copies of the same treatise have been dispersed, and by conferring the titles of distinct chapters of his work, as the titles of separate treatises. Accordingly, eleven of these pieces will be found in the work intitled, "Epitola Fratris Rogeri Baconis, &c.," already mentioned, published in 1410. at Paris, in 1542; in 8vo, 1691; in 1573; and in 8vo, at Hamburg, in 1608 and 1618. This treatise abounds with various physical facts and observations, and exposes the futility of the several practices of necromancy, charms, divination, and magic. The "Opus Majus," written in the form of an epitile or address to pope Clement IV. is professedly a digest of the author's former writings. "In this curious and valuable work, Bacon describes the impediments which hinder men from arriving at true and useful knowledge; illustrates, at large, the usefulness of the studies of grammar, mathematics, and perspective; explains the nature and value of experiments in philosophy; and earnestly exhorts the pontiff whom he addresses, to give all possible encouragement to science in general, and particularly to the study of nature. This work, which affords abundant proofs of the author's superior talents, and, considering the time in which he lived, of his wonderful knowledge, long remained buried in obscurity, and never appeared in print till, in 1733, Dr. Jebb, from various collated MSS. lent from the prefs of William Bowyer, a correct and beautiful edition in folio. Bacon wrote many chemical tracts, most of which may be found in "Thesaurus Chemicus," printed in 8vo, at Frankfort, 1603, 1604, and others are in MS. in the university library of Leyden. His treatise "On the Means of avoiding the Infirmities of Old Age," in which, before a regular course of life, he recommends the use of certain secret and extraordinary medicines, was first printed at Oxford in 1590, and afterwards translated into English, with notes, by Dr. Richard Browne, under the title of "The Cure of Old Age, and Preservation of Youth," 8vo. 1683. Several tracts of friar Bacon, yet unpublished, remain in MS.; a piece, bearing the title of "Liber Naturalium" a treatise on Chronology, intituled, "Computus Rogeri Baconis," and the "Compendium of Theology," are to be seen in the King's library; and two other works, which the author called "Opus Minus," and "Opus Tertium," remain in the Cotton library; and other pieces might probably be found by diligent search."

Although in the present advanced state of literature and science, we could not expect to derive much accession to our means of knowledge from the publication and study of friar Bacon's works, yet as a display of the astonishing powers of the human intellect, and as a valuable part of the history of knowledge, they ought to be preferred and known. The want of a complete edition of his works is the less to be regretted, since the public have been put into possession of his "Opus Majus," by Dr. Jebb.

From the brief account that has been given of the talents and performances of friar Bacon, it will appear, that he contributed, in a very eminent degree, to illuminate the dark age in which he lived, and to prepare the way, by enunciating the mind from the authority of Aristotle, and pursuing a plan of experiment and induction in the prosecution of science, for those discoveries and improvements, which have distinguished a later period. Although allowance should be made for the language of panegyric, which characterizes Bacon as the "brightest and most universal genius that perhaps the world ever saw;" he must ever be regarded as a prodigy of learning and science, and a very high rank must be assigned to him among those who have been instrumets of enlightening and reforming the world. Jebb's Pref. to Bacon's Opus Majus. Cave, H. L. t. ii. p. 325. Bug. Brit.

Bacon, Sir Nicholas, an eminent lawyer, and lord keeper of the great seal in the reign of queen Elizabeth, was the descendant of an ancient and honourable family in the county of Suffolk, and born in the year 1510 at Chilghurft in Kent. He was sent at an early age to Corpus Christi and Benet college at Cambridge, and finished his education by travelling into France. Upon his return, he entered at Gray's ian, and distinguished himself by the study of the law. By favour of Henry VIII., he obtained a grant of several manors in Suffolk, when the monastery of St. Edmundsbury was dissolved; and was appointed attorney in the court of records; which office he retained during the reign of Edward VI. Having, by his prudence and moderation, escaped the dangers of the reign of Mary, he was honoured with knighthood on the accession of queen Elizabeth; and in 1558, he was intrusted with the custody of the great seal, and admitted a member of the privy council. He took an active part in the administration of this period, and was eminently instrumental in the settlement of religion. It has been said, that he incurred the displeasure of Elizabeth by joining
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joining the party that was adverse to the title of the queen of Scots; but from "A Discourse upon certain points touching the inheritance of the crown, conceived by sir Anthony Brown, and answered by sir Nicholas Bacon," published in 1733, by Nathaniel Bothe, of Gray's inn, Esq., from the original MS., it has been inferred, that sir Nicholas Bacon was a most strenuous adherent of the title of the queen of Scots, in opposition to sir Anthony Brown, who had contended for the right of the house of Suffolk. However this be, he was placed by Elizabeth, in 1568, at the head of the commission for hearing the disputes between that unfortunate princess and her rebellious subjects; and in 1571, he again acted in the same capacity. From this time he was a principal agent in the counsels of Elizabeth, and by his inflexible adherence to the Protestant cause, shared the odium of the Papist faction in common with her other principal ministers.

As a statesman, he manifested great skill in properly balancing the different parties, and it is thought that he instructed the queen in the art, which she found so necessary and useful. In the chancery he distinguished himself by a very moderate use of power, and by shewing great respect to the common law. His private as well as his public conduct was regulated with great discretion, and a moderate use of the fortune which he had acquired. His motto was "Mediocria firma," and he was accordingly content to be false, but did not wish to be great. In his later speeches he advocates the reputation of uniting two opposite characters, viz. the gentlemanly and a weighy speaker. That he was not unduly exalted in his own opinion, notwithstanding his eminent talents and preference, appears from his modest answer to queen Elizabeth, when on a visit to him at Redgrave, she told him that his house was too little for him: "Not so, madam," replied sir Nicholas, "but your majesty has made me too great for my house." In deference to her majesty's opinion, he added two wings to it; and he also indulged his taste for building and gardening, at Gorhambury, near St. Albans, which was a manor taken from the ancient abbey of this place. Having retained his office of lord keeper for more than twenty years, with the reputation of a wise statesman and faithful counsellor, he died, after an illness of a few days, on the twentieth of February 1579, in the fiftyninth year of his age. Of his writings there are extant in MS. several discourses on topics of law and politics, and also a commentary on the twelve minor prophets. Biog. Brit.

BACON, Francis, baron of Verulam, viscount of St. Albans, and high chancellor of England in the reign of James I., the glory and ornament of his age and nation, was the son of sir Nicholas Bacon, mentioned in the last article, by his second wife Anne, the daughter of sir Anthony Cook, tutor to king Edward VI.; and born in London on the twenty-second of January 1561. In his childhood he manifested indications of singular genius, from which those who conversed with him might have deduced prelages of his future attainments. In reply to queen Elizabeth, who asked him how old he was, he infantly replied, "Just two years younger than your majesty's happy reign," and her majesty, condescending frequently to converse with him, and forming a high opinion of the solidity of his feelings and gravity of his behaviour, used pleasantly to call him "her young lord keeper." At the age of thirteen, in the year 1573, he was entered a student in Trinity college, in the university of Cambridge, where his progres under the tuition of Dr. John Whitgift, afterwards archbishop of Canterbury, was rapid and surprising. Before he had completed his sixteenth year, he began to percieve the imperfections of the Aristotelian philosophy, which was then the reigning system, and probably to form designs of introducing a more rational and profitable method of pursuing philosophical researches. To this purpose, we are assured by Dr. Rawley, who was his chaplin and biographer, and to whom he communicated several particulars relating to the earlier period of his life, that his objections against the prevalent philosophy were not owing to any disrespect of Aristotelianism, of whom he entertained a very high opinion, but to the inutility of his philosophy, which was calculated to produce and perpetuate disputes, rather than to afford any substantial benefit to mankind; and these sentiments of it he retained through life. In order to perfect his education, and to extend his knowledge of the world, his father sent him to France, and placed him under the patronage of sir Amias Pawlet, who was then the queen's ambassador at Paris. In this situation he gained the esteem and confidence of sir Amias to such a degree, that he was intrusted with him with a commision to the queen, which required both secrecy and dispatch; and having executed this commision in a manner highly honourable to himself, and equally satisfactory to the queen and ambassador, he returned to Paris, and from thence travelled through several of the provinces, for the purpose of gaining a more accurate and extensive acquaintance with the manners and customs of the country. The result of his inquiries appears in a treatise, intitled "Of the State of Europe," and written when he was no more than nineteen years of age. The unexpected death of his father obliged him to return suddenly from France, and to engage in some lucrative profession. Accordingly he determined upon the profession of the law, and entered himself in the Society of Gray's Inn, where by affidious application he obtained such a degree of reputation, that at the age of twenty-eight years he was appointed by the queen to the honourable office of her learned counsel extraordinary in the law. Whilst he was studying at Gray's Inn, and in the twenty-sixth year of his age, he formed the plan of that great philosophical work, afterwards completed, and intitled, the "Inflation of the Sciences," which will not only render his name immortal, but do honour to his age and country, as long as learning shall flourish. The title of the work which our author composed at this time, was "Tempestitum partum maximum," or the "Greatest birth of time;" with respect to which it appears, from a letter written towards the close of his life to father Fulgentio, a learned Italian, that he lived to regret the juvenile folly and vain confidence which led him to prefix to it this pompous title. These rudiments of Bacon's philosophy have been supposed to be lost; but it has been dugged (see Mallet's edition of Bacon's works, Append. to vol. i. p. 17.) that they probably remain under the more modest title "Of the Interpretation of Nature," and that philosophers may fill have the pleasure of tracing the steps by which this great genius advanced from one discovery in science to another in forming and establishing his system. From the high rank of a philosopher, in which Bacon appears with acknowledged pre-eminence, we are obliged to descend, in tracing the outlines of his history, to the level of ordinary men, and to contemplate him as an humilitating example of human frailty. Reduced by his father's death to circumstances which rendered it necessary for him either to pursue his philosophical speculations in obscure retirement, or to become an obnoxious dependant on the court; he unfortunately chose the latter alternative. Allied by marriage to the lord treasurer Burleigh, and to his son Robert Cecil, principal secretary of state, he indulged reasonable expecta-
his preferment. The interest of lord Burleigh procured for him merely the reversion of the office of registrar to the flarm-
chamber, worth about 1600l. a year, which he did not ob-
tain for twenty years. In 1594, Cecil represented him to
the queen as a man wholly devoted to speculation, and pre-
vented his being advanced to the post of solicitor-general,
which the earl of Effex endeavoured to procure for him; but
as a compensation for this disappointment, the earl presented
him with a landed estate, which was afterwards sold, at his
than its value, for 1800l. Bacon, however, after this sin-
gular expression of friendly attachment on the part of Effex,
proved ungrateful; and in the moment of danger abandoned
his friend and benefactor; pleaded against him on his trial
for high treason; produced evidence to his injury from his
letters; and after his execution, vindicated the conduct of
administration, in an appeal to the public, under the title of
"A Declaration of the Treasons of Robert earl of Effex." In
this "Declaration" there occurred some apparent marks of
tenderness for the reputation of Effex, which led the queen
to observe to him, that "old love could not easily be for-
gotten;" but whilst they proved that he was counteracting
his feelings by his conduct, they were insufficient to excite
the baseness of his ingratitude. His conduct on this
occasion excited against him such general dissatisfaction, that
he found it necessary to write an elaborate defence under the
title of "Apology;" but no art or eloquence could avail to
flute the public indignation. From the queen he received
no additional honours or emoluments during the remainder of
her reign; and to persons in power he was an object of jea-
lozy and aversion.

In public concerns, however, he acted with firmness and
dignity. Having been chosen, in 1593, to represent the
county of Middlesex in parliament, he took the popular side,
though a servant of the crown, against her majesty's mini-
fiers; and in the question of subsidies, to which he indeed
attended, he delivered a speech, the freedom of which offended
the queen, and prevented his advancement. Towards the
end of her reign he became more servile in his parliamentary
conduct; for which his only plea was his poverty, and debts
which he had incurred, and for which he had been twice
arrested.

Upon the accession of James I. Bacon was distinguished
by the favour of his new sovereign, and in 1603 received
the honour of knighthood. In the first parliament of this
reign, he regained his popularity by undertaking the redress
of grievances, arising from the exactions of the royal pur-
voyers; and in the conduct of this business he gave satisfac-
tion both to the house and to the king. From the former
he received a vote of thanks, and from the latter a patent to
be one of the king's councillors, with a salary of 40l. a year,
accompanied with a pension from the crown of 60l. a year,
for special services rendered by his brother Anthony Bacon
and himself. Notwithstanding the opposition of Cecil, now
earl of Salisbury, and of Sir Edward Coke, attorney-general,
he pursued with steady perseverance his plans of advance-
ment; and by promoting the king's favourite object of an
union between the two kingdoms, and by publishing, in 1605,
one of his most important works, "On the advancement
of learning," he so far succeeded in gaining the favour of
his royal master, that in 1609 he was appointed to sup-
ply the place of Sir John Dodridge, as solicitor-general.
His practice also was at this time very extensive and profit-
able, and he also improved his fortune by marriage with the
daughter of Benedict Barnham Esq., a wealthy alderman of
the city of London. Whilst he displayed his eminent talents
both in the senate and in the courts, he was not in-
tentive to his grand philosophical speculations and pursuits.
Vol. III.
all his powers of eloquence to induce the peers to content themselves with dismissing him from the high office which he had disregarded. They insisted, however, on a particular confession, respecting each article of bribery and corruption of which he was accused; and the chancellor confessed his guilt with regard to most of the twenty-three articles of corruption which were exhibited against him, whilst he extenuated some of them, and again threw himself on the mercy of the house. Upon being asked whether the confession which had been read was written by his own hand, he replied, "It is my act, my hand, my heart; I bequeath your lordships to be merciful to a broken reed." The house moved his majesty to sequestrate the seales, which was accordingly done; and then proceeded to pass sentence; which was, "That the lord viscount St. Albans, lord chancellor of England, shall undergo fine and random of 40,000l.; that he shall be imprisoned in the Tower during the king's pleasure; that he shall for ever be incapable of any office or employment in the state or commonwealth; and that he shall never fit in parliament, or come within the verge of the court." This sentence, severe as it may seem, and for which collateral causes have been alleged, was the result of the strict exercise of justice. Thus degraded under a full sentence, we cannot forbear pitying a man, who, among other crimes, suffered his servants to become the instruments of his ruin; and who in passing by several of his retinue, that stood up to salute him, facetiously said to them; "Sit down, my masters; your rife has been my fall."

Thus degraded and banished into solitude, reproached by his own mind as well as by the public confence, and depreved by a load of debt, he retained the vigour of his faculties to such a degree, that he returned with ardour to his favourite pursuits, and produced various writings of singular merit in history, morals, and philosophy. Through all the vicissitudes of his life, he kept in view the great object of the improvement of science, to which his attention was directed in the early period of his youth. From contemplating the examples of Demoithenes, Cicero, and Seneca, who, like himself, had occupied high stations, had fallen into delinquency, and had been banished into retirement, he derived consolation; and in imitation of them, he determined to devote the remainder of his time to philosophy, and writing. He might, indeed, have adopted the language in which Cicero addresses philosophy; "Ad te confingit a saud tur ante muros ex parte, et ante muros totosque tradimus." "To thee I fly; from thee I seek support; to thee I devote myself, as formerly in part, so now entirely and altogether." It is observed, however, that neither philosophy nor experience had taught Bacon a lesson of moderation. After his release from confinement in the Tower, which was soon granted him, and the entire remission of his sentence gradually obtained, he proceeded a royal pension of 1200l. a year, in addition to 600l. a year, accruing to him from the abatement of four years, and 700l. a year derived from his own estates; but he lived with a magnificence and splendor which had no bounds. In his way to London, his coach was attended by a number of attendants on horseback; he was met by the prince of Wales, who asked whole equipage it was, and being told that it was lord St. Albans, attended by his friends, his highness remarked, "Will I do what we can, this man learns to go out like a king." With such prodigality, it is no wonder that at his death his debts should have amounted to 22,000l. As an instance of his humility, we may cite his reply to the French ambassador, who, upon reading a French translation of his Essays, paid him the fulsome compliment of comparing him to angels; "If the philosophers of others compare me to an angel, my own infirmities remind me that I am a man;" and of self-command we have a singular display in his behaviour, when he received information by a friend that his application for an important favour at court had proved unsuccessful; at this time he was dictating to his chaplain an account of some experiments in philosophy, and he calmly said, "Be it so;" and dismissing his friend with thanks for his service, he turned to his chaplain, saying, "Well Sir, if that business will not succeed, let us go on with this, which is in our power;" and he continued to dictate to him for some time, without hesitation of speech, or interruption of thought.

Lord Bacon purfued his philosophical researches to the last, in the midst of bodily infirmities, occasioned by intense study, multiplicity of business, and, above all, by anxiety and anguish of mind. In the winter of 1625, his health and spirits were much impaired; but in the following spring he made an excursion into the country, for the purpose of making experiments on the preservation of bodies. Having exposed himself imprudently to noxious effluvia, he was suddenly feized with pains in his head and stomach, which made it necessary for him to stop at the Earl of Arundell's house at Higher. Here he fell sick of a fever, and, after a week's illness, expired on the ninth of April 1626, in the sixty-sixth year of his age. In a letter addressed to the nobleman in whose house he expired, he compares himself to the elder Pliny, who lost his life by approaching too near to mount Vesuvius, during an eruption. He was buried in the chapel of St. Michael's church, within the precincts of Old Verulam. Verses to his memory were written in various languages by the most eminent fcholars of the university of Cambridge; but the most honourable memorial of this great man is found in his immortal writings.

Before we can duly appreciate the value of lord Bacon's philosophical works, we should duly consider the state of philosophy, and the method of purifying science which prevailed, at the period in which he lived. The authority of Aristotle was absolute; his logic, physics, and metaphysics, were the principal guides in all scholastic disquisitions; and the science that was principally cultivated was such as consisted of words and notions, and seemed to exclude the study of nature. Instead of investigating the properties of bodies and the laws of motion by which all effects are produced, this science, or philosophy, if it may be so called, was confounded about logical definitions and distinctions, and about speculations that were altogether barren and unprofitable. This kind of captious philosophy was not only useless, but a real obstacle to all advances in sound learning, human and divine. Some few persons, indeed, had before the time of lord Bacon ventured to differ from Aristotle; and the fields of natural knowledge had been cultivated and improved by sir Isaac, Galileo, Copeius, and others. But there was still wanting one great and comprehensive plan that might embrace the almost infinite variety of science, and guide our inquiries right in all. This, lord Bacon first conceived in its utmost extent, to his own lasting honour, and to the general advantage of mankind. To him belongs the praise of having invented, methodized, and in a considerable degree perfected, this general plan for the improvement of natural science by the only sure method of experiment. With a mind commanding and comprehensive, prompt in invention, patient in inquiry, and subtle in determination, neither afflicting novelty nor idolizing antiquity, he formed and in a great measure executed his grand plan, "The Institution of the Sciences." This plan comprehended all capital parts. Of these, the first part proposes a general survey of human knowledge, and is executed in the admirable treatise, intituled, "The Advancement of Learning." He begins with
with accurately reviewing the state of learning as it flow
through all its provinces and divisions; that he might not
lose himself on a subject to vast and of such variety, he
ranges, according to the three faculties of the soul, memory,
fancy, and understanding, the several sciences and arts un-
der three great classes, history, poetry, and philosophy. He
observes and points out defects and errors; and then fugg-
sists proper means for supplying omissions and rectifying
mishakes. At the end of this treatise he has marked out
in one general chart the several tracts of science that lay
still neglected or unknown.

The second, and the most considerable part, is the "Novum
Ornament," or new method of employing the reasoning fac-
culties in the pursuit of truth. Here our author offers to
the world a new and better logic, calculated not to supply
arguments for controversy, but acts for the sake of mankind;
not to triumph over an enemy by the sophistry of disputa-
tion, but to subdue nature itself by experiment and inquiry.
Rejecting syllogism as a mere instrument of disputation, and
finding no certainty in the hypothetical systems of ancient
philosophy, the author recommends and explains the more
flow but more satisfactory method of induction, which sub-
jects natural objects to the test of observation and experience,
in order to furnish certain facts as the foundation of general
truths.

The third part is the "Sylva Sylvarum," or history of na-
ture, which furnishes materials for a natural and experimental
history; upon which the organ, or the instrument, which the
author has provided for the investigation of nature, may be
employed. The phenomena of the universe are ranged in this
repository under three principal heads, viz. the history of gen-
erations or the production of all species, according to the or-
dinary laws of nature; that of preter-generations, or births devi-
ating from the father rule; and the history of nature as confined
or addicted, changed or tortured by the art of man. Of such
a history the use is either to acquire the knowledge of quali-
ties in themselves, or to serve for the first matter of a true
and useful philosophy. The facts and observations that are
here collected together are possibly not always correct; but
they are valuable, as they furnish a pattern of the manner in
which such researches should be pursued.

The fourth part, or "Scala Intellectus," is a series of steps
by which the understanding might regularly ascend in its
philosophical inquiries; and it is evidently intended as a par-
ticular application and illustration of the author's method of
philosophizing.

The fifth part, or "Antiquitates Philosophiae sive,"
was designed to contain philosophical hints and suggestions,
but nothing of the remains besides the title and scheme.

The sixth, and final part, was propsoed for exhibiting
the universal principles of natural knowledge, deduced from
experiments, in a regular and complete system; but this the
author despaired of being himself able to accomplish.
Having laid the foundation of a grand edifice, he left the su-
perstructure to be completed by the united and continued la-
bours of philosophers in future ages.

Among the more popular works of lord Bacon, the prin-
cipal are his "History of Henry VII." which, allowing for
some faults, and particularly for its partiality to Henry, with
a view of flattering his grandifon James, at what deal it
was written, may be justly admired for vigorous conception
and energy of language; his "Wildom of the Ancients," in
which he endeavours, with greater ingenuity than solidity,
to unveil the hidden feme of the fabes of antiquity; his
"Moral Essays," containing many just reflections on subjects,
which, in the author's own parliology "come home to
men's busines and bofoms;" and his law tracts, speeches,
letters, and other miscellaneous papers, relative to personal
or public affairs, and abounding with curious and interesting
matter. These valuable writings, which were gradually col-
lected, have been repeatedly published on the continent in
Latin. An edition in folio was printed at Frankfort in
1665; and another by Arnold at Leipsic, in 1694. They
have passed separately and collectively through several ed-
tions in English; in 1740, they were published in 4 volumes,
folio; but the most complete edition is that printed at
London in 1778, in five volumes, quarto.

The character of lord Bacon seems to be pretty fully de-
lincated by Mr. Hume in his History, vol. vi. p. 52. He
represents him as "a man universally admired for the great-
tude of his genius, and beloved for the courtesies and hu-
manity of his behavior." He was the great ornament of his
age and nation; and nought was wanting to render him the
ornament of human nature itself, but that aught of mind
which might check his temperate desire of preference that
would add nothing to his dignity, and refrain his profuse
inclination to exasperation that could be requisite neither for
his honour nor entertainment. His want of economy, and his
indulgence to fervices, had involved him in necessities; and,
in order to supply his prodigality, he had been tempted to
take bribes; and that in a very open manner, from tutors in
chancery. "If we consider," says he, "the variety of
talents displayed by this man; as a public speaker, a man of
business, a wit, a courtier, a companion, an author, and a
philosopher, he is justly the object of great admiration." He
adds; "if we consider him merely as an author and phi-
losopher, the light in which we view him at present, though
very estimable, he was yet inferior to his contemporary Gal-
ileo, perhaps even to Kepler." "The national spirit," adds
Hume, "which prevails among the English, and which forms
their great happiness, is the cause why they hellow
on all their eminent writers, and on Bacon among the rest,
such praises and acclamations as may often appear partial
and excessive." In answer to these strictures it has been
justly observed (Brit. Biog. vol. iv. p. 154.) that "Galileo
was undoubtedly an illustrious man, and Kepler an admira-
able astronomer; but though we admit their superiority in
astronomy, mechanics, and some particular branches of phy-
cical knowledge, it does by no means follow that either of
them was a greater philosopher than Bacon. The praise of
Bacon is founded not upon his skill in this or that particular
branch of knowledge, but on his great and comprehen-
sive understanding, which took in almost the whole extent
of universal science. And he was so little indebted to the
partiality of his countrymen, that his writings appear, for
some time at least, to have been more esteemed and admired
in foreign countries than in England."

Mrs. Macaulay expresses in very strong terms her abhor-
rence of his character, when she says (vol. i. p. 157.), that
"philosophy itself was degraded by a conjunction with his men-
soul." But with respect to the strength and extent of his
genus, this female writer says, "his precious bequests to
posterity paint them stronger than can any other pen." It
must however be confessed, that it was some discredit to
Bacon, that he could not perceive the reasinable benefits of
the system of Copernicus; but perhaps he understood less
of astronomy, and was less sensible of its deficiencies, than
of any other part of science and philosophy. With confi-
dence in the merit of his own productions, and affarming him-
selves of posthumous fame, lord Bacon introduces in his last
will this remarkable passage:—"My name and memory I
leave to foreign nations; and to mine own countrymen, after
some time is passed over." Upon the superstructure
that has been reared on the foundation of experimental phi-
lophoy
BAC

lophry which he has established, this inscription will be read, says one of his biographers, by dilatant politeness, "Bacon, the Father of Experimental Philosophy."

Upon the whole, in contemplating the character of Bacon, exclusively of his incontestable merit as a philosopher, notwithstanding all the allowances that are made in his favour, from the spirit of the times, from his own peculiar circumstances, and from other confederations, yet, when we call to mind his flabby submissiveness in general to the will of the crown, and especially his ingratitude to Essex, and his corruption as a judge, we are constrained, though not without great regret, to acquiesce in the justice of the description given of him by Mr. Pope, (Eff. on Man, ep. iv. v. 277.)

"If parts allure thee, think how Bacon fin'd, The wiseft, brightest, meanest of mankind."

Acknowledging the propriety of this representation, we may infer from it the infinite superiority of the pursuits of intellect above those of ambition. "Had Bacon contented himself with being a philosopher, without aspiring after the honours of a statesman and a courtier, he would have been a greater and a happier man." Mallet's Life of lord Bacon, prefixed to the edition of his works, 1753. Brucker's Hist. Phil. by Enfield, vol. ii. p. 520, &c. Biog. Brit. Gen. Bioi.

Though not a practicall musician, nor a writer ex profeso on the musical art or science, yet it is so manifest by his Nat. Hist. cento ii. that he had done music the honour to bestow much meditation on the theory of sound, we are proud to devote to him an article among music's benefactors.

He treats of the philosophy or production of sound, not by calculation, but by observation and experiments on Nature herself. He does not call octaves replicates (which is a Gallicism), but a recurrence. He thinks (and thinks rightly), that our not cultivating quater tones, or enharmonic, is from their not being capable of harmony; and it seems a proof, among others, that the ancient Greeks had no harmony, or music in parts.

He speaks of sliding from one found to another by small degrees, which are delightful. This we used to think a refinement of late times.

The clavicin acousticum, or ocular harpsichord of Pere Calet, was certainly suggested to him by the experiment, No. 2, second cent.

The powers of sound on the spirits and affections; that found depends on motion; that the inclosure of sound increases its force; that the tone of voice at the same pitch is of a different quality in a room, and in the open air, and in different rooms, are his discoveries. He denies, indeed, what was afterwards proved by the air-pump, that sound could not be produced in an exhausted receiver.

Sound is carried along a wall better than in open space; and better on the smooth surface of a river or piece of water, than on land.

Dr. Holder, in his Elements of Speech, has but ingenuously extended one of sir Francis Bacon's experiments.

Derham's experiments on the propagation and motion of sound, were pointed out by the 20th experiment of sir Francis.

The late honourable Daines Barrington's experiments on birds, their power of imitation, and of teaching each other, seem to have sprung from sir Francis's experiments on the imitation of sound, cent. iii.

Conform of visibles and invisibles, advances somewhat further towards an ocular harpsichord.

The fons harmoniques, which Galileo and father Merfennus were observing about this time, had not escaped the penetrating and active mind of our great philosopher; and the aoustician, or ear-trumpet, is here first pointed out, No. 285.

His reflection at the end of No 290, shall close this article.

"We have laboured, as may appear in this disquisition of sounds, diligently; both because found is one of the most hidden portions of nature, and because it is of a virtue that may be called incorporeal and immaterial; whereof there be in nature but few. But, were we willing, now in these our first centuries, to make a pattern or precedent of an exact inquisition, and we shall do the like hereafter on some other subjects that require it. For we defire that men should learn and perceive, how severer a thing the true disquisition of nature is; and should accustom themselves by the light of particulars to enlarge their minds to the amplitude of the world, and not reduce the world to the narrowness of their minds."

BACON, in Geography, a town of Persia, in the province of Segidian; 90 miles N. N. E. of Zareng.

BAConE, a town of Italy, in the duchy of Tuscany, 28 miles N. E. of Florence.

BAConTHORP, or Bacon, John, in Biography, an English monk of the thirteenth century, was born at Baconthorp, a village in Norfolk, and assumed the monastic habit in the convent of Blackney in the same county. He received his education at Oxford and Paris; and in his youth was attached to the philosophy of Averroes, who taught that one intelligent principle animates all human beings. At a general assembly of the order of English carmelites held in London in 1329, he was chosen one of their provincials. Being invited to Rome about four years afterwards, he gave offence by allowing, in public disputation, too much latitude in the marriage of persons mutually related. But he afterwards maintained, that in degrees of consanguinity prohibited by the divine law, the pope has no dispensing power. His stature was small; but his mind was eminently vigorous and active. He was distinguished through life by the appellation of the "Resolute Doctor;" and after his death he was celebrated both in prose and verse, as a zealous defender of the Catholic faith against Jews, Turks, and Heretics. Some few of the many books which he wrote were printed; among these were "Commentaries, or Quellions on the four books of Sentences," Milan, 1510, and 1611; and "A Compendium of the Law of Christ," Venice, 1527. He died at London in 1546. Cave, H. L. vol. ii. Appendix, p. 27. Biog. Brit.


Species, 1. B. aquatica. Aulib. Guian. 129. t. 49. This plant puts forth several cylinders, succulent, knotty items; leaves opposite, item clasping or rather connate, thick, oblong, concave, sharp, smooth; flowers solitary, peduncled, alternate from the axil; below the calyx there stands a pair of fleshy bractes on the long peduncle; corolla blue.
It puts forth roots from the knots, both as it runs along the ground, and as it lies on the surface of the water. A native of Cayenne, on the borders of rivulets, flowering in December. The inhabitants of the island call it borba aux brulures, on account of its being used for curing burns.

**Bacquer, Benedict.** In *Biography.* Of this writer, who lived towards the end of the seventeenth century, but of whose life no memorials have come to us, we have a much extemned work, "Salvator Senus," published 1672; and, if it is not the same work, "Senum Medicus, prefcribent obseruanda, ut sine magis meliora fymctus praehatat," Colom. 1673, and 1683, 8vo. Hailer Bib. Med. Præct. Mont. Carrera says, that Bacquer was professor of theology, and prior of the abbey of Dunes, which Eloy observes is very probable, as at the end of the directions for the preparation of the health of aged persons, is another work intituled, "Saluator Senus, remedii fuggerans pro Senum salute eterna." Eloy. Diction. Hist. De la Med. v. i. p. 242.

**Bacquet, John,** a learned French lawyer, was advocate to the king, and flourished at the close of the sixteenth century. He wrote many excellent law-tracts, which were published with notes by Ferriere at Lyons, in 2 vols. folio, in 1744. He died in 1597. Nouv. Dict. Hiflor.

**Bacstiau, or Bart Jesse, Servants of Jezes,** a Christian family famed in the East for their knowledge of phyric.

**Bactisia, George,** the first of the family of whom we have any account, who besides his skill in medicine, was eminent for his proficiency in the Persian and Arabic languages, received his education at Jondifabur, or Nifarfur, the capital of Korasan. Sapor's king of the Persians is said to have built this city, A. C. 272, in honour of his queen, the daughter of the emperor Arudhian, who fent with her several Greek physicians. Thfe-men, settling there, received and propagated the doctrines of Hippocrates, in the east, and hence, Friend conjectures, it happened, that most of the celebrated Arab physicians, Rhazes, Haly Abbas, Avicenna, were educated in the more eastern parts of Asia. George, being sent for to Bagdad, by Almanzor, the second caliph of the house of Abbas, to relieve him of a complaint of his loins, in which he was successful, was detained there, and at the desire of the caliph, translated several books of phyric; and when, on account of his ill health, he desired leave to return to his country, Almanzor sent him home with great honour, and a reward of 10,000 aurei. Rhazes and Scarpion have recorded in their works many of the maxims and medicines of George. The answer was remarkable which he made to Almanzor, who had condescended to solicit his conversion from Chritianity to Mahometanism, and offered to infize him a place in paradise upon his compliance. "No," replied the doctor, "I am very well contented to go whereover my forefathers have gone, be it to heaven or to hell." Ruffel's Aleppo, vol. ii. Append. p. 5.

**Gabriel,** the son of George, was in equal estimation with the caliph Haroun Al Rachiid, whom he cured of an apoplexy, by directing him to be blooded, which was performed, though contrary to the opinion of the other physicians. Friend annexed to his History of Phyric, the life of Gabriel, translated into Latin, from the Arabic of Abi-Oflai. The translation was performed at the expence of Dr. Mead. The work is principally remarkable for the extravagant praises bestowed on Gabriel, and the account of the high honours and prodigious wealth heaped by the caliphs on their physicians. Friend's History of Phyric, vol. ii. Haller. Bib. Med. Præct. For an account of others of this family, which in succession supplied the caliphs with physicians for above two centuries; see Ruffel's Aleppo (ubi supra).

**Bactria, or Bactriana,** in *Ancient Geography,* a country of Asia, was bounded on the west by Margiana and Asia, on the north by the river Oxus, which separated it from Sogdiana, on the south by the mountains called Paropamisus, which covered the north of India, and on the south by mountains which separated it from Afric Scythia and the country of the Maffgets. It comprehended the present provinces of Balk and Gaur, and probably, says major Renner, part of Xorasan. It was a large, fruitful, and well-peopled country, and contained, according to Ammianus Marcellinus (liv. xiii.), a great number of cities mentioned by the ancients; hence the metropolis was Bactia, called also Zariafpa, and now Balk, from which, or from the river Bactria, the country derived its name. Quintus Curtius (l. viii. c. 4.) deduces the name both of the city and country from the river Bactris, which watered the environs of the capital. Pliny (l. vii. c. 15. 16.) places Bactra on the river Zariafpa; and Curtis, on the Bactris, at the foot of mount Paropamisus; but Ptolemy describes it as situated on the river Dargodus, in the heart of the country, at a great distance from this mountain, which was the southern boundary. The chief rivers of Bactria, with regard to the names of which there is considerable confusion, were the Oxus, the Oechus, the Orgomenes, or as Ptolemy calls it, Dargomenes, which, uniting with the Oechus, fell into the Oxus; the Zariafpa, or Zariafes; the Arsaces; and the Dargodus. The part of Bactria, which was watered by the river Oxus, is described by the ancients as a very fruitful country, abounding with pastures, and well stocked with cattle of a very large size; but the southern parts were sandy deserts, through which travellers journeyed only in the night, being under a necessity of guiding themselves by the stars, as if they were at sea, and exposed to the danger of being buried in the sand. The country was inhabited by the following nations: the Salatras and Zariafes; the Chomari, or Comarians, placed by Ptolemy near the sources of the Iaxartes, toward the eastern boundaries of Sogdiana; the Comi; the Acinacæ; the Tambahæ, or Tamyzi; the Thucarae, or Tochari, who were mountaineers on the declivity which regards Bactria, whence the modern Tokefaian; the Marycæ; the Scordæ; the Varsi; the Arâda; the Orfippi; the Amansip, and some others. The Bactrians in general were reckoned good folders, and were always at war, either among themselves, or with the neighbouring nations. Herodotus says they were archers, and sted bows made of their country reed or cane, and had short darts. In other respects they were accoutred, like the Medes, who wore tiaras, tunics, and breeches, with a dagger at their girdles. They were enemies to every kind of luxury. Pliny informs us, that they used to expose their old people after a certain age, to be devoured by fierce mastiffs, which they kept for that purpose, and called cephalchial dogs. He adds, that they allowed their daughters to associate with any whom they liked, and that incontinence was not disreputable even to the women.

The early history of Bactria is, like that of other ancient nations, involved in considerable obscurity and uncertainty. According to Diodorus, the Bactrian government, in the earlier ages, was monarchical. Zoroaster is said by Eufebius (in Chron.) to have reigned in Bactria, and to have been contemporary with Ninus, who made war upon him, and subdued his country. But Ctesias, followed by Diodorus, mentions one Oxystates, who reigned in Bactria, when that country was reduced by Ninus, and he says that Zoroaster was contemporary with Cyrus the Great. But the history of this Persian lawgiver is lost in remote antiquity. It has been affected by some writers, that Ninus subdued all Asia, except India and Bactriana. However this be, all authors are.
are agreed, that Bactria was subdued, first by the Affyrians, and afterwards by the Parthians under Cyrus the Great. After the overthrow of the Perisan empire by Alexander (B.C. 328.), it fell under the power of the Macedonians, and was held by the successors of Scælenus Nicator, till the reign of Antiochus Theos, when Theodotus, about the year B.C. 249, from being governor of that province, became king, and strengthened himself so effectually in his new kingdom, while Antiochus was engaged in a war with Ptolemy Philadelphus, king of Egypt, that he could never afterwards dispossess him of his acquisitions. He was succeeded by his son Theodotus, who, strengthening himself by an alliance with Arfaxes, the founder of the Parthian monarchy, considerably enlarged his kingdom. Theodotus, being vanquished by Euthydemus, was expelled the king-
dom; and Euthydemus was succeeded by his brother Me-
ander, who extended his conquests to several countries that were unknown to Alexander the Great. The possessions which Meander had reduced were retained by his nephew and successor Demetrius, and enlarged by several new acqui-
sions. Having left the kingdom of Bactria in a very flour-
rishing condition, he was succeeded by his son Eucratides, who invaded India, and made himself master of all those provinces which had been subjected by Alexander. During the reigns of these six princes, the commerce of Bactria with India was very considerable. The district near the mouth of the Indus, which Alexander had subdued, was recovered; and military operations were carried on in India, with such succe-
sses, that the Bactrian kings, penetrated far into the in-
terior part of the country; and proud of the conquests which they had made, as well as of the extensive dominions over which they reigned, some of them assumed the title of "Great King," which distinguished the Perisan monarchy in the days of their highest splendour. Apollodorus, the Bactrian historian, affirms that Eucratides possessed one thou-
sand cities. The learned Bayer, in his interesting history, advances many arguments to prove that the Greeks of Bact-
tria imparted the first lineaments of science to the Hin-
doos. M. Pizon, in his "Antiquities of Nations," alleges, that there was a people in the upper regions of Asia, be-
yond Media and mount Imaus, who in the first ages spread themselves over Bactria and Margiana, and proceeding by Armenia and Cappadocia, at last passed over into Europe. These people were called Sace. In the mean time, the Cimmerians, who were of the same family, went by the north; and having made various incursions, at last settled above the Oxus iex, near the Palus Mazotic. The learned Bryant is of opinion, that this account is not warranted by sufficient authority on the part of the writers to whom M. Pizon appeals. Although such people as the Cimmerians actually existed upon the Mazotic, yet that they came from Bactria, and fought their way through different countries; and that they were the brethren of the Scythians styled Sac-
es, and took the upper route, when the others were making their inroad below, are circumstanced which, says Bryant (Anal. Mythol. vol. iii. p. 143.), have not the least shadow of evidence. Another writer of our own nation (see Wife's Hist. & Chron. of the Fabulous Ages, p. 149,) supposes, that all sciences centered of old in Bactria, called Bochary, or " the land of books." (See SACE, and SCYTHIA.) But to return from this digression : Eucratides, king of Bactria, was treacherously murdered by his son of the same name, who usurped the throne; but he was expelled by the united forces of the Scythians who attacked him on one side, and of the Parthians who attacked it on the other, and was soon after killed in attempting to recover it. The Greeks, says Strabo (I. xi. p. 779.) were deprived of Bactria by tribes or herds of Scythian Nomades, who came from the country beyond the Iaxartes, and were known by the names of Asii, Paftani, Tachari, and Sacraan. This fact concides with the relation of the Chinefe historians, cited by M. de Guing-
nes (Mem. de litter. t. xxv. Mem. p. 19.), and is confirmed by it. By them we are informed, that about 126 years be-
fore the Christian era, a powerful horde of Tartars, pushed from their native feasts on the confines of China, and obliged to move towards the west by the pressure of a more numer-
ous body that rolled on behind them, killed the Iaxartes, and pouring in upon Bactria, like an irresistible torrent, overwhelmeed that kingdom, and put an end to the dominion of the Greeks there, after it had been established near 130 years. The kings, who reigned in Bactria in the times of the Roman emperors Adrian, Antoninus Pius, and Vale-
rian, were all of Scythian extraction; but the Scythians were in their turn driven out by the Huns, who reigned in Bactria in the time of Ladiulus IV. king of Hun-
gary.

BACTRIANUS, in Zoology, a species of Camelus, having two bunches on the back. Linnaeus.

BACTRIANI, in Geography, a town of Asia, in the country of Georgia. 60 miles north of Tellis.

BACTRIANA, in botany, a species of Camelus, having two bunches on the back. Linnaeus.

BACTRIANUS, in zoology, a species of Camelus, having two bunches on the back. Linnaeus.
the height of about four feet; leaves from deep, few, firm, clasping at the base, pinnate; the rib prickly; the leaflets eniform, acuminate, shining, flat, serrate-prickly; spathes axillary, solitary, fore-draw; continuing long after the fruit is ripe; flowers without scent, very slightly tinged with yellow; fruit the colour and size of a common cherry, containing an acid juice of which the Americans make a root of wine. Canes are made of the stem; they are dark-coloured, firm, jointed, very light, and called by the French Comtes de Toulouse a B. major Jacq., i.e. “fruit ovate.” This resemles the former, but grows to the height of twenty feet with a stem more than two inches in diameter. Leaves six feet long; leaflets nearly two feet, with the marginal prickles brown, and more conspicuous than those in the other species; spadix compressed, flat, reclining; fruit of the form and size of an egg, acuminate with the flake, fibrous, succulent, covered with a dark purle coriaceous coat, of which the natives make a vinous liquor. The nut is large, of a dark colour, ovate-oblong, with an acuminate trifid apex, and three oblique holes, two above the middle, and the third higher; kernel oblong, blunt at both ends, enpiiform, solid. The fruits are called Cassiara, and sold in the market. Both these plants are natives of Carthagea in South America.

BACTRIS, in Entomology, a species of Brachus that lives in the woods of the American prairie. It is chroocic; wing-cases rather smooth; posterior thighs ovate; fancks bicurved. Linn. Amoen. Ac. Grec. &c.

BACTROPERA, also written Bactroperta, composed of Bactris, flag, and pera, bag, or bud: it is an ancient appellation given to Philosphers cov by way of contempt, denoting a man with a flag and a budget.

BAHACH, in Geography, a town of North America, in New N. arr. 135 miles south of Casa Grande.

BACULARES, a kind of Anabaptists, so called, as holding it unlawful to bear a sword, or any other arma besides a staff.

BACULARIS, in Writers of the Middle Ages, an ecclesiastical appurtenant, or verger, who carries a staff, bacula, in his hand, as an ensign of his office.

BACULE, in Jurisprudence, a kind of portcullis, or gate, made of wood, of a fall with a counterpate, and supported by two great flake. It is usually made before the corps du garde advancing near the gate.

BACULLI. See Baculi.

BACULI, Santé Paul, or batons of St. Paul, a kind of figured stones, of the same substance with those resembling the bristles of some American scabir, called by Dr. Pott lapides faulchii.

BACULOMETER, the art of measuring accessible and inaccessible distances, by the help of baculi, flaves or rods. Schwenter has explained this art in his “Geometra Practica,” the rules of its are also laid down by Wohius in his Elements; Oerstem also gives an illustration of the principles of baculometry. See Distance, and Longometry.

BACULOSUS ECCLESIASTICUS, in some Ancient Lawes, is used for a bishop or abbot, dignified with the pastoral staff, or crozier.

BACULUS DIVINORIUS, or Virgula Divina, a branch of hazel-tree, of a forked figure, used for the discovery of mines, springs, &c. See Virgula Divina.

BAD, in Ancient Geography, a town of Africa, according to Orbilius and St. Clement. Also a river of Eleutheria, in the vicinity of the town of Palos, near which was a tomb said to be that of Memnon, son of Titobonus, and nephew of Priam, king of Troy. Strabo, i. xlv.

BADA, or Babus, in Zooloqy. This is the name of the Rhinoceros among the negroes on the coast of Angola.

BADACUM, in Ancient Geography, a town of Iurica, situate near the Danube. Ptolemy.

BADAGIS, in Geography, a town of Kassim, on the southern borders of the ancient deict of Mardianna. N. lat. 25° 25'. E. long. 50° 28'.

BADAGSHAN, or Badakshan, an ancient city of Independent Tartary, in Great Bucharia, laid on the north side of the river Amu, or Harbit, not far to the north of Amudah in Tokareth. In the 15th century, this city belonged to the khan of Great Bucharia, or rather of Samarca, and being surrounded in a branch of the Belar Alps, was used as a slave prison for rivals or insurgents. Badakshan was small, but well built and populous; and its inhabitants were enriched by the gold, silver, and rubies found in its neighbourhood; the grains of gold and silver abounding in the torrents which descend from the mountains, when the snow melts in the beginning of summer. Several Caravans for Little Bucharia and China pass by this city. Ibn Haukal mentions that there were not only mines of rubies and lazulite near Badakshan; but that there was abundance of marble. It is situated about 100 miles from the source of the Amu, 250 from Balk, and 210 from Anghien in the province of Samarcan. N. lat. 36° 15'. E. long. 68° 45'.

BADAGRY, a town of Africa, in the country of Benin.

BADAJOZ, Pax Augusta, a considerable town of Spain, being the capital of Elbemada, and a frontier fortress towards Portugal. It is situated near the river Guadiana, on a gentle rife, which on one side is covered with olive-trees, and on the other side of the river are some fortified hills. Over the river is a handomfe stone bridge, built, as it has been said, by the Romans, but as the interposition on it plates, by Philip II. The streets are clean, and partly straight, and well-paved; and there are a few large houses, with some handsome churches and towers. The fortifications are not very strong; but it has sustained two sieges, one by the Portuguese in 1568, and another by the English and Dutch, aided by the Portuguese, in 1705. N. lat. 38° 43'. W. long. 6° 19.'

BADANATHA, in Ancient Geography, a town of Arabia Felix, in the country of the Thamudes. Pliny.

BADARA, a town of Afiis, in Gerdonia.—Also, a town of Afiis in Caramania.

BADASKA, in Geography, a town of Siberia, on the side of the Angara; 80 miles N.N.W. of Tukushch.

BADATIUM, in Ancient Geography, a town of the Tauric Chersonesus. Ptolemy.

BADUSA, a town of Afiis, in Mesopotamia. Ptolemy.

BADAMMY, in Geography, a town of Hindustan, in the country of the Vifapour, eighty miles south of Vifapour. N. lat. 16° 10'. E. long. 75° 46'.

BADELON, BADALON, or BATULA, an ancient town of Spain, in Caralonia, seated on the coast of the Mediterranea, about six miles north-east of Barcelona. BADELU, or Bardiou, a country of Africa, on the borders of the river Gantha.

BADERNDASIO, a long narrow sandy tract of land in Sweden, in the province of Varmeland, where the Danes were totally defeated in 1527.

BADEN, a district or county of Switzerland, lying on both sides of the river Limmat, and bounded on the west by the river Aur, on the north by the Rhine, and on the south by the Reufs, became a bailiwick of the eight ancient cantons in 1418, when the canton of Zurch took possession of the town and county, and so continued till the year 1712. A civil war breaking out at that time between the Pro-
Protestant and Catholic cantons, Baden was besieged and taken by the troops of Zürich and Bern; and at the peace of Aarau, it was ceded to those two cantons and Glarus, which, on account of its neutrality, preserved its right of joint sovereignty. Until 1716 the diet assembled at Baden; but was afterwards transferred to Freiburg. The three cantons alternately elected a bailiff, who resided in the castle. The inhabitants elected their own magistrates, and had their own judicial courts. In civil proceedings, an appeal lies to the bailiff, and from his decision to the syndicate, composed of the deputies of the three cantons, and in the last resort to the three cantons themselves. In penal causes, the criminal court condemns, and the bailiff enjoys the power of pardoning, or mitigating the sentence. This bailiffage comprehends about 138 square geographical miles, and contains 24,000 persons. In consequence of the French revolution, a new division took place in 1798; the country of Baden, the free bailiffage, and a small portion of the south-western part of Zürich, were constituted one of the 18 Swiss departments or cantons, and Baden was its capital; but according to the constitution of the 25th of May 1801, Argovia, re-united with Baden and with the upper part of the Frickthal, was made one of the 17 departments or cantons of Switzerland; and six representatives were appointed to be deputed by it to the diet. The soil of this district is fertile; in general it abounds with grain and fruit, and on the sides of the Limmatt it produces wine. The mountains yield excellent freestone, marble, and iron ore. The greater number of the inhabitants are Roman Catholics.

Baden, the capital of the above district or canton, is situated on the south of the river Limmatt, in a plain flanked by two hills, between which the river runs. It derived its name and its origin from the warm baths in its neighbourhood, which were famous before the Christian era, and are mentioned by the ancients under the name of Agna and Therna Helvetica. It was a Roman fortress, erected to curb the Alemanni or Germans, and was razed when the Helvetians, who supported Otho, were routed by Caesar, general to Vitellius. Being rebuilt, it was taken by the Germans; fell afterwards under the dominion of the Franks, and was in the tenth century incorporated in the German empire, and became successively subject to the dukes of Züringen, to the counts of Kyburg, and to Rhodolph of Hapibus. When his descendant Frederic, duke of Austria, was put under the ban of the empire, in 1418, it came into the possession of the canton of Zürich, which purchased it of the emperor Sigismund, and subjected it to the eight cantons. (See the preceding article.) Many monuments of antiquity have been found in this place; such as statues of several heathen gods, made of alabaster; Roman coins, formed of bronze, of Augustus, Vespasian, Decius, &c., and several medals of the Roman emperors, of gold, silver, copper, and bronze. There are two churches in this city; one collegiate, and the other a monastery of capuchins, near the town-house, in which the diet formerly assembled. Before the castle, which is the residence of the bailiff, there is a stone-pillar, erected in honour of the emperor Trajan, who paved in this country a road eighty-five Italian miles long. The inhabitants are rigid Roman Catholics, and were formerly inoffensive in their behaviour towards the Protestants. The baths are situated on each side of the river, about a quarter of a league from the city. Adjacent to the small baths is a village, and to the large, a town, seated on a hill of steep ascent. The water of the baths is conveyed to inns and private houses by means of pipes, of which there are about sixty. And in the middle of the towns there are public baths, supplied by a spring in the fleet, where the poor may bathe gratis. All the baths are hot, and they are used for drinking as well as for bathing. They serve, like others of a similar kind, to give relief in a variety of diseases. (See Waters, Medicinal.) About a mile from Baden, at a place called Wettingen, where the Limmatt flows with the greatest rapidity, there is a beautiful piece of mechanism, which is a wooden bridge, 240 feet long, and suspended above twenty feet from the surface of the water. It was the last work of Grubenmann, the self-taught architect, and exceeds in elegance that of Schaffhausen. Mr. Cox (Trav. Swiff. vol. i. 175) has given a geometrical elevation of it. Baden is distant 143/2 miles from Zürich. N. lat. 47° 31'. E. long. 8° 12'.

Baden, a marquessate of Germany, in the circle of Swabia, is divided into the upper and lower marquessate. The upper, or the marquessate of Baden-Baden, terminates westward on the Rhine, though a small part of it lies west of that river, and is bounded on the north-west by the lower marquessate of Baden-Durlach, on the east by the duchy of Wurttemberg and the county of Eberlein, and on the south by the Ortenau and the Brifgau. The principal towns are Rastadt, Baden, Ettlingen, Steinbach, and Stolhoften. The marquessate is a sovereign prince, and has a vote in the college of princes. The established religion is Roman Catholic. The lower marquessate, or that of Baden-Durlach, is bounded on the west by the Rhine, on the south by the upper marquessate of Baden, on the east by the duchy of Wurttemberg, and on the north by the bishopric of Speier. The principal towns are Carlsruhe, Durlach, Pforzheim, Muhlburg, and Emmingen. This prince has two votes in the college of princes, one for Baden-Durlach, and the other for the marquessate of Stockberg, which belongs to him, and lies in and along the Brifgau. The reigning family, and the country in general, profess Lutheranism, with a toleration of Protestants, Catholics, and Jews at Carlshruhe. The whole marquessate of Baden is a populous and fertile country, abounding with corn, hemp, flax, bees-wax, wood, and wine. Venison and wild-fowl are so plentiful that they are the common diet of the peasants. Their hogs, being fed with chestnuts, furnish excellent bacon. They have freestone for building, marble of various colours, and some agate. Manufactures are much encouraged, and the country is in a flourishing condition. The territories of the marquessate of Baden comprehend 832 square miles, and 200,000 inhabitants. The annual revenue is estimated at 1,200,000 florins; and the military establishment consists of 3000 men, of whom 200 are cavalry.

Baden, a town of Germany, and capital of the upper marquessate of Baden, is seated on the river Oalbach near the Rhine, among vineyards. It has a fine castle, on the top of a mountain, where the prince often resides during the summer. It is famous for its hot baths, whence it derives its name: distant four miles south from Rastadt. N. lat. 48° 46'. E. long. 9° 24'.

Baden, a town of Germany, in the archduchy of Austria, seated on the river Schwocha, and much frequented on account of its baths. The town is walled, and has three churches: twelve miles S. S. W. from Vienna. N. lat. 48° 3'. E. long. 16° 12'.

Badenoch, a district forming the eastern part of Inverness-shire, in Scotland, extending from sea to well about thirty-three miles, and in the breadth part twenty-seven miles from north-east to south-west. It is barren and hilly, and abounds with deer and game.

Badens, Francis, in Biography, a painter of history and portraits, was born at Antwerp, in 1571, and acquired the first rudiments of the art from his father; and, by visiting Rome and other parts of Italy, acquired a good taste in
BADENSIS, in Entomology, a species of Cerculio, about the size of C. cerami. It is black; legs pitchy. Genus, Blum. This insect inhabits Germany; the thorax is rather smooth and ovate; wings-cases obliquely eliptic; thin elivated.

BADENSIS, in Ornithology, a species of Emberiza found in the neighbourhood of Baden. The colour is olive, streaked with blackish, beneath paler; cheek orange; breast elivated with blackish. Sander Naturf.

BADENUCHI, in Geography, a town of North America, in the province of New Navarre; 125 miles south of Cafa Grand.

BADENWEILER, a town of Germany, in the circle of Swabia, and margravate of Baden-Baden. N. lat. 47° 55'. E. long. 7° 50'.

BADERA, in Ancient Geography, Baferg, a place of Gaul, belonging to the Volfsce Tectofagos, in the Narbonenesis prima, on the route from Toulouse to Narbonne, and south-east of the city of these towns.

BADESSUS, a town of Asia, placed by Ptolemy in Caria.

BADERY, in Geography, a town of Persia, in the province of Korafl; 140 miles north-west of Herat.

BADGE, in Naval Architecture, signifies a sort of ornament placed on the outside of small ships very near the stern, containing either a window, for the convenience of the cabin, or a representation of it. It is commonly decorated with marine figures, military instruments, or such like emblems.

BADGE, in Heraldry. See Device.

BADGER, in Zoology, ursus miles of Linnaeus and Gmel. See Ursus Melis. The badger's skin is of some use in commerce. Their fat is sold by the druggists, as a remedy against disorders of the kidneys and the sciatica; and their hair, for the making of pencils for painters and gilders.

BADGER, from bajulo, I carry, or from the Fr. bagage, a bundle; whence bagager, a carrier of goods; a licenced huckler, or person privileged to buy corn, or other provisions, and to carry them from one place to another to make profit of them, without being reputed an engrosser. In the statutes he is also called a kildar, or lader of corn, 5 & 6 Ed. VI. c. 14. 5 El. c. 12.—We also read of badgers, or retailers of salt, 9 W. III. c. 6. If any person shall act as a badger without licence, which continues in force one year, he shall forfeit five pounds, one moiety to the king, and the other to the proprietor. 13 Eliz. c. 25. § 20.

BADGER-BY-NIGHT. See Hunting.

BADIA, in Conchology, a species of Cypraea, having an oblong gibbose shell, above bay-colour, dotted with brown and white. Gmelin, &c. Its native place is unknown.

BADIA, a species of Helix, called by Born helix ungulatia; it is about an inch in height, and rather more than an inch and a half in length; and of a chestnut colour. The shell is umbilicated, subgloboso, smooth, depressed above; aperture lunare. Gmelin.

BADIA, a species of Patella, the shell of which is somewhat convex, brown, bay-colour within; with twelve larger rays, each surrounded on both sides by a rib; and smaller rays. The varieties of this kind are numerous, and no less than sixteen of them are described by Schreber. Linne, in Conch. d. Letterat. &c. This shell is usually about two inches and three quarters in length; more or less flat in different specimens, and rarely inflated; sometimes they are dotted with green, but slightly; and in others the upper surface is spotted all over with that colour; shells of this kind occur in which green or brown is disposed in rays, or in rows of dots; sometimes they are palisade-colour, waved or spotted with yellow or brown, or liver-colour. The crown is often variegated with rays, and not uniformly with five rows of blue dots; and the pustulae conical, or a green spot in the bottom, surrounded by a single or double band, which is more or less pale, and of different colours in different shells; the inner surface is usually either brown, yellow, liver-colour, or bay-colour. LINNÉUS makes it a species of Spunge.

BADIAN, or BADIANA, the seed of the anise-tree, or of a tree resembling it, that grows in China; and sometimes used by the Chinese, and also by the Dutch, to give an aromatic taste to their tea.

BADIAH, in Ancient Geography, a town of Africa, in Libya interior.

BADIGEÓN, a mixture of platter and free-flone, well grounded together, and sifted; used by flatuaries to fill up the little holes, and repair the defects in flones, whereasof they make their flatuaries and other work.

The same term is also used by joiners, for saw-dust mixed with strong glue, wherewith they fill up the chaps, and other defects in wood, after it is wrought.

BADILE, Antonio, in Biography, a painter of history and portrait, was born at Verona in 1482, and by affidavit application excelled his predeceivers in an acquaintance with the true principles of his art. He was allowed to be a very eminent artist; and he had the honour of having for his discipes, Paolo Veroeino, and Baptista Zelotti. His colouring was admirable; his carnations beautiful; and his portraits preferred the perfect resemblance of flesh and real life. He died in 1560. Pilkington.

BADILETTES, a name given to a race of horsemen relented in the mountains, in the vicinity of Circilia, and of the Nogai Tartars, who in some measure retain their independence.

BADINGEN, in Geography, a town of Germany, in the
BADY, a river and an ancient place of Peloponnesus, in the territory of Elis, mentioned by Pausanias. After a war which depopulated the country, the women, it is said, prefented their supplications to Minerva, that they might supply the want by a new progeny in conformance of their first intercourse with their husbands; and they erected a temple in honour of the goddess; and hence the name Bady or Badis, Bady, or in the Dorian dialect Avo, i.e. pleasant or agreeable.

BAA, the name of a mountain in the island of Cephalonia.


BA/BEZANA, or BAKKANA, a town of Afa, in Aria.

BÅERO, the name of a town of Spain, mentioned by Pliny.


Species, B. fruticosa, Reich. 2. 200. Obs. It. 231 t. 1.

This shrub has the habit of fotherworm, with wand-like branches, and opposite short simple twigs; leaves opposite, linear, sharp, smooth, entire; flowers axillary, foliary, on a naked peduncle the length of the flower, much shorter than the leaves. A native of China, where it is called Tsin gia.

B. ECOLICUM, or BIAECOLICOS, in Ancient Geography, a mountain of Africa, in the Pentapolis. Ptolemy.

B. EECOR, a place of Spain, in Bettyca, where Viriates wintered after having been defeated by Fabius Maximus Aemilianus. Appian.

B. EECULA, a town of Hifpasia Tarragonensis, in the territory, or at least in the vicinity of the Authetani. Ptolemy.

B. EDOO, in Geography, a district of Africa, to the west of the river Niger, mentioned by Mr. Park in the narrative of his journey.

B. EELAMA (Cloaca Badiana), in Ichthyology, the name of a fish found in the Red Sea, and described by Forsk. P. Arab.—It is eulops feiferisci of Gmelin.

B. EELON, in Ancient Geography, a town of Spain, north-west of Mallaria, upon the shores of Gadis, which carried on a considerable commerce in fall with Tingis, on the opposite shore.

B. AEN, in Geography, a town of European Turkey, in Moldavia, six miles miles N. N. W. of Niemecz.

B. EENUM, in Ancient Geography, a town of Arabia Felix. Ptolemy.

B. EEBOTrys, in Botany, (from Bees, small, and Beesw, a race me; the fructifications being in this race me). Lin. gen. Schreb. 318. Forrier, Gen. 11. Clafa, pentandra monogynia. Gen. Char. Cal. perianth double; exterior three-leaved; leaflets roundish, concave, smaller; inferior one-leaved, bell-shaped, short, five-cleft, growing to the germ; clefts ovate, permanent, converging after flowering, and crowning the fruit. Cor. one-petalled, tubular; tube very short; border five cleft, erect; clefts rounded, very short.
short. Stems, filaments five, very short, in the middle of the tube; anthers heart-shaped. Pal/ a gem globose, half-superior; style cylindrical, very short, permanent; stigma obtuse, tuberculat/ed. Per. berry globose, somewhat dry, coarsely-nerved, growing to the calyx. Seeds several, angular, allined to a columnar receptacle in the bottom of the berry.


B. Zones, *in Cog/169/, the name given by Arr./175/ a to an island in the Indian ocean, on the other side of the river Indus.

B. Auer, and Whi/e B/175/ in *Zoology*, the names of the *black bear*, and *Polar bear*, in "Ridinger's Animals."


B. B/175/RS/175/US, or V/175/kenst/175/H, Henry, in *Biography*, a mathematician, flourished in the beginning of the sixteenth century. He was a printer at Louvain, and the author of the following curious mathematical treatises: "Tabula perpetua Longitudinem ac Latitudinem Planitarum," 1528; "De compositione et ufo Decretariori Planetarum," 1550; "De compositione et ufo Quadraritatis," 1557; More.

B. *Es/175/rat*, a painter of sea-shores, sea-florcs, and fish, was an eminent master, whose works were much esteemed, though the place and time of his nativity are unknown. His pictures are easily distinguished by a general brightness diffused through the whole, and particularly in his lilies. His drawing was correct, and his perspective true; he copied every object from nature, and was exact in his representations of sea-shores, ships of war, and vessels of a smaller size, which he distributed with judgment, so as to produce a very pleasing effect. His pencil is light and clean, his touch spirited, and his colouring always transparent; and he generally finished his pictures very neatly. He died in 1657, F/175/lington.

B. *Es/175/am/175/psa*, a town situated in the Arabian gulf, supposed by some interpreters to be the same with the Beth-Schemau, or the house of the fun, mentioned by Jobu/175/a.

B. *Es/175/ippo*, a town of Spain, situate about twelve miles from Ba/175/lon, and at a somewhat less distance southward from the promontory of Juno. Antonio Itin.

B. *Es/175/tana*, a town of India, on this side the Ganges, situated on the river Nanguna, and said by Ptolemy to be the capital and residence of the Siro pulses.

B. *Et/175/rae, Be/175/ziers*, a town, which was a Roman colony, situate in Narbonensis Prima, a southern province of Gaul, at a small distance northward from Narbo. It was the flation of the seventh legion, who built two temples, one dedicated to Augustus, and another to his daughter Julia. The Tiberians also adorned this city; and in the fourth century it was one of the most considerable in Gaul. But in the fifth century it was taken by the Vifi/175/ goths, who demolished its splendid edifices. It was afterwards re-established; but taken possession of by the Saracens in 736. In the next year Charles expelled them, and destroyed the city, so that they might not be able to re-fortify it.

B. *Es/175/thau/, a town of Asia, in Mesopotamia. Pto/175/lem.

B. *Es/175/tica*, a province comprehending the southern part of Spain, and corresponding to the present Andalusia and Grenada. This was one of the three provinces into which Augustus divided Spain; the other two being Lusitania and Tarracencens. It derived its name from the river Baxis, since called Tartessus, and now Guadalquivir, or the great river; and was bounded on the west side by Lusitania, on the south by the Mediterranean and Gulf of Cadiz, and on the north by the Centralic sea, now the sea of Biscay. Its limits towards the north-east were fluctuating, and cannot be easily ascertained. The Baxis divided this province into two parts; on the one side of which, towards the Andes, were situated the Tartanisi, whence the kingdom was called Tartessos, but it was better known by the name of Bactria. On the other side were situated the Baffuli, Baisitani, and Costellani, along the Mediterranean coasts. It was the richest and the best known province of Spain. It was famous for its wool; and its fertility was such, that its produce, according to Pliney, (i. xviii, c. 10), was an hundred fold. It is well known that the Phoenicians were long ago established on these coasts, and that the Carthaginians had settlements in this country. Ptolomies speaks in high terms of the wealth of Bactia, and of the magnificence of the court of one of its sovereigns.

B. *Es/175/tia*, now Guadalquivir, a river of Spain, in Bactia, which had its source, according to Pliney, in the mountains called Saltus Fugiens; or to the north-east of Orosplada, pursu'd its course towards the west, washing Corduba, Corduba, and Hifpalis, and discharging itself by many outlets or mouths into the sea. The inhabitants of the country called it Citium and Ceritis, and the Arabs Ciritis, derived, according to Mariana, from the oriental term kirhis, a town, and denoting the river of towns, on account of the number of those which it watered. See Guadalquivir.

B. *Es/175/tium*, the name of a town of Macedonia.

B. *Es/175/tius*, a river of Arabia Felix.—Also, a mountain of Asia, in Drangiana. Ptolemy.

B. *Es/175/tulo*, a town of Spain, belonging to the Lusitani, at a small distance south-west from Bescino; now Badelona.

B. *Es/175/uria*. See Bactia.

B. *Es/175/us*, in *Ich/175/eology*, a name given by Aris/175/tote and other of the ancient Greeks, to the fish called by some Latin writers cottius; and particularly to one kind supposed to be that described by Linnaeus under the name of gobio; and called the bull-headed, or miller's thumb, in England.

B. *Es/175/yleis*, or *B/175/tis/175/on*, in *Antiquity*, a kind of stones worshipped among the Greeks, Phrygians, and other nations of the East; supposed by some modern naturalists to be the fame with our ceramia, or thunder-stone.

The priests of Cybele called a batylos on their breast, representing the mother of the gods.

According to Dama/175/iscus, cited by Photius, they had many of these batylas, which were consecrated to different gods, as Saturn, Jupiter, the sun, &c. Bochart (Chanaan, i. ii. c. 2, vol. i. p. 708.) derives the origin of this superstitious practice from the stone which Jacob erected at Bethel. Whenever the practice was deduced, it was very extensive and prevalent; for in the eastern countries no idol was more common than oblong stones, which were denominated by the Greeks to/175/ri/175/a, pillars. In some parts of Egypt, they were planted on both sides of their roads. In the temple of Heligabalus, in Syria, there was one which they pretended
pretended to have fallen from heaven: and a black stone of this kind was fetched from Phrygia, with great ceremony, together with the priests that belonged to it, by a Roman embassy, at the head of which was Scipio Nafica.

BAZA, in Geography, a town of Spain, in the province of Andalusia, and country of Jaen, seated on a high hill three miles from the river Guadalquivir. It was anciently the seat of a bishop, which was removed to Jaen in 1249, and a kind of univercity founded by John d'Avila. It was taken by the Moors about the end of the fifteenth century. N. lat. 37° 45'. E. long. 3° 15'.

BAZA, a town of South America, the capital of the government of Quixos, in the province of Quito, in Peru, was founded by Gil Razon D'Avamos in the year 1559. Baza, though the first built town in this country, has remained very small, which is owing to the building of the two cities of Avila, and Archidona, which became the chief objects of the attention of the settlers. But these places have not increased to the title of cities, which was given them, when they were founded; because the country is much inferior to Quito with regard to its air and fertility, and the other enjoyments of life. Baza is much declined, and confisits only of eight or nine thatched houses, with about twenty inhabitants of all ages; so that from being the capital as it once was, it is now annexed to the parish of Papallacta, in which town resides the priest, who has also under his care another town called Mailpu. This decay was the unavoidable consequence of the removal of the governor, who has of late relived at Archidana. See Quixos.

BAZILLO, a town of Spain, in Old Castile, three leagues from Valladolid.

BAFETAS, or BAFAS, a cloth made entirely of coarse white cotton thread, which comes from the East Indies. Thes of Sarat are the best.

BAFFA, or Boro, in Geography, a neat village of Africa, on the Grain coast, about a mile east of Sanguin; which supplies ships with ivory and pepper. It is easily distinguished by a long sandy point, surrounded with rocks, that project into the sea. The language spoken in this place is a kind of corrupt Portuguese, or rather a mixed language.

BAFFA, Cape, is the south-west point of the island of Cyprus in the Mediterranean, in N. lat. 34° 37'. E. long. 32° 18'. Near this harbour stood the ancient Pathos, where was a temple consecrated to Venus (see Paphos), it is now succeeded by ruins, a village, a mean cottage, and equally mean houses, and a few Greek churches of the same description, and the name Paphos is converted into Baffa or Bafion. In the rocks is found a very fine rock-crystal, which is called the Baffa diamond, because it is procured from the environs of Baffa.

BAFFIN'S BAY, is the largest gulf or bay of North America, and was called from William Baffin, who, accompanied by captain Robert Bylot, attempted, in 1616, to find a passage through Davis's straits. In a large lense it extends nearly north and north-west from Cape Farewell in West Greenland, as far as Whale found, passing through the part of it called Davis's straits, and reaches from the parallel of 60° to that of 80° N. lat. In a more confined lense it comprehend from 70° to 80°, being bounded on the north by the Arctic continent or lands approaching towards the north pole, on the east by Greenland, on the south by Davis's straits, the ocean, and several islands which lie between this gulf and Hudson's bay, and on the west by a part of North America. Baffin seems to have restricted this appellation to the sea between 72° and 78° N. lat. and says that he traded with the Greenlanders at Horn found, in the seventy-third degree, but in the seventy-fourth degree he found no natives, but several plains where tents had been set up, from which he concluded, that at certain seasons of the summer people resided there. The sea was full of seals and unicorn fish; and in sir Thomas Smith's found, in the seventy-eighth degree, he found the largest whales. See Grantz's Hill of Greenland, vol. i. p. 16. In our maps it opens into the Atlantic ocean through Baffin's and Davis's straits, between the broken land on the American coast, and that west of New Greenland, and between Cape Chidley on the Labrador coast and Cape Farewell on that of West Greenland; and on the south-west of Davis's straits it has a communication with Hudson's bay, through a cluster of islands. Some maps show a communication with Hudson's bay, in the seventy degree of N. lat. and in the 70th of W. long. Baffin's bay is laid down as extending from 46 W. long. to 94°, which allowing only sixte, a geographical miles for the degree, would give a length of 768 geographical miles; and the breadth on the west side is represented as little inferior. But the extent and limits of this sea have not yet been accurately ascertained: nor has the west coast of Greenland been explored beyond N. lat. 72° or Sanderton's Hope, and an old Danish settlement called Opperier. In the midst of Baffin's bay many maps present a large tract called James island, which some have imagined to be a promontory passing from Greenland; or it is probably a large isle in the north of Hudson sea, laid down from erroneous observations. This bay has been sometimes called Bylot's bay.

Baffin's Strait is a passage between James island and the most easterly of Cumberland islands, from the gulf of the ocean into Baffin's bay. This, and Davis's strait on the east of James island, and Cumberland strait on the south-west between the Cumberland islands, seem to shew that the proper boundary of Baffin's bay does not reach so far south as to cape Farewell.

BAFING, or Black River, a principal branch of the Senegal river in Africa. Mr. Park, in his Travels in the Interior Districts of Africa, describes a singular bridge erected by the Follonkas over this river. It consists of two tall trees, which were tied together by the tops, reach from one side of the river to the other; the roots reposing upon the rocks, and the trees floating in the water. When a few trees have been placed in this manner, they are covered with dry bamboo, so as to form a floating bridge, with a floping gangway at each end, where the trees rest upon the rocks. In the rainy season this bridge is carried away by the swelling of the river.

BAFVENLAKE lies in that part of Sweden called Sodermanland: it is extensive, and contains many islands.

BAG, in Commerce, a term used to signify different quantities of certain commodities: a bag of almonds, for instance, is about 3 cwt.; of aniseed, from 3 to 4 cwt.; of pepper, from 14 to 3 cwt.; of goats-hair, from 2 to 4 cwt.; of cotton-yarn, from 24 to 41 cwt. &c.

BAG, in Medicine and Pharmacy, denotes a kind of fomentation, prepared of proper ingredients, included in a bag, to be applied externally to a part disfigured for pretent relief. Diaphoretic writers describe cordial bags, used in delirious; bags for the side, for the stomac, in weaknesses of the stomach; mercuric bags to ease pain in any part. Wines and ale are frequently medicated by putting into them bags full of proper ingredients.

Sweat bags are compositions of perfumes, scented powders, and the like, included in bags, to give a fragrancy to clothes, &c.

BAG, in Purfury. See CHEWING-BALLS.
BAG

Baguio. See Oil.

Baguio, Sandy. See Sand.

Bag, or Bay of Points, in Geography, is a noted promontory among islets on the north coast of Divon, at the north-west point of the entrance into Barnafilip bay. N. lat. 52° 50' W. long. 4° 32'.

Bagh, in Ancient Geography, a town of Africa Propria, being one of those which were re-established by the emperor Julian, according to Procopius.

Bagh, or Bagh, a town of Afia, in Pithia.


Bagadania, a large plain of Afia, in Cappadocia, placed by Strabo between mount Taurus and mount Arge, about 3000 flads more fouthward than the Euxine sea.

Bagadai, a name by which there call the carrier pigeon, the columba tadelis of Moors. This name is probably a corruption of the word Bagheta, the name of a city from whence they are sometimes brought to Europe; being originally brought thither from Bagheta.

Bagaduca Point, in Geography, a headland of America, within Penobscot bay, in the district of Maine.

Bagagnana, in Ancient Geography, a mountain of Afia, in Armenia, where they obtained, according to the ancient physician Atius, the Armenian rose.

Bagan, in Geography, a town of Servia, twenty miles north from Nissa.

Baganza, a river of Italy, which joins the river Parma, at the city of Parma.

Baganzola, a town of Italy, in the duchy of Parma, four miles north of Parma.—Alta, another town in the same duchy four miles south of Parma.

Bagaraca, in Ancient Geography, a town of Thrace, Anton. Itin.

Bagard, Charles, in Biography, born at Nanci, in Jan. 1696, was early initiated into the practice of physic by his father Anthony, who had acquired considerable reputation in that art. To the influence our physician had with Stanislaus the first titular king of Poland, and duke of Lorraine, we are indebted for the botanic garden and the college of medicine at Nanci, of which he was the first president. He died of apoplexy in December 1772. Besides numerous dissertations on medical and philosophical subjects, we have the following, by this author:—"Difcours sur l'histoire de la Thérapeutique," published 1755; "Difpensatoire Pharmac. Chymicus," Paris, 1771, fol.; "Linne Medicinalis," &c. 1771, 8vo. "Difcours fur les médicaments de Nanci, 1760, 8vo. Elyot. Diction. H. A. Haller, Biblioth. Botan.

Bagarda, in Ancient Geography, a town of Afia, in Parapamisus. Prolemny.

Bagase, a town of Africa, in Libya Interior, Prolemny.

Bagasis, Bagas, a town of Africa, situated on a river at the foot and to the east of mount Audus.

Bagat, in Geography, a town of France, one league west from Paris.

Bagathusa, Cafse, lies on the coast near coast of Arabia, fifteen leagues east from Shahar. Under the lee of this cape there is good anchorage; but the sea rages on this coast from April to July to such a degree that no ship can live in it.

Bagatins, or Couriers, a name given to the pigme-carriers.

Bagauda, or Bacauda, in History, an ancient faction of pedants, or malecontents, who ravaged Gaul, and assumed the name bagauda, which, according to some authors, signifies, in the Gallic language, forced rebels; according to others, tribute; according to others, robbers; which last signification others allow the word had, but then it was only after the time of the bagauda, and doubtless took its rise from them. Du-Cange.

The bagaudas were a rustic troop of plowmen and shepherds, who, the generous weight of their taxes induced to take up arms under the reign of Claudius II., about A.D. 270, in order to rid themselves of a tyranny which seemed to them worse than death. Irivated by oppression, they renmbled by their ravages the fury of the barbarians, and laid waste the countries which they ought to have cultivated. At this time their strength must have been considerable, as they held a siege of several months to the city of Autun, and at length took it by force. Under Aurelian and Probus no mention of them occurs, because it is probable that the valor and activity of these warlike princes kept them in awe. But under the reign of Diocletian, about the year 286, exasperated by the injustice, violence, and cruelty of Curianus, they renewed their revolt, and they were commanded by two men, whose names were Eliamus and Ananias, each of whom had the holdness to assume the title of Augustus. Maximian, who was admitted by Diocletian as a colleague in the government, A.D. 286, subdued the bagauda partly by clemency and partly by force. It does not appear what became of the two chiefs of the rebels; but Salvianus informs us, that the name and the faction of the bagauda were revived in the fifth century. Crevier's Hist. Emp. vol. ix. p. 282.

Bagauze, is the same name which is given, in the Antilles islands, to the sugar-canes after they have passed through the mill. They are dried, and used for boiling the sugar.

Bagdad, in Geography, a large and populous city of Asiatic Turkey, in that division of Diarbirk called Irak-Arabi, is seated on the eastern banks of the Tigris, N. lat. 33° 22'. E. long. 44° 21'. It has been erroneously supputed by several geographers to be the old Babylon, though it be at a distance from the ruins of this ancient metropolis. It is computed to be about 15000 paces in length, 7 or 8000 yards in breadth, and 30000 in circumference. Mr. Jackman, in his "Journey from India to England," in 1757, says, that it extends three miles along the eastern bank of the river; and the length of the walls from the river being about two miles, it has the form of an oblong square. Its walls are all of brick, with terraces and large towers at proper distances, in form of bastions, and defended by about 60 pieces of cannon. The callest is large, and flanked by some small towers with cannon; and the garrison usually consists of 500 foot, 4200 horse, and 60 gunners. The number of inhabitants, if we may credit the accounts of the Arabian writers, was formerly very considerable; but it is now reduced to fifteen or twenty thousand, including those who live in a suburb on the other side of the Tigris, at the end of the bridge of boats, which are separated every night to prevent surplice. But notwithstanding this number of inhabitants, the town has still many empty spaces within its walls, and it is for the most part but indifferently built. Many of the public buildings, however, such as the mosques, minarets, and hammums, are constructed of hewn stone, and make a very handsome appearance. Here is also an extensive bazar, which is well supplied with a variety of articles. Several of these buildings are arched, in order to guard against the excessive heat of the sun; and as scorpions, tarantulas, and other noxious insects, are numerous, peregrina, in order to avoid them. In the summer season, sleep on the tops of their houles. The environs of Bagdad to the well
of the known world. Among the students there were 300 who devoted themselves entirely to the study of the Mahometan law, according to the decisions of the four chief sects of the Sunnites, each of which sects had a professor in this college. For several ages Bagdad, besides being the seat of power, abounded more with learned men than any other place in the Mahometan dominions, except Mecca and Medina. It was also extremely populous, and contained several forts and castles, capable of making a tolerable defence, and deriving their respective names from their founders. The language spoken in this city was one of the most polite and elegant dialects of the Arabic, as there was a greater concourse of nobility and learned men, who excelled in many branches of literature, for several ages, in this city than in almost any other of the east. The city had also a mint, in which were coined a great number of dirhems and dinars. Bagdad continued to be the seat of the caliphs of the race of Al Abbas for 520 years; but at length, in the year of the Hegira 675, A.D. 1278, the conquest of Iran, or Persia, was achieved by Holagou Khan, the grandson of Zingis, the brother and lieutenant of the two suaveceive emperors Mangou and Cubbi. After a siege of two months, it was stormed and sacked by the Moguls; and their savage commander pronounced the death of the caliph Moltamaf, the blit of the temporal successors of Mahomet; and thus the family of the Abassides was extinguished. The Tartars of Mogul having plundered and set fire on, and mafacred many of the inhabitants, enriched themselves by its spoil, as it was then reckoned one of the most considerable cities in the world; and they retained possession of it till the year of the Hegira 795, A.D. 1392, when it was taken by Tamerlane, for the first time, from sultan Ahmed, the son of Avis, who converted his baggage beyond the Tigris, and abandoned the capital to the conqueror; and it was taken a second time in the year of the Hegira 803, A.D. 1400, from the same sultan, who had recovered possession of it. After this capture, it was restored by Tamerlane to the sultan; but in the year 815, A.D. 1412, the sultan was finally expelled by the Turecoman Kara Jofef. The descendants and successors of Tamerlane remained masters of Bagdad till the year of the Hegira 875, A.D. 1470, when they were expelled by Hafian, surnamed Uzun, or Ufun-Caftan. The princes of this family posseffed it till the year of the Hegira 914, A.D. 1508, when Shah Ismael, surnamed Sofi, the first prince of that race which afterwards reigned in Persia, made himself master of it. From that time it was an object of controll in the wars between the Persians and the Turks, for 100 years. The Turks took it under sultan Soliman, and the Persians retook it under Shah Abbas the Great, king of Persia; but being at length befieged by a formidable army under Amurath III. it was surrendered to him by Shah Sofi, king of Persia, A.D. 1653; and from this time it has remained in the possession of the Turks. Heredot Bib. Or. p. 154. From this disaffurts period the trade of the place has considerabily decayed, as the sultan rilfed all the rich merchants. However, though it groans at present under the Turkish yoke, Bagdad is a celebrated emporium and frontier of the Ottoman empire, on the fide of Persia, to which not only many merchants, but likewise an incredible number of passengers, travelling from Natolia, Syria, Palestine, and Egypt, into Persia, continually resort. Its situation on the banks of the Tigris renders it convenient for trade; but the heat of the climate is so excessive, that the inhabitants are obliged to keep their markets in the night during the summer; and to keep, as we have already said,
on their terraces. The military government is under a pacha or baitha, who ues various deductive methods to extort money from the inhabitants, and particularly from the Jews and Christians, who are the principal merchants of the city, and who have been in a great measure driven from it by the oppression they have suffered. The civil administration is exercised by a cadi, who acts as judge, presiding, and mufti, with a teftedar or treasurer under him, who collects the revenue of the grand signor. The pilgrims that visit Mecca by land are obliged to pass through Badgad, and every one of them pays a tribute or toll, equivalent to four paltries, to the baihkan, which branch of the revenue yields annually a considerable sum to the grand signor. The revenues are computed at 125 lacks of paltries, amounting to about 1,500,000, per annum; but of these, not more than one quarter are collected, by reason of the indolence of the Turks. As the baitha lives in all the splendid of a sovereign prince, and maintains a very large army, he has recourse to great injustice and oppression, in order to obtain the necessary supply. The inhabitants of this city are chiefly Persians, Armenians, Turks, Arabs, and Jews; and of these the latter act as schiffs, or bankers, to the merchants. The Jews, notwithstanding the severity with which they are treated, are induced to live here from a reverence to the prophet Ezekiel, whose mandate they pretend is a day's journey from the city. Many of them likewise annually resort hither from other parts to visit the prophet's tomb. Two chapels are allowed for those of the Romish and Greek persuasion. In this city there are several beautiful mosques, into which Christians are not suffered to enter, for fear of their being defiled. The Mahometan women are very richly drest, wearing bracelets on their arms and jewels in their ears. The Arabic women wear rings in the partition between their nostrils, which are bored for this purpose.

The ruins of ancient Babylon are frantant about fifteen leagues to the south of Bagdad. See BABYLON.

BAGGEDIN, MAHOMET, in Biography, an Arabian mathematician, lived in the tenth century; and is reported to be the author of several treatises in geometry, among which is one "On the division of superficies," translated into Latin by John Dee of London, and by Frederic Commandini of Urbino, who published this treatise at Pefaro in 1570. Some have supposed that Baggedin was merely the translator of this work from Greek into Arabic, and that it was written by Euclid, or some other ancient mathematician. Moreri.

BAGENBON HEAD, in Geography, a cape of Ireland, in the Atlantic ocean, on the coast of Wexford. N. lat. 52° 9'. W. long. 6° 48'.

BAGGAGE, is particularly used, in the Military Arts, for the necessaries, utensils, apparel, &c. of the officers and soldiers. The baggage includes also women, children, sutlers, &c.

The baggage is well called by the Roman writers, impenos, an account of the great trouble and expense attending it. Unles strict discipline be kept, great inconveniences may arise from it; whence several military laws and ordinances relating to the baggage.

The baggage-wagons, before a march, are appointed a rendezvous, where they are marshalled by the waggon-master-general, according to the rank the several regiments bear in the army. On a march, they are sometimes ordered to follow the respective columns of the army, sometimes to follow the march of the artillery, and sometimes to make a column of their own. The general's baggage is generally first. If the army march from the right, the baggage of that wing has the van; if from the left, the baggage of the left has the van. Each waggon has a distinguishing flag, to shew to what regiment it belongs.

BAGGAGE, Packing up the, was a term among the Romans, for preparing to go to war, or to be ready for an expedition.

The formula by which the soldiers declared they were in readiness, was "Bagge conclamare.

The Romans distinguished two kinds of baggage, a greater and lesser: the former was carried by the soldier on his back, and called farina; confiding of the things most necessary to life, and which he could not do without. Hence colligere farinam, packing up the baggage, is used for decamping, capitare. The greater and heavier was carried on horses and vehicles, and called enera. Hence enera vehiculum, farina buvim. The baggage-horses were denominated figurantibus equi.

The Roman soldiers in their marches were heavy laden, inasmuch that they were called, by way of jest, muli, martini, and aruma. They had four sorts of luggage, which they never went without, viz. corn, or batteriam, utensils, vallum, and arms. Cicero observes, that they used to carry with them above half a month's provisions; and we have instances in Livy, where they carried provisions for one whole month. Their utensils comprehended those proper for gathering fuel, dresting their meat, and even for fortification, or intrenchment; and what is more, a chain for binding captives.

For arms, the foot carried a spear, shield, bow, battle, rutrum, lanceet, horn, falx, &c. Also flaves or pales, wall, for the sudden fortifying a camp; sometimes seven, or even twelve of these pales were carried by each man, though generally, as Polybius tells us, only three or four. On the Trajan column we see soldiers represented with this fardle of corn, utensils, pales, &c. gathered into a bundle, and laid on their shoulders.

Thus inured to labour, they grew strong, and able to undergo any fatigue in battle; the greatest part of which never tired them, or put them out of breath. In after-times, when discipline declined, this luggage was thrown on carriages, and porters' shoulders.

The Macedonians were not less inured to hardship than the Romans; when Philip first formed an army, he forbid all use of carriages; yet with all their load, they would march in a summer's day, twenty miles in military rank.

BAGGER, JOHN, in Biography, a Danish divine, and bishop of Copenhagen, was born at Lunden in 1646. After prosecuting his studies under the abbeys in Germany, the Netherlands, and England, he settled in his native place, and was appointed professor of the oriental languages. At the age of twenty-nine years, he was advanced to the episcopal See of Copenhagen, and discharged the duties of his office with distinguished approbation. He revised the ritual of public worship established by Christifian IV., and published several learned and eloquent discourses in Latin and Danish. He died at the early age of forty-seven. A logical treatise of Bagger, under the title of "De principiis perfectivs Synagogi," was printed in 4to. at Copenhagen in 1665. Moreri.

BAGGING of Hops. See Hops.

BAGHYRETTY, in Geography, a river of India, supported by major Renell, to be the true head of the Ganges, which joins the Aixamandra river, the former proceeding from the north, and the latter from the north-east, at Dairag, or the middle Gangoutra, i.e. the fall or cascade of the Gand, or Ganges, at a few miles distance below Sirigaur; and then they form the proper Ganges of Hindooflan, which after-
afterwards fishes through mount Sewalick, at Hardwar, the lower Ganges. Of those two streams Alakehunda is the largest; and at Sirmour, fented on its banks, being confined in a channel 100 yards wide, it runs with astonishing rapidity, and is crost by means of rope bridges of singular contrivance. This river has its source in the snowy mountains of Tribet; and it is probably the same river which Du Halde mentions under the name of Manchou. The Baghyretty river has its source far more remote; but the direction of its course above the upper Ganges is unknown. According to the information of Mr. Dabul, the Baghyretty river separates, at a considerable distance below the Cow's mouth, into two branches; the smallest of which is said to be the Alakehunda. But this depends upon a vague report of travellers, which, lays major Rennell, cannot be depended upon. Rennell's Memoir, p. 371.

BAGIA, in Ancient Geography, a promontory of Carmania, near which was a rock consecrated to the Sun. Ptolemy.

BAGIA, in Geography, a town of Persia, in the province of Farshitan. 120 miles north-east of Shiras.

BAGIENNA, in Ancient Geography, a town of Asia, in Armenia Major. Ptolemy.

BAGIEU, Jacques, in Biography, surgeon to a regiment of cavalry, in the middle of the last century, and author of several valuable works on chirurgical subjects, particularly on the method of treating gun-shot wounds. He opposes the frequent amputation of limbs, so common in France, and reduces the cafes, rendering that operation necessary, to a very small number. He defends experience, as more valuable than theory; no course of reading, or study, being competent to supply the place of practice, the light or knowledge obtained from which is often incommunicable. He commends Amb. Parey's practice in gun-shot wounds, of first using emollient applications, and then making large openings for discharging the confined matter. He does not admit the efficacy of the Peruvian bark in checking the progres of gangrene, which he thinks has its boundaries affixed by nature. He is suppos'd, by Portal, to be the author of "Lettre de M. Chirurgien de Province, a M. Chirurgien de Paris," 8vo. 1730.—Alfo, "Deux Lettres d'un Chirurgien de l'Armee, l'une fur plufieurs chapitres du tr. de la gangrene de M. Queffin, l'autre fur le tr. des armes a feu, de M. Defportes," Paris, 1750, 12mo. "Nouvelle Lettre de M. Bagieu, &c." 1751, 12mo. "Examen du Plufieurs parties de la Chirurgie, &c." 2 vol. 1756. Haller Bib. Chirurg.

BAGISARA, in Ancient Geography, a port of Carmania. Arrian.

BAGISTANA, a town of Asia, in Upper Media, at the foot of the mountains in which are the sources of the river Gyndes; south-west of Ecbatana.

BAGISTANUS, a mountain of Asia, between Babylonia and Media, consecrated to Jupiter. Diód. Sicul.

BAGITAN, in Geography, a town of Persia, in the province of Segellana, 110 miles north of Zorang.

BAGIURA, a town of Egypt, twenty-five miles south of Glege.

BAGLAECUTE, in Ornithology, the name of Gmelin's cousinus philippina, var. B, in Buffon's history of birds.

BAGLANA, or BLAGANEH, in Geography, a province of the Mogul empire, in the peninsula of India, encompassed by Guzerat, Dowlatabad, and Caufeld. It is included within a ridge of the Gats, and is exceedingly mountainous, but contains also many fertile and pleasant tracts. Few countries possess greater advantages, with regard to natural strength; and these are augmented by no fewer than nine strong fortresses, seated on the summits of rocks, of which Salheir and Muhir are accounted impregnable. According to Abdul Hummed, Baglana extended from the sea-coast near Surat, which was its western boundary, to the borders of Dowlatabad (or Aurungabad) eastward; being in length 100 common coffes, and in breadth, from Naderbar and Suttapour on the north, to Nussuck Trimbuick on the south, 70 coffes. Shahnavaz, though he agrees with Abdul Hummed, with respect to the length, allows about 30 for the breadth; and major Rennell says, that it certainly is not 70 coffes, and yet much more than 30, in distance between the alligned limits on the north and south. It has owed its independence, not merely to its natural strength, but to the aid of its rajahs, who courted the princes of the kingdoms of Guzerat, Dowlatabad, and Candesh, by which it was surrounded. Whenever the conquest of it was attempted by any one of these princes, the other two armed in its defence. When the surrounding kingdoms successively fell under the Mogul power, the rajah, for the first time, acknowledged a superior, and visited the court of Achar. But even then the Moguls contented themselves merely with a tribute, until the rapid progress of Aureng-Zeb's conquests and power in the Deccan. Its revenue, previously to the Mogul conquest, was about 80,000l. Rennell's Mem. p. 270.

BAGLIONE, Costanza, in Biography, a most pleasing finger, and excellent actress, in the commedia at Milan, in 1770, at the head of a Bolognese musical family, of which six sisters were all actresses, doubling the number of our Abrames', but not the merit. Three of these sisters went afterwards to Paris, "who pleased there so much (says M. La Borde), as to make us wish to hear the rest." Eliafue la Musique.

BAGLIVI, George, born, Haller says, in Ragusa, a city in Dalmatin, in the year 1668, applied himself early to the study of medicine. After attending the lectures of the professors at Naples and at Padua, at which latter place he graduated, to improve himself further, he travelled over Italy, and settling at length at Rome, viz. in 1692, was advanced to the chair of professor of the theory of medicine and of anatomy, by pope Innocent XII. to whom he dedicated his first work, " De Praxi Medica, ad prificentiam observanda" lib. i. printed in 1696, 8vo.

In this work the author laments the degraded state of medicine in his time, which he attributes to the neglect of observation and experiment, and of the study of the writings of the ancient Greek physicians, particularly of Hippocrates, joined to an inordinate passion for speculative reasoning. He acknowledges, however, the improvements that had been made in anatomy and phylology, and that the theory of the moderns, founded on these improvements, far excelled the hypothetical reasoning of the ancients; and thence conjectures, that when we shall sedulously bend our minds to practical observations, we shall as far excels the ancients in our knowledge of the true method of treating diseases, as we then excelled them in theory.

Examining the question, whether theory or practice conduces most to a knowledge of the method of curing diseases, he determines in favour of practice, but recommends both; "Quaeque curarum," he says (Opera omnia, 4to. p. 127.), "de medicina meditatus quae, pro veris non habetas, nullius ad hygiam praxeis sapientem revocaverit; quae si repetita experimenta nuberis veris, pro veris semen habeat. De bono, aut malo viso, judicaret non poterit, nihil sibi peritum; perfectus medicus non curat, nil cecinert; nec miles flamineus, nil bella gefeller." Bogli is accused of plagiarism, and of
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But
we (hall be difpofed to moderate our cenfure of Daglivi,
when we find our countryman Dr. Mead (who, though born
about the fame time, lived nearly fifty years after him) at\

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feems to think it not improbable that Pythagoras firft
introduced this mode of practii e, in curing the effects of the
bite of tin tarantula.
See his Medical Works, tn>. p.
&c. The fame year, \i/.. [696, Baglivi pubhllud his differtation " De Anatome, morfu, et effectibus Tarantula:;" then
followed his treatife " De Fibra motrice et m rbofa."
In
this work is contained the author':, theory, borrowed from
Pachioni (to whom, however, he fays, Op. Oin. p. 25S, he
communicated his lucubrations), of the origin of the motion
ofthefolids; which he attributes, cap. iv. to a confent beIn
tween the heart and the dura mater.
704 he publilhed
at Rome " De Medicina folidorum ad rectum (tatices ufum
Canon es ;" and in 1705, " 1 >e progreffione Terra motus."

Mead

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Thefe, with various other difTcrtations, have been collected
and published under the title of " Opera Omnia," which
has pulled through numerous editions; and though his
theory has long fince given place to others, in their turn to
yield to theories perhaps equally fallible, the work will aldeferve the attention of the medical {Indents, for the

numerous and valuable observations with which
Batflivi died in

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abounds.

the year 1707, aged only 38 years.

Haller.

Anatom.
Geography, a town of

Mcd.Prad. and

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BAGNA,

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A I'll, a town of Eun pean Turkey, in the
province ot Macedonia, on the river Vardar, forty-four miles
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N.N.E. of Akrida.

BAGNIALACK,

a town of European Turkey,
N.lat.44
E.long. 18 10'.

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BAGNOLENSES,

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the Old Teftamcnt, and part of the New; held the world to
be eternal; and affirmed, that God did not create the foul
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name from Bagnols,

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chit fly found.

BAGNOLS, in Geography, a town of France, in the department of the Gard, a,,d chief place of a canton in the
diftrict of Pont St. Elprit, two leagues fouth of Pont
St Efprit.

Bacnols, les B.tins, a town of France, in the department
of the Lozerre, and chief place of a canton in the diftrict of
Mende, eight miles eaft of Mende.
a town of Italy, in the kingdom of
Naples, and Principato Ultra, twelve miles weft of Conza.
BAGOI, among the Ancient Perfiav.s, were the fame
with thofe called by the Latins, jpadones, viz. a fpecies of eunuchs, in whom the canal of the penis \va. fo
contorted by a tight vinculum, that they could not emit
the femen.

BAGNUOLO.

BAGORODITZ,
dillriets

in Geography, one of the twelve
of the government of Tula, in Ruftia, feated on

BAGNACAVALLO,

the river Upa.

BAGNAGAR.
BAGNALET,

in Ancient Geography, a name given to a
ridge of mountains which were part of mount Imaus, towards
the fource of the river Indus.
a mufical inftrument of the wind kind,
chiefly ufed in country places, efpecially in the North
It
conlifts of two principal parts; the firft a leathern baa-,

a town of Italy, in the {late of
the church, and duchy of Ferrara, on the river Seno, forty
miles well of Ravenna.
See Hyd^abab.
a town of France, one league eaft of
Paris.

BAGNA

R A, a fea-port town of Italy, in the kingdom
of Naples, and province of Calabria Ultra, deftroved by an
earthquake in the year 1783 fourteen mdes well ot Oppido.
N.lat. 38° 15'. E.long. i6°8'.
BAGNAREIA, a town of Italy, in the {late of the
church, and province of Patriinonio, with a bifliop's fee;
fix miles fouth of Orvieto.
N. lat. 42° 36'. E.long. 12
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BAGOUS,

BAGPIPE,

which

is

blown up

by means of a port
and ftopped by a valve.

like a foot-ball,

vent, or little tube, fitted to

it,

The

Bagneres en Bigore, a town of France, and principal
place of a diftrict in the department of the Higher Pyrenees,
feated on the Adour ; celebrated for its baths, which are
much frequented in fpring and autumn, a fmall but neat
town; ten miles fouth of Tarbes. N. lat. 43 3'. E.long.

other part confifts of three pipes or flutes; the firft,
and the fecond, the little one,
which pafles the wind only out at the bottom the third has
a reed, and is played on by compreffing the bag under the
arm when full, and opening or (lopping the holes, which are
eight, with the fingers.
The iittle pipe is ordinarily a
foot long, that played on thirteen inches, and the port
vent fix.
The bagpipe takes in the compafs of three octaves.
This inftrument was not unknown to the ancients. It
was called by the Greeks as-Koo/Xo; ; by the Romans tibia
utricularis.
The Italians call it piv a, cornumnfa ; the French
In the firft edition of the French
mufette and chalumeau.
Encvcloptdie, there is a minute and elaborate defcription of
the inllrument, its conftruction, fcale, &c.
By the ornaments mentioned, it muft have been admitted into good

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company.

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BAGNERES

De Lnchon, a town of France, in the
department of the Upper Garonne, and chief place of a
canton in the diftrict of St. Gaudens, near the fource of
the river Garonne, at the foot of the Pyrenees, poflefiing
fomc medicinal fprings ; feven leagues fouth of St. Gaudens.

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BAGNEUX,
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a town of France, i| league

S.S.W. of

called the great pipe, or drone

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Pan ; others

by fome from Tubal; others
Mar-

to Mercury, to Faunus, to

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fias, and to the young Sicilian shepherd Daphnis, who first composed pastoral poems.

An anonymous French author has published a treatise of the bagpipe, "Traité de la Mufette," with a new method of learning to play on it without a master. Fol Par. 1672.

Bagpipe the Mizen, in Sea Language, is to lay it aback, by bringing the sheath to the mizen-tillers. BAGRADA, or BAGADA, now Mijera, in Ancient Geography, a river of Africa Propria, the source of which Ptolemy fixes in mount Mampharus, erroneously representing its course to have been from north to south; whereas it flows in a direction from west to east. It is equal, says Dr. Shaw (Travels, p. 77.), to the Isis united with the Cherwell, and continues winding, through its whole course, along a rich and fertile country, with the soil of which it becomes so well saturated, that it is of the fame colour with the Nile, and has the fame property of making encroachments on the sea. To this circumstance may be ascribed the many changes which appear to have been made at one time or other in the channel of it; and to this also it is owing that an open creek of the sea, into which the Mejirda about a century ago discharged itself, is now circumcircled by the mud, and become a large navigable pond, the anti-harbour, as Dr. Shaw calls it, to port Farina. The situation of Utica and of Cartaghis, with respect to this river, are materially altered. (See Cartagine, and Utica.) Bochart (I. i. c. 24.) deduces the name Bagrada, from ἐν θάλασσα, a pond, agreeably to the description of Silius Italicus, l.v. i. 127. -

"Turbidis arenentis lento pede sulcat harenas
Bagrada, nonullo Libycis in finibus amne
Victus limosus extendere latius undas,
Et fla-gante vado patulos involvere campos."

BAGRADAS, a river which flowed on the confines of Peria and Carmania, and discharged itself into the Perian gulf. Ptolemy.

BAGRE, in Ichthyology, a species of Silurus that inhabits South America. The posterior dorsal fin is fat or fleshy; first ray of the dorsal and pectoral fin fetaeous; beards four. Gmel.

BAG-REEF, in Sea Language, denotes a fourth or lower reef of sail, sometimes used in the royal navy.

BAGSZEILAR, in Geography, a town of European Turkey, in the province of Baghria, 20 miles north of Ternova.

BAGUETTE, in Architecture, a little round moulding, less than an astragal; sometimes carved and enriched with foliages, pearls, ribbands, laurels, &c. According to M. J. C. Clerc, when the baguette is enriched with ornaments, it changes its name, and is called chaplet; and unornamented, it is a fous.

BAHAMA ISLANDS, in Geography, a name commonly applied by the English geographers to that cluster of small islands, reefs, and rocks of sand, which stretch in a north-westly direction for the space of near 300 leagues from the northern coast of Hispaniola to the Bahama island, opposite to the Florida shore; or from about 20° to 28° N. lat. and from about 70° to 85° W. long. This whole group is called by the Spaniards Lucayos. The island of Bahama, which gives name to the reef, N. lat. 26° 43'. W. long. 78° 35', is about 25 leagues distant from the continent of Florida; it is about 50 miles long, and scarcely any where 16 broad. The number of these islands is said to be about 50; of which, however, some are merely rocks. Though their number is considerable, and some of them are of a large size, our knowledge of them is very imperfect. They were first discovered by Columbus, A.D. 1492; and the first land he discovered was that of Guanahani, on which he landed to return thanks for his successes, and to erect a cross; and he denominated the island San Salvador, taking poiffeion of it in the name of his Catholic majesty. This island, in the vicinity of Providence island, is known to the English navigators by the name of Cat island. Columbus, however, made no settlement in these islands. About the year 1639, it is said (see Anderson's Comm. vol. ii. p. 37.), the English began to plant on the island of Providence, which till then was uninhabited; and after the conclusion of peace with Spain, King Charles 1. renewed his grant of this and the other Bahama islands. In the year 1666, captain Sayle, an Englishman, was forced in his passage to Carolina, by fires of weather, to land upon one of these islands; and, upon his return to England, he made so favourable a report of them, that six of the proprietaries of Carolina solicited, and obtained a grant of them. Captain Sayle, in a second visit to the island of Providence, which was one of them, discovered the advantage which England might derive from it; and he made the government of England so sensible of it, that about the year 1672 they sent thither a governor and a colony. But the settlement was disturbed by Spanish pirates; and the island of Providence, and the other Bahamas, were abandoned. The chief town of Providence, called Nassau, consisted at this time of 150 houses. The island afterwards became a nest of pirates, who interrupted the American navigation; and on this account, an order was given by his majesty king George 1. on the conclusion of a peace with Spain, in 1721, to fortify and settle the island, and to dislodge these outlaws. The English in the Bahama islands have been computed at three or four thousand; half being settled in Providence, where is the fort called Nassau; and a small harbour. But the natural barenness of the soil, and the narrow length of these islands, which exposes them to the heat and to the winds, account for their comparative insignificance in this grand commercial archipelago. Of their present state, little satisfactory information has been obtained even by the lords of the committee of council for the affairs of trade and plantations. To the inquiries of their lordships in 1789, as to the extent of territory in these islands, the quantity of land in cultivation, the number of white inhabitants, productions, and exports, &c., the only answer that could be obtained from the governor was this, that it was at that time impossible to ascertain any of those particulars. It appears, however, from the testimony of other persons, that these islands in general are rocky and barren; that the only article cultivated for exportation is cotton, of which the medium export is 1500 bags of two hundred weight; that the inhabitants, who in 1773 consisted of 2052 whites and 2241 blacks, have been of late years considerably augmented by emigrants from North America; but of their present number no precise account is given. Edward's Hist. of the West Indies, vol. i. p. 470.

BAHAMA SWORDS, called the gulf of Florida, the narrow sea between the coast of America and the Bahama islands, about 43 leagues long, and 16 broad.

BAHAMA BANK, Great, a bank of sand extending from near the island of Cuba, N. lat. 20° 20', to the Bahama islands, N. lat. 26° 15'. The fund which lies to the north of the island Bahama is called Little Bahama Bank.

BAHAR, or BAR, in Commerce, a weight used at Ter- nate, Moja, in the Moluccas, Achem, and divers other parts of the East Indies. There are two kinds, the great, with which spice is weighed, equal to 524 lb. 9 oz. avoids- dupas. The little bahar served for the weighing quickfoil-
ver, vermillion, ivory, silk, musk, and other precious wares, equal to 437 lb. 9 oz. avoidance of weight.

BAHAR, in Geography, one of the eleven soubans, or provinces, into which Achar divided Hindoostan proper; bounded on the south by Bengal, on the north by Napat and Boontan, on the south by Orissa, and on the west by Oude, Benares, and Allahabad. It has been estimated at 250 miles from north to south, and at 200 miles from west to east. It produces wheat, rice, peas, &c.; but the principal article of export is saltpetre; most of that which is imported by the East India company being manufactured in this province. The capital is Patna. Mr. Fraier, in his "Life of Nadir Shah," rates the revenues of this province, under Aurung-Zebe, at 101½ lakhs of rupees. The greatest part of Bahar is populated by the British nation; but there are several pargunnahs, or hundreds, on the south-west of Little Nąpour, that were formerly chaffed as belonging to Bahar, which are now in the possession of the Maharrats.

BAHAR, a town of Hindoostan, in the province of the same name; remarkable for its number of funeral monuments; 50 miles south-east of Patna, and 240 north-west of Calcutta. N. lat. 25° 14'. E. long. 85° 45'.

BAHAR, or Burea, a town of Persia, in the province of Kerman; 40 miles south-east of Sirgian.

BAHARITES, derived from the Arabian lobar, or fat, and denoting maritaine, in History, the denomination of a class of perfons in Egypt, who having affaflinated Tourn Chah, the last of the family of the Aioibetes, reigned over Egypt and Syria for 156 years, and had 27 kings. The Baharites were of Turkish origin. Nejm Edin purchased them of the Syrian merchants. They were dethroned in their turn by the Mamalukes or Cescadian flaves, in the year 724 of the Hegira, A.D. 1322 who formed a new dynasty which kept possession of Egypt until the conquest of Selm, emperor of the Ottomans, in the year 923 of the Hegira, A.D. 1517.

BAHARNAGASH, a country of Abyssinia, adjoining to the province of Tigris, and situate between the river Alatuspes and the Arabian gulf. Its capital is Dobawra, in N. lat. 15° 22'. E. long. 39°.

BAHAS, in Geography, a town of Arabia, sixteen miles N.N.W. of Lohein.

BAHBELGON, a town of Hindoostan, in the country of Baghiana; 65 miles west of Aurungabad. N. lat. 20° 45'. E. long. 74° 51' 30'.

BAHI, a province of the island of Luçon or Manilla, one of the Philippine islands. It produces excellent betel, which the Spaniards are continually chewing; and it is the place where most of the ships are built. The province is about 30 leagues in circuit, and contains about 6000 tribu-
tary natives.

BAHIA, DE TODOS LOS SANTOS, a province of Brazil, in South America, and the richest in the whole country; but the air and climate do not correspond with other natural advantages. The province is fertile in sugar and other articles of commerce, that the Portuguese re-
port in great numbers to it, as the seat of affluence, and alfo of pleafure and grandeur. The capital called St. Salvador, or Ciudad de Backia, is populous and magnificent, and by far the moit gay and opulent city in Brazil. It stands in a bay in S lat. 12° 11'; it is naturally strong, and is also well fortified and defended by a numerous garrison. See St. SAINTS, and ST. SALVADOR.

BAHIR, in Literary History, denotes famous and illustrious, and is particularly used for a book of the Jews, treating of the profound mysteries of the cabbala; being the moit ancient of the Rabbinical works.

BAHIRA, or RIT, in Geography, the northern district of Egypt, extending from the division of the Nile to the eait and west branches, on both sides to the Mediterranean. The principal towns are: Alexandria, Nitetta, Damietta, Menoufi, Manfouira, Tighe, Catisch, and Duphar.

BAHIRA, among the Ancient Arabs, a name given to one of the four kinds of camels or sheep, which, for some rea-
sons of their religion, were turned out at liberty with an ear-
mark, no longer to be used for service like other cattle. The bahira, with the fohri, weftri, and bami, were abo-
ilished by Mahomet as no ordinance of God.

Authors are not agreed as to the characters of the ba-
hira.

BAHRAITCH, in Geography, a town of Hindoostan, in the province of Oude, 55 miles N.N.E. of Lucknow. N. lat. 27° 30'. E. long. 81° 57'.

BAHRT, CHARLES FRÉDÉRIC, in Biography, a theo-
logical and spirituul writer, was born at Bischofswerd, Aug. 25th, 1741. Having commenced his education, with-
out much improvement, under private tuition at Leipfe, where his father lived, he was removed to a public school, and afterwards to the grammar school at Pfort. From hence he returned to Leipfe, where after receiving some private instruction in the Greek and Latin from Ernesti, he was entered in the university, and quitting it after two years, he commenced preacher in the vicinity of Leipfe. In 1761, he was admitted to the degree of master of arts, and some years after he was appointed extraordinary pro-
feffor of sacred philosophy. In 1763, he published a work, intitled, "The true Christian in Solitudo!" and also his "Commentary on Malachi," in which he endeavoured to display his talents in biblical criticism, and his knowledge of oriental literature. An intrigue, which rendered him a father, defeated all his expectations at Leipfe, and obliged him to retire to Halle; and he was appointed profeffor of biblical antiquities at Erfurt. Having no falary, but sup-
pelled with money by his father, he found his situation agree-
able; however he introduced some remarks of a theological kind, which were not thought orthodox; and complaints were preferred against him by Schmidt and Vogel, two clergymen of that city. In order the more successfully to repel the accusatiou of his antagonists, he purchased the de-
gree of doctor in theology from the university of Erlangen, which gave him a right to read public lectures in divinity; and in 1769, he published in his defence the first part of his "Essay towards a System of the Doctrines contained in the Bible." About this period he also published "The earneit Wifhes of a dumb Patriot," in which he attacked the weakest proofs of the fundamental truths of the theolo-
gical systen, and endeavoured to raise refuptions againift profeffor Schmidt of being a Jefuitical fectarian. His con-
duct in this respect was reprobated by the faculty of divines at Wittenberg, and those of Gottingen recommended re-
conciliation. In 1770, Bahrdt published at Erfurth his "System of Moral Theology," which was favourably re-
ceived, and he embarked, from a defire of fame and love of money, in some other projects and undertakings. The approbation generally bestowed on his critical performances induced him to undertake an edition of the Old Testament similar to that announced by Dr. Kennicott; but neither his knowledge nor situation promised success, and his inten-
tions were never fulfilled. He afterwards thought of improving his finances by marriage, and espoused a young widow of Mulhausen with a fortune of 6000 dollars. In 1771, he entered on the office of fourth profeffor of philo-
osophy at Gieffen in Hesse; and here, in the space of four years, he published two "Collections of Sermons," a "Book of
of Homilies," his "Apparatus Criticus Veteris Testamenti," a General Theological Repository," "Outlines of an Ecclesiastical History of the New Testament," "Proposals for explaining the Doctrines of the Church," "A Critical Examination of Michaelis's Translation of the Bible," and "The purest Revelation of God," i.e. a translation of the New Testament with notes. The heterodoxy of his opinions raised a violent storm against him at Gießen; but he escaped it by a removal to the office of director of the philanthropium of Von Salis at Marlichinz, in Switzerland, with a salary of 2000 florins. He soon however changed his situation, and in 1776 removed to Durkheim, and established a seminary of education at Heidelberg. His philanthropium was opened in 1777, and for some time it prospered; but he involved himself in debt, and being under the necessity of removing, he determined to visit Holland and England for the purpose of procuring pupils in those countries. On his return to Heidelberg with 13 pupils, he was informed that he had been suspended from all his employments by a conclusion of the imperial council. Bahrdt had now no other resource but that of quitting the empire, and seeking refuge in Prussia. Accordingly in 1779, he retired with his family to Halle; and had again recourse to his pen. Here he published extracts from the sacred scriptures, under the title of "The Bible in Miniature," which was printed in 1780; and he delivered private lectures on philosophy, humanity, and rhetoric; and he also read lectures on Tacitus and Juvenal. Upon his first arrival at Halle, he acknowledges, in his life, that there were some latent sparks of religion in his mind; but that they were soon totally extinguished by his intercourse with deists. In the works, therefore, which he now published, he endeavoured to teach the doctrine and history of Christianity separate from everything supernatural, accommodated to reason, and agreeable to his own ideas of its original simplicity. But his health declining, he was under the necessity of altering his mode of life, and he purchased a vineyard with a small farm attached to it in the neighbourhood of Halle. Part of his manor was fitted up as a tavern and coffee house; and in this situation Bahrdt acquitted himself as a landlord and a pleasant companion. But his affection and confidence being directed towards a maid servant who managed his house, he obliged his wife, by the most cruel treatment, to leave him; and when the afterwards returned to him, she became a victim to still greater barbarities. Bahrdt, whilst he was in England, had been initiated in masonry; and in the year 1781, upon the perusal of Stack's book on the mysteries, he adopted the notion that Jesus Christ must have intended, by establishing a secret society, to preserve and diffuse among mankind truth almost banished from the world by priests. This idea he propagated in his "Accomplishment of the Plan and Object of Jesus," and in the third edition of his "Translation of the New Testament." In the year 1784 or 1785, a society of twenty-two united maons was established in Germany, with a view of improving the arts and sciences, commerce, and above all, religion, among the common people. Bahrdt became a member of this society, and proposed that it should engrave the business of book-selling, partly with a view to gain money, and partly for obtaining the complete sovereignty of the republic of letters in Germany. This plan, however, not being approved, failed. In 1785 or 1786, he formed another project, which was that of making himself the founder of an avowed delusional sect in Prussia; but it does not appear that he ever seriously attempted it. In 1787, he exerted himself with zeal in supporting the union, and affiliated the members; but after a second meeting, he received notice to discontinue these assemblies. But his own activity was unintermitting, and he continued to propagate his ideas by an epistolary correspondence during the whole of the year 1788. He also published several works calculated to promote his views, and bringing to the union, such as "Observations on the Liberty of the Press and its Boundaries," and "Za Moor, or the Man of the Moon," in which he delineates free-masonry in Germany, as corrupted by the wildest fanaticism and the darts of popery. There also appeared about this time a comedy, called "The Edict of Religion," universally ascribed to him, on account of which he was arrested, and confined at Halle; and during his imprisonment, he wrote "Morality for the People," which has been reprinted as the best finished and most valuable of his works, though he completed it in the course of three weeks. Upon his trial, he was acquitted with regard to the charge that related to the union, but declared guilty of having written the comedy, and sentenced to two years imprisonment in the fortress of Magdeburg, which term was mitigated by the king to half that period. During his confinement, his letters were employed in writing the "History of his own Life," which he dedicated to his vineyard, and renewed his barbarities towards his wife, who abandoned him, and left him at liberty to take home his maid-servant and her children. Here he continued his former life as landlord and writer. Being attacked by a disorder in his throat, he recurred to the too liberal use of mercury, and a fever ensuing, he expired on the 23d of April 1792. His works on morality and religion, besides those already mentioned, were very numerous. His factual pieces, being of a temporary nature, have sunk into merited oblivion. The genius of Bahrdt was comprehensive and versatile; but his principles and his conduct were licentious; and his history exhibits the perversion of talents, which properly employed and accompanied with integrity, might have rendered him respectable and useful. Gen. Biog. BAHREIN, BAHREIN, or BAHREN, a fortified town of Arabia, situated on an island of the same name, called also AXA; which fea. The name is extended to a group of small islands adjacent to one another, the largest of which is Bahrein. Bahrein once belonged to the Portuguese. When they were driven out of the Persian gulf, it fell into the hands of the sheik of Lachfa; but was taken from him by the Persians. The imam of Oman then made himself master of it; but gave it up again to the Persian monarch for a sum of money. It afterwards changed its owners; but in 1765 it reverted into the possession of the sheik of Abu Scheib, and he was then sole monarch of the island. It is famous for its pearl fisheries. (See Pearl.) N. lat. 27°. E. long. 49°. BAHREIN is an appellation sometimes given to the province of Lachfa; which fea. BAHR EL ABIAD, or the White River, a name given to the real Nile, near its first source; the fountains of which in the African Alps of Kuni remain to be explored. BAHR EL AZZEK, BLUE RIVER, or AYEZJIAN Nile, has its chief spring in a small hill, situated in a marsh, and joins the Bahr el Abiad, or true Nile, about N. lat. 16°; the latter is tinged, the former is clear. The Bahr el Azrek was mistaken for the real Nile, by the Portuguese writers, Alvarex, Tilka, &c. probably misled by the vain glory of the Abyssinians; though it was well known to the ancients as quite a distinct river, being the Allipus flowing into the Nile from the Color Palus, now the lake of Demebe. Mr. Bruce has adopted the same mistake; and it is said, that when M. d'Anville shewed him this mistake, he resolved to expunge the White River from his map, though
BAI

though he acknowledges in his work that it is the largest stream. The Bahir el Akk is flayed Abawi by the Abyssinians. The sources of this river were accurately described in the seventeenth century by Puyis, a Portuguese missionary, whose account was published by Kircher and Isaac Volpinus; and has been long ago minutely copied by Bruce, as Hartian has been by printing the two accounts in parallel columns. Tinkerton's Mod. Geog. vol. ii. p. 275.

BAHRENBURG, in Geography, a town of Germany, in the circle of Weilphalia, and county of Hoya, on the river Shillingen, fourteen miles S.S.W. of Hoya.

BAHUS, in Geography, a river of France, which runs into the Adour, about a league above the Sever.

BAI, in Botany, a species of Phalena (Machaerium), of the middle size, that inhabits Europe. The wings are ferruginous, with a small black dot at the base, and a double one at the apex. This is produced from a variegated grey and brown cat spidral, having three doral white lines, and yellowish spots. Feeds on the dead nightshade. Grad. Fabr.

BAI, in Ancient Geography. See BAVIA.

BAIABA, in Geography, a town of Hungary, on the river Danube, 50 miles N. N. W. of Petrervas. N. lat. 46° 40'. E. long. 15° 50'.

BAIA, a sea-port town of Italy, in the kingdom of Naples, and country of Lavoris, eleven miles west of Naples. See BAI.

BAIABAD, a town of Asia, Turkey, in the province of Caramania. 28 miles south-east of Kalkoomi.

BAIAD, in Ichthyology a species of Silurus, having the posterior dorsal fin tiffly or fat; twelve rays in the anal fin; and beads of the mouth eight. Forsk. En. Arab. Inhabits the Nile; color greenish; length one foot or more.

BAJOAR, or BAGADOE, Cape, in Geography, a cape on the west coast of Africa, in the Atlantic ocean; 120 leagues distant from Cape Ger. N. lat. 26° 29'. W. long. 14° 36'. Bajador is also a cape at the north-western extremity of the island of Luzon, one of the Philippine islands.

BALE, in Ancient Geography, now BAYA, an ancient village of Campania, in Italy, situate between the promontory of Misenum and Putoeli, on the Sinus Baiaeus; famous for its hot baths, which served the Romans for the purposes both of medicine and pleasure. The hot springs and medicinal vapours that abounded in the environs of this place must, at a very early period, have excited the admiration of valetudinarians, as bathing was the common amusement and refreshment of the Greeks while in health, and their remedy when diseased; but Baiae does not seem to have attained a degree of celebrity superior to that of other baths, till the Roman commonwealth began to decline. As soon as the plunder of a conquered world was transferred from works of public use and ornament to objects of private luxury, the transcendental advantages which Baiae offered to Roman voluptuaries, flying from the capital in search of health and pleasure, became an object of peculiar attention. The variety of its natural baths, the softness of its climate, and the beauties of its landscape, captivated the minds of those whose passion for bathing knew no bounds. The abductions which they might wish to practice at Rome required an enormous expense in aquaeus, stoves, and attendants; but here they found a place, most delightfully seated, where waters naturally heated to any degree of necieality warmed bubbled spontaneously out of the ground; and its easy communication with Rome was also a circumstance that recommended it. Hither the mighty rulers of the empire retired at first for a temporary relaxation, after the fatigue of bloody campaigns and civil contests. Their habitations were small and modest; but increasing luxury soon added palace to palace, with such expedition and frugality, that space was wanting for the vast demand. Accordingly architects, supported by boundless wealth, extended their foundations into the sea, and drove that element back from its ancient limits, as Horace expresses it:

"Marique Baiae obhrepentis urges
Summum per litera."

But the sea has since recovered much more than it lost. From being a place of resort for a feaon, Baiae grew up to a permanent city; and its wealthy inhabitants rendered it as much a miracle of art as it was before of nature. Its splendour may be inferred from its innumerable ruins, heaps of marble, mosaics, statues, and other precious fragments of life. It flourished in full glory to the days of Theodic the Goth; but the destruction of these enchanted palaces soon followed the incursion of the northern conquerors, who overturned the Roman systen, sacked and burnt all before them, and destroyed or dispersed the whole race of nobility. No hoaror had opulence withdrawn its support, than the unbridled sea rushed back upon its old domain; moles and batteries were torn abacer and washed away; whole promontories, with the sacred towers that once covered their brows, were undermined and tumbled headlong into the deep, where, many feet below the surface, pavements of stones, fountains of nudes, and mazes of walls, may be discovered. Internal commotions of the earth contributed also in a great degree to this general devastation. Mephitic vapours and stagnated waters have converted this favourite seat of health into the den of pestilence, at least during the summer heats; and yet Baiae in its ruined state, and stripped of its ornaments, still presents many beautiful and striking subjects for the pencil of the artist. N. lat. 41° 6'. E. long. 14° 45'. Swinb. Trav. vol. iii. p. 42, &c.

BAIANA, in Conchology, a species of Venus found on the shores of Brazil. The colour is ochraceous, varied with black; and the shell is specifically distinguished by being fragile, glabrous, and marked transversely with a few transverse lines. Figured by Bonnet.

BAIANUS SINUS, in Ancient Geography, a bay of Italy in the kingdom of Naples, so called from Baiae, Portus Baiaeus of Pliny, which was enlarged by Augustus, by giving entrance to the sea into the Lacus Lucrinus, and Avern, ordering it to be called Portus Jaicus and Scutium (Scutum). We also read in Tacitus of Baianus Lucrinus, which some have interpreted Lucrinus. This gulf is denominated Grater by Strabo; and he places it between the cape of Minerva and that of Misenum. The modern name is Golfo di Pzezuzzo. From the highest point that forms the bay, a large castle commands the road, where foreign ships of war usually ride at anchor, the harbour of Naples not being sufficiently spacious for the reception of a fleet; here they enjoy good shelter, watering, and victualing; but in summer, risk the health of their crews, on account of the unwholesomeness of the air. At the bottom of the bay, and at the foot of the steep rocks which serve as a foundation to the ruins called "Nero's house," are some dark caves of great depth, leading to the bottom of all vapour baths. These baths are thirty in number; and they are said to have been adorned with Greek inscriptions and statues denoting, by their expressions and attitudes, what particular part of the human frame was affected and relieved from its pains by each particular bath. The springs at the bottom of the grotto are fitted so as to boil an egg hard almost instantaneously. These caverns form to be the spot where Nature has opened the readiest access.
access to the focus of a volcano, which has been within the two last centuries most outrageous in its operations; for to them must be attributed the overturning of the adjacent country, and the total alteration of its surface by the birth of Monte Nuovo, which now blocks up the valley of Averno. Swinh. Trav. vol. iii. p. 48.

BAJAZET I., in Biography, sultan of the Turks, was the son and successor of Amurat I., and denominated "Ildefon," or lightning, on account of the fiery energy of his soul, and the rapidity of his destructive march. He succeeded Amurat in the year 1389, being then about 44 years of age; and having secured his authority at home by the execution of his younger brother, who attempted to excite a revolt against him, he prosecuted the ambitious designs of his father. During the fourteen years of his reign, henobly moved, at the head of his armies, from Boursa to Adrianople, from the Danube to the Euphrates; and though sternly laboured for the propagation of the law, he invaded, with impartial ambition, the Christian and Mahometan princes of Europe and Asia. Having reduced to his obedience the northern regions of Anatolia, made himself master of Caramania, and imposed a regular form of servitude on the Servians and Bulgarians, he passed the Danube to seek new enemies and new subjects in the heart of Moldavia. Whatever yet adhered to the Greek empire in Thrace, Macedonia, and Theffaly, acknowledged a Turk as master, and he was led through the gates of Thessaly, Thessaly, into Greece by an obsequious bishop. The Turkish communication between Europe and Asia had been dangerous and doubtful, till he stationed at Gallipoli a fleet of galleys to command the Hellespont, and intercept the Latin succors of Confiantinople. While the monarch indulged his passions in a boundless range of injustice and cruelty, he imposed on his soldiers the most rigid laws of modesty and abstinence; and the harvest was peaceably reaped and fold within the precincts of his camp. Having obtained the title of sultan from the caliphs who served in Egypt under the yoke of the Malamukers, he was ambitious of defying this title; and accordingly he turned his arms against the kingdom of Hungary, the principal theatre of the Turkish victories and defeats. At Nicopolis, near the Danube, he defeated, in 1396, a confederate army of an hundred thousand Christianis, headed by Sigifindum, the Hungarian king; most of whom were slain or driven into the Danube: and Sigifindum, escaping to Confiantinople by the river and Black Sea, returned after a long circuit to his exhausted kingdom. Among the captives was a body of French crusaders, and in this number were John count of Nevers, the son of the duke of Burgundy, and some of the noblest lords in France. In the pride of victory, Bajazet threatened that he would befeige Buda, that he would subdue the adjacent countries of Germany and Italy, and that he would feed his horse with a bullock of oats on the altar of St. Peter at Rome. Whilst the military talents of Bajazet, manifested on this occasion by the speed and fecrecy of his march, and also by the order and evolutions of the battle, have been acknowledged even by his enemies, he has justly been accused of cruelty in the use of victory. The French captives, who survived the slaughter of the day (the count of Nevers and twenty-four lords excepted, who were afterwards raniomed for two hundred thousand ducats) were led before his throne; and as they refused to abjure their faith, they were successively beheaded in his presence. So absolute was his authority, that his word, pronounced either by way of mercy or destruction, was irre- vocable. In the treaty, after the battle of Nicopolis, it was stipulated, that the French captives should swear never to bear arms against the person of their conqueror; but this inhuman restraint was abolished by Bajazet himself.

"I deplore," said he to the heir of Burgundy, "thy oaths and thy arms. Thou art young, and mayest be ambitious of effacing the disgrace or misfortune of thy first chivalry. Assail thy powers, proclaim thy design, and be assured that Bajazet will rejoice to meet thee a second time in the field of battle." The progres of Bajazet, notwithstanding his threats, was checked by a long and painful fit of the gout. Before he directed his arms against the feeble remains of the Eastern empire, he rendered the emperor, Manuel Palaeologus, tributary, and imposed upon him the humiliating condition of having a Turkish cali and a mofch in his capital. He next threatened and actually invaded Confiantinople; but he was called away by the menaces of a more formidable tyrant than himself. This was the great Timour, or Tamerlane, who, in the year 1400, began his march from Georgia towards Asia Minor. In his first expedition, Timour was satisfied with the siege and destruction of Siwas, or Schasli, a strong city on the borders of Anatolia; and with causing 4000 Armenians, who formed the garrison, to be buried alive for the brave and faithful discharge of their duty. He then turned aside to the invasion of Syria and Egypt, sacked and destroyed Aleppo and Damascus, and took possession of Damascus. To Bajazet he offered peace on moderate terms; but the sultan, confident in his strength, employed the interval in collecting all the forces of his empire, and these two potentates met on the plains that surrounded the city of Angora, in July, A.D. 1402, to a memorable conflict, which has immortalized the glory of Timour, and the shame of Bajazet. Such was the event of this fearful contest, in which two very numerous and powerful hordes were engaged, that the Turks were entirely broken with dreadful slaughter; and Bajazet, afflicted with the gout in his hands and feet, was transported from the field on the fleeteft of his horses. He was pursued and taken, and at fun-fet brought to the tent of Timour. Bajazet, by the mild expotulation of the conqueror, who, with a soothing pity for his rank and misfortune, mingled just reproaches for his pride and obstinacy, was softened into humiliation. "Had you vanquished," said Timour, "I am not ignorant of the fate which you referred for myself and my troops; but I disdain to retaliate; your life and honour are secure, and I shall express my gratitude to God by my elemnacy to man." The "iron cage," in which Bajazet is said to have been imprisoned by Tamerlane, so long and so often repeated as a moral lesson, is now rejected as a fable by the modern writers, who smile at the vulgar credulity. It has been suggested, indeed, that Timour might display an ostentation of magnificence and liberality, towards Bajazet; while, with a view to securitv, he kept his important prize in a "moveable apartment guarded with bars," and indulged his own pride in carrying him about in triumph. In the feast of victory," says Gibbon, "to which Bajazet was invited, the Mogul emperor placed a crown on his head, and a sceptre in his hand, with a solemn assurance of restoring him with an increafe of glory to the throne of his ancestors. But the effect of this promise was disappointed by the sultan's untimely death; amidst the care of the most skilful physicians, he expired of an apoplexy at Akihehr, the Antioch of Paphia, about nine months after his defeat," A.D. 1403, in the fifteenth year of his reign, and fifty-eighth of his life. "The victor dropt a tear over his grave; his body, with royal pomp, was conveyed to the mausoleum which he had erected at Boursa; and his son Moufa, after receiving a rich present of gold and jewels, of horses and arms, was invested by a patent in red ink with the kingdom of Anatolia.

The character of Bajazet was that of a despot with vio-
lent passions, but not habitually cruel; a lover of justice in
the rough summary way practised by arbitrary princes; in-
fitually ambitious, and much addicted to the erection of
pomposous edifices for use or ornamentation. Anc. Un. Hist.
28. 30.

BAJAZET II, Sultan of the Turks, succeeded his father
Mahomet II. in 1481. After being freed from the com-
petition of his brother Zizin, or Jem, he engaged, like his
predecessors, in wars, and made conquests in Moldavia and
Caramania; and he manifested the ferocity of his own di-
position by putting to death, at an entertainment in his pa-
lace, his famous general Achmet. His war with the Sultan
of Egypt terminated in the ruin of the latter power; but
at its commencement Bajazet left a great number of troops
in an invasion of Syria. He afterwards overran Circassia,
and carried many of its inhabitants into captivity. On
the expedition of the Moors from Spain, Bajazet, at the
head of the Mahometan religion, was solicited to revenge
their caufe; and he sent a fleet into the Mediterraneam,
which defeated the Chirillian navy, and ravaged the coasts.
He afterwards reduced Croatica and Bofnia. In compliance
with the request of Sforza, Duke of Milan, he declared
war against the Venetians, and invaded and plundered Fri-
uli. Marching in perfon into the Morca, he took Lepanto,
Moden, and Durazzo; but in 1503, peace took place be-
tween him and the Venetians, who had taken possession
of Cephalonia. Befides these foreign wars, Bajazet encoun-
tered many civil commotions, occasioned by the rebellion of
his fon Selim. The issue of these contests was the rejigna-
tion of the crown to his fon, upon which Bajazet, willing to live
in peace and retirement at Demotica, set out on a journey
thither, attended by a few friends. His progres was slow,
and his fon suspected that he was waiting for some favour-
able turn in his affairs; and therefore his death, after he had
proceeded to the distance of about forty miles from Con-
stantinople, was not without reason ascribed to poison admi-
nistered by a Jewifh physician. He died in 1512, at the
age of 62, after a reign of 32 years. He was active and
vigorous in body and mind, a patron of the learned, him-
self a proficient in literature, and well versed in the philo-
sophy of Averroes, and a punctual obferver of the rites of
his religion. At the fame time he had the fererenes com-
mon to the Ottoman princes, and fied blood without re-
more. He is commendable for his attention to the improve-
ment and decoration of his dominions by many edifices of

BAIBACHTA, in Geography, a town of Siberia, on the
river Irilish, 72 miles N. W. of Tara.

BAIBAZAR, a town of Asiatic Turkey, in the pro-
vince of Caramania, 48 miles west of Angora.

BAIBOU, a town of Armenia, 45 miles south of
Trebizond.

BAICH, two rivers of Siberia, which run into the
Turchnan; one 32, and the other 56 miles N.W. of Turu-
chans.

BAIDARS, the name of a kind of small canoes, used
among the natives of the Kuril islands, and of the north-
western coast of America. In Sauer's "Account of a geo-
graphical and astronomical Expedition to the northern Parts
of Russia, by Billings, in the Years 1785 to 1794," we
have the following account of their construction. The keel
is eighteen feet long, four inches thick on the top, and not
three inches deep, or somewhat less, at the bottom. Two
upper frames, one on each side, about 1½ inch square, and
sixteen feet long, join to a sharp flat board at the head, and
are about fourteen feet shorter than the flem, connected by
a thwart which keeps them about twelve inches afdver.
Two similar frames are placed near the bottom of the boat,
fix inches below the upper ones, about one inch square.
Roumd�icks, thin, and about six inches distant from each
other, are tied to these frames, and project from the fides;
and for the top thwarts are fixed very strong thicks, nearly
as thick as the upper frames, curved, as to raise the mid-
dle of the boat about two inches higher than the fides. Of
these thwarts or beams there are thirteen; one of them is
placed feven feet from the flem; another is twenty inches
nearer the head; and a hop is faftened between them, in
which the rower is faeted. This is made strong, and grooved
for faftening an open fkin, which is tied round the body, as
to prevent any water from getting into the boat, although
it were fink. The fame is covered with the fkin of the
fe-a-lion, drawn and fewed over it like a cafe. The whole is
so extremely light, even when foddon with water, that it
may be carried with fafe in one hand. The head of the boat
is double the lower part, sharp, and the upper part is flat,
refembling the open mouth of a fhip, but thus contrived to
keep the head from finking too deep in the water; and a
thick is tied from one end to the other, to prevent its entan-
gling with the fea-weeds. They are easily rowed in a fea,
moderately smooth, about ten miles in the hour, and they
keep the fea in a frefh gale of wind. The paddles which
they ufe, and which ferve for oars and rudders, are double,
feven or eight feet long, and are cut in the shape of a peal.
If the baidar runs aground, the favage eafily fets it afloat
again. These baidars are ufed in the fiftury for whales, in
the capture of fea-otters, and for other purpofes.

BAIDSCHEN, in Geography, a town of Prufia, in the
province of Lithuania, on the north fide of the Pilla, four
miles euf of Gumbinnen.

BAIER, JOHN JAMES, in Biography, born at Iena, in
Upper Saxony, in 1677, applied himself early to the study
of medicine, and was admitted to the degree of doctor there
in the year 1700. In 1704, he was made professor of phy-
ology at Altdorf; and in 1730, president of the academy
Nature Curiforum. Befides numerous dissertations on va-
tious branches of medicine, he published, "Adagiorum Me-
dercorum Centuria," Abl. 4to. 1718. "Hiftoria Horti
Medici Altdorpi," 4to. 1727. "Oratiorum Variorum Argu-
menti Fabricius," 4to. 1727. "Biographie Profefiorum
Medicin qui in Academia Altdorf usquam vixerunt," 4to.
1728. Nuremb. cum Iconibus, Nummis, et Scriptorum
Cemio. His fon Ferdinand James was in confiderable
ceefam as physician at Nuremberg, at the time of his death,

BAILEU, in Zoology, the name of CERUS MEXICANUS
or Mexican fang, in Baeocraft's Guiana, &c.

BAIF, JOHN ANTHONY, in Biography, was born at Venice,
1552, where he probably acquired and cherifhed his passion
for music. He was the natural fon of the French ambaffador
to that republic; had been a fellow student with the poet
Ronfard, and was clofly united to him by friendship and kin-
dred arts. Baif, like our Philip Sidney, wished to intro-
duce the fett and cadence of the dead languages into the
living, and with the like success. He fet his own verfes to
music; not to fuch music as might be expected from a man
of leters, or a dilettante, confiftinf of a fingle melody, but
to counterpoint, or music in different parts. Of this kind he
published, in 1561, twelve hymns, or spiritual songs; and,
in 1578, several books of fongs, all in four parts, of which
both the words and the music were his own. When men of
learning confeffed to study music à foud, profefors think
the art highly honoured by their notice; but poets are very
unwilling to return the compliment, and feldom allow a mu-

fician to mount Parmisus, or lay his foot within the precipices of their dominions. Baikaf, however, was allowed to be as good a musician as part: and what entitled him to the more notice here, is the having established an academy, or concert at his house, in the suburbs of Paris, where the performance was frequently honoured with the presence of Charles IX. Henry III. and the principal peripolages of the court.

Merlennen, in Geneva, p. 1652, has given a particular account of his establishment, the first in France of which we have met with any record. In this academy or concert, digested by a royal charter, in which voices, viols, and flutes were employed (serenis, foliaer, et folia confunatar, it was expected to recover the three genera of the Greeks, and all the miraculous powers of their ancient muse.

BAIKAL, Lake, or island, in Geography. In the steep part of the Sayan mountains (the eastern continuation of the Altay), at the extremity of the chine, where the country changes to a level plain, seeming itself only a lower mountain between the lofty snow-capped summits, lies a monument of one of the greatest revolutions that the surface of our earth has ever undergone. A lake, not less remarkable for its internal composition than for the space which it occupies, heaves its billows within the craggy cliffs of mountains, through which it is all appearance impossible that any stream can force its way to supply its enormous basin. Nature, in the remote periods of antiquity, seems here to have opened, by some tremendous convulsion, an abyss into which she might pour her enormous floods of water, and cause a part of it to flow over the watery level.

This lake extends from 52° N lat. to 55° 47', in a direction from south-west to north and north-east. Its most common appellation is Baikaf, in the maps rare Baikal; but in the surrounding regions it is generally called the Sea, without farther addition; or sometimes the Holy sea. Both these denominations are extremely natural in a country which to a vast distance round knows no larger mass of waters, and in the mouths of people who so frequently experience the benefits it bestows and the perils it threatens. It is therefore not at all surprising that Gmelin's pilot should have ascribed a sudden storm to the anger of the incensed deity of the waters, who felt himself insulted by the foreign infidel who called his venerable te a lake. Safe from the like danger, we shall however pay greater respect to geographical justice, by making use of the latter term.

The lake Baikal is 550 versts in length; and in breadth, where it is the narrowest, 36 versts. To the north it widens to between 70 and 80 versts. Its depth is very unequal; proceeding from 20 to 80 and 100 fathoms (the fathom at seven foot). In some places, particularly near the isle of Ochon, according to the affirmation of a fisherman, even a founding-line of 200 fathom would not reach the bottom. A number of brooks and rivulets pour their waters into this bason; on the map in Georgia's travels, we count fifty of them; many indeed very inconsiderable, though several others may be deemed large: for example, the Selenga and the Upper Angara, which pursues a course of more than 700 versts. The lake has only one outlet; the Lower Angara, which flows into the Yenisey. Though its bed at the part where it comes from the Baikal is two versts broad, and has a very rapid current, yet it is not by far capacious enough for carrying off all the water collected in that reservoir. Notwithstanding which, the lake never rises more than three feet above its ordinary level, even in the spring season; and therefore it probably may have some subterraneous drain. The bottom, at the shores, consists of gradually rounded rocky fragments, piled on one another; in the middle, of gravelly sand. The lake is extremely clear, so that in eight fathom water the bottom is distinctly seen; in five or six fathom the smallest objects are discernible. At a distance it appears of a greenish hue, owing to the verdant moss with which the fliny bottom is overgrown. It is pure, and very agreeable to the taste; but in the month of July it gets into a state of fermentation, which is called its flowering, whence it becomes turbid as if mixed with a fine yellowish sand, and loses its good taste. More danger is to be apprehended when keeping within three, than out upon the main; for the Baikal is extremely subject to violent gales and storms, which strike and split against the lofty mountains that surround it. The mariners know of no more than three winds, which they denominate after the promontories. The south-west, which is the most constant, and the north-east, are innocuous; the north is more formidable, by reason of its violence, and on account of the shallow shores to the south. But the agitation of the water is out of all proportion to the wind; since in a very moderate breeze the lake frequently rages with great fury, whereas famous winds-only just increase its agitation. There being no rocks or banks in the middle, the waves usually swell seven feet high, almost always quite to the shore. Even when the violence of the storm has abated, the turbulence of the water continues only lasts for several hours. The internal agitations of the lake are still more alarming. With a bright sky, and the surface of the water as smooth as a mirror, all at once the vessel is tossed about with such violent shocks, that the people on board have much ado to save it. In like manner in a particular place a single wave will suddenly arise, which at the same spot is followed by several others. These curious phenomena are supposed to happen in consequence of the contiguity in which the lake is situated below with clefts in the adjacent mountains, the drafts of wind issuing from which force up the water, though not always perceptible above to the same degree.

Thus continually ruffles, it is very comprehensible that, notwithstanding the severity of the climate, the Baikal is not frozen over till the month of December or January. Ice-fields, sometimes of ten versts in dimension, form in the bays, then unite in places, which, previous to the freezing, are covered with a dense cloud. The surface being at length thoroughly consolidated, frequently presents one vast plain of glistening ice, which, though sometimes exceedingly rough, snow, on account of the winds, seldom adheres to it; and therefore, especially to the first travellers, it is extremely laborious to the horses. The furious gusts of winds at times press the people who run by the side of the fidges, to the distance of several fathoms forwards; whereby they are in imminent danger of being frozen, or of falling into the chinks of the ice. These bends become wider and more frequent as the time of the breaking up draws on; boards are then laid across them to facilitate the passage; and in cases of necessity, when the apertures are become too wide to be remedied in that way, canoes are introduced. The ice usually breaks up in May, and then it requires only a few days for dissolving; in several of the bays, however, it lies the whole summer through.

The weather is generally inclement in the parts about the Baikal. The summer is short, and fearely ever palies without night frosts; the winter announces its approach so early as August, by falls of snow. On the icy coasts, such plants grow as are elsewhere only found on the coldest mountains. The caufe of this inclemency of climate is principally to be attributed to the elevation of the whole region, the snow, etc.
and the want of sufficient protection against the north winds.

In the Baikal are numerous islands; most of them, however, very small. The largest is Olchon, in the northern part, separated from the main land by a found, in which are eight islands of inferior dimensions. Olchon is 50 versts in length, eight or ten broad, and terminates to the north in a promontory; the south-eastern part is lower and delitute of forests; in the south-western grow pines, poplars, birch, and willows. The land is so favourable to the nurture of cattle, that the fine droves belonging to the inhabitants find pasture all the winter through, without any particular tending. The population consists of 150 Burats families, many of whom are owners of between four and five hundred head of sheep. The natural propensity to idleness in all pastoral people here finds so much encouragement, that the Burats pass the greater part of the day in carousing.

Round the coast are several objects of consequence to the naturalist. On the western side, above Olchon, in a very beautiful country, skirted by majestic forests, with a fine view of the lake, are several springs, molly cold. Amidst the one is hot water, more remarkable than the rest on account of its curative properties. A Russian officer belonging to the mines obtaining relief from it in some disorder, reduced it to a conduit, which yields 582 gallons every hour; and it is found to be only necessary to dig in its vicinity for coming to hot water. The water is clean, but has somewhat of a fctal taste; the vapour smells like fixed gunpowder, and occasions freezing; birds are boiled in it in twelve minutes, slit fish in fifteen minutes. No snow therefore remains here upon the ground; the lake likewise continues free from ice; and even the cold springs, where they run through the territory of the hot, are tepid. These hot springs are useful for bathing as well as for drinking. Some years ago a lama performed frequent cures by means of these waters; since his death, however, the Russians are the only persons who occasionally resort to them.

The Upper Angara flows through the northern margin into the lake, after having purified a course of 800 versts, down several precipices, forming tremendous cataracts, along a tract of near a hundred miles. Not far from its mouth, eastwards, is the Frolikha lake, fifteen versts long, and from one to five versts across, remarkable for its extraordinary depth, and for a cataract on its way to the Baikal. The river Frolikha, between fifteen and twenty fathoms wide, forms this cataract by rolling over a succession of rocks, extending half a verst and being twenty feet in perpendicular height. More to the south is again a hot source, pellicud, and in taste resembling soap-water; in the morning the efflavia it cast is enough to make one sick. The water infuses in a copious stream, but is turned to no account.

On the Shamane promontory stands a curious lufus nature; namely, three rocks adjacent to each other, upwards of two hundred feet in height above the water's level. Their tops resemble human heads, with caps on them. It may well be imagined that the particular features are not small. Of the middlemost, which is the biggest, the noise is in length seven feet, in the slit of the mouth two families of sea-gulls are commodiously lodged; even the eyebrows are not wanting; only there is no trace of an ear. The Tun-gufes reverence these three rocks, as the sacred Diauds, with his two subordinate deities. He is able to tame any Tun-guf from drowning, to cause a good draught of fishes, &c.

The peninsula Barguzin, thirty versts long and fifteen broad, is thickly wooded, but void of game and fish, consequently cannot boast of a numerous population. Lower down to the south is the Dukhovoi or Vapoury lake, five versts long and three broad. Its yellowish flamy water is of a nauseous acid taste; the whole district is charged with its fetid exhalations; yet the water taken in a vessel has no remarkable odour. It even abounds in pike, perch, and various other sorts of fish, which, however, often in winter, when the ice remains without punctures, are licked in the purifying water. Whence it may be, that the horrid fench of this region arises not so much from the lake itself, as from the prodigious quantity of fish that lie corrupting on the shore.

The most famous of all the mineral waters on the coasts of the Baikal is the Turka, celebrated since the commencement of the late century, not yet however employed according to its merits. It consists of seven springs, some of hot, others of cold water, which in one place have been collected into a reservoir. It is visited both by Russians and Burats, labouring under disorders, who generally find relief from it. The former, on their recovery, erect crosses; the Pagans plant young cedars about the spot, hanging up like wise on poles silk and cotton fluffs, as votive offerings to the deities; in the same view they also throw into the water. Without waiting for any revealed authority from the Siberian gods, the Russians carefully convey away all the mineral articles, making by that means sometimes a profit of ten rubles in the year, a capital sum for this part of the world! A little above the Turka is obtained naphtha, which the lake casts ashore in the spring, hanging to the ice, or in iced, with ice, in lumps often as big as one's fist. This dark brown chamy substance, which probably oozes up from the bottom of the lake, though tolerably viscous, may however be kneaded, and is soluble in moderately warm water. It has rather a fragrant odour, and is used in healing wounds, particularly as a salve for running sores. Their parts about likewise in various species of alkaline salts, which have of late been collected for the use of the apothecaries.

Southwards from the Turka is the mouth of the Selenga, the largest river that debouches into the Baikal, and whereon the two cities Udinka and Selenga, are situated. In its mouth lie scattered a few islands. Lower down lands the delta of Poleses, which is the landing-place on coming across the Baikal from Irkutsk. The south-western mountainous border of the lake is called Kultus.

We now proceed to the particularities of animated nature in this extraordinary lake. Among the aquatic animals, the prime rank is certainly due to the callotinus, called by the Russians golomyanka, entirely peculiar to the Baikal. He is from four to six inches in length, and, excepting his head, black, and a slender back-hone, consists only of blubber, into which he immediately dissolves on being exposed to a gentle heat. None of these fish, however, are caught in lakes or otherwise; it is even extremely rare to see them alive; it is only during violent agitations of the water that they are raised to the surface and cast ashore, generally either dead or in a dying state. This chiefly happens in summer, when it blows a tempest from these north; though not every year alike. Shoots of them are often found piled up in heaps on the shore, particularly near the mouth of the Selenga: at times they are so rarely seen, that the old fishermen even aver that it is only of late years that they have been seen at all. Whence and how they are thrown up and ejected cannot indeed be satisfactorily ascertained; unless it be probably in consequence of their usual haunts being the deepest chains at the bottom of the lake. That these may possibly be connected with the crevices of the mountains, we have already
already conjectured; and if this be admitted, it is far from improbable, that, in heavy gales, the wind furiously rushing through these vents, may lift them from their holes into the upper water, where, unacclimated to the outward air, they cannot long survive this change of place. The frogs that are call abroad are partly devoured by the sea-fowls, and partly boiled to oil by the inhabitants of the island, which is said to be very fine and well tasted; at least it must be so to the Chinese, who buy it in great quantities.

Another particularity, at least to the Baikal, are the palfes. As they elsewhere only live in salt water, and never travel far up the rivers, it is the more surprising how they came into this fresh-water lake, which has no communication with the sea, nor with any river that contains these animals. Though the rill farms may fall on the Yenisey and the Angara, yet in neither of these rivers are any of them, now at least, to be found, and it would be extremely difficult for them to shoot the cataracts on the passage from the Yenisey to the Baikal. Perhaps in some great inundation, the sources of the Lena might have communicated with the rivers of the Baikal; and on that occasion the primitive race of them might have moved hither. They are of the same species with those of the Caspian and the Baltic; excepting that scarcely any of them are of varied hues. They are particularly fond of the ice; and show themselves above water rather in the winter than in the summer; for which purpose they blow up of themselves air-holes in the ice, which they have the art of keeping constantly open; and in the spring drop their young upon the ice, for whole accommodation they make little holes of snow. The reason for the chance of them hatching from the beginning of March to the breaking up of the ice at the latter end of May; the right of catching them is firmed out. They are caught with fire-arms or pierced with javelins; in both cases from a concealment behind a screen of white linen, which the animals mistake for a piece of ice. The old ones are made to yield their blubber; but the young are chiefly sought after because the Chinese are extremely partial to their silver grey skins. In the carion, the Burets share with the crows. The annual capture is estimated at between 1500 and 2000 of these animals.

The omul (Salmo migratorius) is a fish of great consequence, in regard to its prodigious numbers, not only to the Baikal, but to all the country round. His ordinary length is from fourteen to sixteen inches; seldom extending to two feet. His flesh is white and tender, and so delicate that he dies as soon as taken out of the water, even though immediately thrown in again. In August, the omuls generally begin to approach in schools of various bulk, in order to ascend the rivers in which they spawn. In September they return, but so unacclimated a condition, that multitudes die upon the passage. They do not go up every river; those on the western side not at all, and even not every one on the eastern side of the lake. Each fish is wont to go to spawn in the place where itself received life. They are caught the whole summer long; but mostly at the time of their floating in the rivers. With fine nets 2000 of them are taken at a draught. They are thrown together in great heaps upon the shore; but ere the fishermen have time to prepare them, the Tungus, the dogs, and the birds of prey, have devoured a good part of them. The omuls are fished, oil is obtained from them, and even fine caviar, which however will keep only a very short time. Besides these, the Baikal produces many other sorts of fish: such as sturgeon, quabs, carp, perch, trout, trout, pike, &c. in great abundance.

One very singular natural phenomenon of the Baikal we have referred to the lake, as being probably the original cause of the existence of the lake itself; we mean the earth-quake that are very frequent in the parts adjacent. They are most usual in the spring and autumn; generally once, sometimes twice a year. The flocks are not violent, last a few minutes, and do scarcely any mischief. At half the utmost injury that attend any one of the sixteen earthquakes described by professor Geiges, was, that it gently waked him out of his sleep, threw down the floor in the police-offices at Schilingsfjord, and shook off some of the croffes from the tops of the church-steeplees. Nature seems to have exhausted herself in forming the bed of the Baikal; for it is highly probable that it was the effect of some tremendous earthquake, attended by an extraordinary falling-in of the earth. We are naturally led to this hypothesis by considering the rate of the circumjacent region, and of the bottom of the lake. This latter consisting of fragments of demolished rocks, the largest of which thump up their tops as islands; the传导 aound is one amazing congeries of rent, broken, and split rocks, to the height generally of forty fathoms; flinted portions of rocks lift their bare segments to the clouds, while the other parts of them lie rooted in the heart of the earth. On the craggy pinnacled sides of the snow-covered mountains lie broken tops of rocks in the shape of beehives, which only the powerful hand of nature could have projected thither; as it was the who fenced the Baikal round with majestic cliffs, and fixed their bases in unfathomable pits. But when—History is silent. And how?—The naturalist can only conjecture; he has recourse to an earthquake, and imagines, that here perhaps formerly the streams of the Upper Angara flowed, the territory whereof is now engulfed by the broad lake.

The country round the Baikal forms a part of the government of Irkutsk, and belongs chiefly to the province of Nerchinsk. Irkutsk lies at the distance of about 50 miles upwards from the Baikal. The inhabitants of the confines of the lake are Tungus, Burets, and Mongoles; the Russians are few and numerous, because the land adjacent to it is not favourable to agriculture; though even on the eastern side winter-rye, oats, and barley thrive tolerably well. The whole of the population on the eastern side of the lake, from Turkei to the Upper Angara, amounted, in 1771, to not more than 5000 souls.

Besides the numerous birds of prey that seek their food in the neighbouring forests, multitudes of winged guests are attracted hither by the exuberant forces of fish with which the lake abounds. These consist of the various tribes of newfs and herons; but more numerous than all are the gulls, in fine resembling a full grown duck, but incomparably heavier. They come in the month of April, and take their departure in October. Every thing bears marks of their devastation; the very trees in which they roost perihy, partly by their corrosive dung, and partly in consequence of their biting off the buds. They are said to consume more than one half of the omuls that go up the rivers. This may be thought surprising after what has been before observed of the prodigious quantities of these fish; not however to altogether incredible, when we are informed that these foals hatch about ten young ones at a brood, and are extremely voracious. Not content with eating their fill, they overload themselves in such a manner, that beneath the rocks where they nestle, the foxes, ermines, magpies, and crows constantly find a plentiful banquet. In many places the nets of them are so numerous, that the people have much ado to pass along the rocks. The illes in the sound between Olchon and the main land, being the principal haunt of these birds, take their name from them.

The forests are overrun with quadrupeds. Wolves and bears roam there in great abundance; but the latter at least are
are by no means formidable. Nothing scares them so easily as fencing; accordingly the Buruts are so confidem as to compose particular times for them. The louder the vocal performer pitches his notes, the taller the stupid bearer fappers from him. The Buruts hunt them for the sake of their flesh. Stags, elk, and roe-bucks are very numerous; rein-deer are far less frequent on the northern shore. The wild hares are silver gray, and scarce; both perhaps in consequence of the cold climate. The race of fables is not yet so thinned as in these regions as in some others; those taken here are esteemed as eminently valuable; such especially as range about the Upper Angara, are prized for the blackness of their fur. Termes are so prolific, that while M. Georgi was at Irkutsk, a contract for twenty thousand skins to be delivered at St. Petersburg might be completed in a couple of days. Not less numerous in winter are the white hares, of whose large and stout ears pelisses are made, each at one end, and one half a nobles. The Tunguska pay their tribute in squirrel-skins; besides these, many Russian hunters collect a thousand pites in one winter, and yet there is no perceptible diminution of the animals.

**Baikal, Mere of the.** In the region of the Baikal, 234 miles from Irkutsk, on the Lena, extends a bed of copper ore, which seems to reach, for 500 miles, to the river Kiren. The country of the latter river is far more hilly, consisting partly of line-clone, whence several mineral sources proceed. Nor are specimens of copper wanting. Iron ores and ferruginous rocks are everywhere where met with in abundance. On the Lena here and there are beds of argentiferous glatz galena, interfused with line-clone, and at times appears in lumps of two or three pounds. It was first explored about sixty years ago by M. de Mefres. Make and Kutunof. They keep four machines at work at the copper-flats, near the villages Botom and Shennaya. The ores are green-copper, brown-copper, copper-glafls, faltz-clones and malaquite. The gangues are calcareous and sandy. The narrower the gangue, the richer it is. The proportion is one fourth to forty per cent. copper, but scarcely a trace of silver. On an average one hundred pound of ore yields four pound of good copper.

**Baikal, Mountains of the.** This range of mountains takes nearly the same direction with the Baikal lake, accompanying it on both sides from south to north and east, runs down to the west on the right of the Angara, where it flattens in a muraille flepp of prodigious extent; to the east it advances from the origin of the Lena, on both sides of that river, and here likewise dies away in a widely extended flat. In general, it is a very grassy and pitched mountain, partly confiding of granite, partly of flat-breaca and line-clone. In the inferior regions of the Angara, and the Lena, its flatz-mountain greatly declines, and frequently produces coal. From the upper Angarian ridge there runs as it should seem, a branch westward, through the region between the Podknemenia, and the lower Tunguitska, away over the Venifley, and consists probably of mere flatz-mountains. About the north-eastern part of the Baikal, the Upper Angara, the rivers Mama and Vtim, where lie the famous pits of mufcovy-glafls, all the mountain is granite. The mineral contents of these mountains are as yet by far not thoroughly known. The principal of what has been discovered in them, are coals, asphalites, sulphur-foures, native sulphur, alum, common salt foures, laps lazuli, mufcovy-glafls, carnellins, natural pruffian blue, and specimens of copper, iron, and lead. Some tracts of mountains about the Baikal, for example, the Burunda, and others, are so high that they are covered with never-waiting snow. In the lake itself many lofty

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**Bail, in Law.** The fetting at liberty one arrested or imprisoned upon any action or other criminal, under forfeit taken for his appearance at a day and place assigned. It is called *bail*, because hereby the party confined is bailed, from the Greek βαιλος, delivered into the hands of those who bind themselves for his forthcoming: or from *bail*, used in the sense of a guardian, into whose hands the party is put for security sake: and the end of bail is to satisfy the condemnation and costs, or render the defendant to prison.

Manwood distinguishes between *bail* and *mainprize* thus: he that is mainprised is said to be at large, and to go about at his liberty, without ward, till the time of appearance; whereas he who is let to *bail* to two or more men, is always accounted by law to be in their ward and custody for the time; and they may, if they please, actually keep him in prison.

With respect to *bail* in civil causes, it is to be observed, that there is both *common* and *special bail*.

**Common bail** is that given in actions of small prejudice, or light proof; in which case any nominal sureties are taken; as John Doe, and Richard Roe: this being no other than a form of appearance: whereas *special bail* is given in causes of greater moment, where it is required that the sureties be substantial men, and according to the value of the matter in question.

It has been enacted that no persons should be held to special bail in any action brought for less than ten pounds. In order to which it is required by *The 13 Car. II. 6. 2. that the true cause of action should be expressed in the body of the writ or procee*; *Also to security can be taken in a greater sum than 40*. This is observed as to writs issued out of the courts of Westminster-bench, and extended to all inferior courts by *19 Geo. III. 7. c. 2.0*.

The method of putting in *bail* to the *sheriff*, is by entering into a bond or obligation, with one or more sureties (not fictitious persons, as in the case of common bail, but real, substantial, responsible bondmen), which obligation is called the *bail-bond*. The sheriff, if he pleases, may let the defendant go without any sureties; but that is at his own peril: for, after once taking him, the sheriff is bound to keep him safely, so as to be forth-coming in court; otherwise an action lies against him for an escape. But, on
the other hand, he is obliged, by c. 23 Hen. VI. c. 10, to take, if it be tendered, a sufficient bail-bond; and by c. 12 Geo. I. c. 29, the sheriff shall take bail for no other sum than such as is sworn to by the plaintiff, and endorsed on the back of the writ. By rule M. 1654, no attorney shall be bail for a defendant in any action, nor his clerk. Cowper, 228. n. But an attorney may be admitted as bail in a criminal case. No sheriff's officer, bailiff, or other person concerned in the execution of process, shall be permitted to be bail in any action or suit depending in K. B. nor persons outlawed after judgment, R. M. 14 Geo. II. Upon the return of the writ, or within four days after, the defendant must appear according to the exigency of the writ. This appearance is effected by putting in and justifying bail to the action; which is commonly called bail above. If this be not done, and the bail that were taken by the sheriff below are responsible persons, the plaintiff may take an assignment from the sheriff of the bail-bond (under the statute 4 & 5 Ann. c. 16), and bring an action thereupon against the sheriff's bail. But if the bail so accepted by the sheriff be insolvent persons, the plaintiff may proceed against the sheriff himself, by calling upon him, first to return the writ, if not already done, and afterwards to bring in the body of the defendant; and, if the sheriff does not then cause sufficient bail to be put in and perfected above, he will himself be responsible to the plaintiff.

The bail above, or bail to the action, must be put in, either in open court, or before one of the judges thereof; or else, in the country, before a commissioner appointed for that purpose by virtue of the statute 4 W. & M. c. 4, which must be transmitted to the court. These bail, who must be at least two in number, must enter into a recognizance in court or before the judge or commissioner, in a sum equal (or in some cases double), to that which the plaintiff has sworn to; whereby they do jointly and severally undertake, that if the defendant be condemned in the action, he shall pay the costs and condemnation, or render himself a prisoner, or that they will pay it for him: which recognizance is transmitted to the court in a slip of parchment entitled a bail-piece. And if excepted to, the bail must be perfected, that is, they must justify themselves in court, or before the commissioner in the country, by swearing themselves housekeepers, and each of them to be worth the full sum for which they are bail, after payment of all their debts. See Sarumato.

Special bail is required (as of course), only upon actions of debt, or actions on the case in trover, or for money due, where the plaintiff can swear that the cause of action amounts to ten pounds; but in actions where the damages are precarious, being to be afforded ad libitum by a jury, as actions for words, ejectment, or trespass, it is very seldom possible for a plaintiff to swear to the amount of his cause of action; and therefore no special bail is taken therein, unless by a judge's order, or the particular directions of the court, in some peculiar species of injuries, as in cases of mayhem or atrocious battery; or upon such special circumstances, as make it absolutely necessary that the defendant should be kept within the reach of justice. Also in actions against heirs, executors, and administrators, for debts of the deceased, special bail is demandable; for the action is not so properly against them in person, as against the effects of the deceased in their possession. But special bail is required even of them, in actions for a demesne suit, or waiting the goods of the deceased; that wrong being of their own committing.

In civil cases every defendant is bailable; but in criminal matters it is otherwise. Bail may be taken either in court, or in some particular cases by the sheriff, coroner, or other magistrate; but most usually by the justices of the peace. Regularly in all offences, either against the common law or act of parliament, that are below felony, the offender ought to be admitted to bail, unless it be prohibited by some special act of parliament. By the ancient common law before and since the conquest (2 Inst. 189. Glanv. l. xiv. c. 1), all felonies were bailable, till murder was excepted by statute; so that persons might be admitted to bail before conviction almost in every case. But the statute 1 W. & M. c. 15, 3 Edward I. c. 15, takes away the power of bailing in treason, and in divers infamies of felony. The statutes 23 Hen. VI. c. 9, and 1 & 2 Ph. & Mar. c. 13, give further regulations in this matter; and upon the whole we may collect (2 Inst. 186. 2 Hal. P. C. 129), that no justice of the peace can bail, upon an accusation of treason, of murder, of manslaughter, if the person be clearly the slayer, and not barely suspected to be so, or if any indictment be found against him; such, as being committed for felony, have broken prifon, because it not only carries a presumption of guilt, but is also superadding one felony to another; persons outlawed, such as have abjured the realm; approvers, and persons by them accused; persons taken with the maimour, or in the fact of felony; persons charged with arfon; and excommunicated persons, taken by writ de excommunicato causa. Others are of a dubious nature, as thieves openly defamed and known; persons charged with other felonies, or manifested and enormous offences, not being of good fame; and accessories to felony, that labour under the fame want of reputation. These seem to be in the direction of the justices, whether bailable or not. Those who might be bailed, on offering sufficient security, are persons of good fame, charged with a bare fulpicion of manslaughter, or other inferior homicide: such persons, charged with petit larceny, or any felony, not before specified; or with being accessory to any felony. Lastly, it is agreed, that the court of king's bench, or any judge thereof in time of vacation, may bail for any crime whatsoever, be it treason, murder, or any other offence, according to the circumstances of the case; such persons only excepted, who are committed by either house of parliament during the session, or such as are committed for contempt by any of the king's superior courts of justice. This refusal, or delay, of bail for any person in any case, is an effectual punishment. But the liberty of the felon, in any magistracy, by the common law, as well as by the statute Wilm. 15 Edw. l. c. 15, and the baile causa aet, 31 Car. II. c. 2. And it is expressly declared by statute 1 W. & M. 2. c. 1. that execrable bail ought not to be required; though it is left with the courts to determine, on considering the circumstances of the case, what bail shall be called execrable. On the other hand, if the magistrate take insufficient bail, he is liable to be fined, if the criminal doth not appear. Blackf. Com. vol. iii. vol. iv. For several circumstances and considerations with regard to bail in civil cases and in criminal matters, see Jacob's Law Dict. by Tomlynus, vol. i. Art. Bail. Bail above, or Bail to the Action, succeeds the return of the writ, or the appearance of the person bailed. See Bail.

Bail-Bond, is a bond or obligation entered into by one or more sureties, upon putting in bail to the sheriff, informing the defendant's appearance at the return of the writ. See Bail.

Bail in Error, expresses the bail given by a person who brings a writ of error after verdict, or who is liable in error. Bail-Piece, a small square flip of parchment, with the corners cut off at the bottom, on which is the recognizance of persons who put in bail. See Bail.
BAI

BAILE, Clerk of the, is an officer belonging to the court of king's bench. He files the bail-pieces taken in that court, and attends for that purpose.

BAILACAN, in Geography, a town of Armenia, 181 miles call of Erevan.

BAILAN, a town of Syria, ten miles south of Alexandretta.

BAILE, or BAIL, in the Scot Language.—The scamen call lading or calling the water by hand out of a boat or ship's hold with buckets, case, or the like, bailing.

When the water is thus bailed out, they say the boat is freed. They also call those hoops that bear up the tilt of the boat, its bailey.

BAILEMENT, in Law. See Bailment.

BAILLAGE is used for the office of a bailiff, for the place where he keeps his seat, and for the territory subject to his jurisdiction; which last is also denominated bailiwick.

BAILIFF, Water, is an ancient duty received by the city of London, for all goods and merchandises brought into or carried out of the port. See BAILAGE.

BAILIE, in Scots Law, a judge anciently appointed by the king over such lands not erected into a regality as happened to fall into the crown by forfeiture or forfeiture; now abolished. It is also the name of a magistrate in royal boroughs, and of the judge appointed by a baron over lands erected into a barony.

BAILIES, WILLIAM, M. D. in Biography, practiced medicine at London, and then at Bath, about the middle of the last century, but having a dispute with Drs. Oliver and Lucas, who had the greatest share of the business there, he soon quit the city, and went to Prussia, and was made physician to Frederick the Great, to whom he was recommended as a person of great knowledge and experience in his profession. The king telling him, on his being introduced to him, he must certainly have killed a great number of persons in the course of acquiring his experience, the physician is said to have answered, "a plus tant que votre majesty"—not so many as your majesty. The ben not happened to discharge, and the doctor continued in favour with the king to the time of his death.

In 1757, Dr. Bailie published an essay on the Waters of Bath, with the view of making himself known there; also a narrative of facts, proving a conspiracy between the Drs. Oliver and Lucas, to exclude him from all consultations at Bath. Gen. Biog. Dict.

BAILIFF, in a general sense, denotes an officer appointed for the administration of justice within a certain district, called bailiwick.

The word is also written baile, baily, bavly, bavly, and bailiff, in Latin bailiffus.—It is formed from the French bailiff, that is prefectus provincie, of bail, an old word denoting a guardian or governor of a youth, originally derived from the Latin baivulus, which signified the same.

Palquier maintains, that bailiffs were originally a kind of commissioners, or judges delegate, sent into the provinces to examine whether or no justice were well distributed by the courts, who were then the ordinary judges. Loyola, with more probability, refers the origin of bailiffs to the usurpation and indulgence of the great lords, who, having got the administration of justice into their own hands, and being weary of the burden, turned it over to their deputies, whom they called bailiffs.

The bailiffs had, at first, the superintendence of arms, of justice, and of the finances; but abusing their power, they were by degrees stripped of it, and the greatest part of their authority transferred to their lieutenants, who were to be men of the long robe. In France, they assumed some prerogatives, as being reputed the heads of their respective districts; in their name justice was administered, contracts and other deeds passed, and to them was committed the command of the militia.

From these the English bailiffs originally took both their name and their office: for as the French had eight parliaments, which were supreme courts whose appeal lay within the precincts of the several parliaments or provinces, and in which justice was administered by bailiffs, at least by their lieutenants; so in England are several counties where the justice was and is still administered by a vicount or sheriff, who appears likewise to have been called bailiff; and his district or county, bailiwick or bailiff. In the statute of magna charta, c. 28. and 14 Edw. III. c. 9. the word bailiff seems to comprehend as well sheriffs, as bailiffs of hundreds. Further, the counties were again subdivided into hundreds; within which it is manifest, justice was anciently rendered by officers called bailiffs. And it appears by Bracton (l. 3. trac. 2. c. 34.), that bailiffs of hundreds might anciently hold plea of appeal and approvers. But these hundred-courts are now swallowed up by the county-courts, certain franchises alone excepted; and the bailiff's name and office growing in such contempt, at least these bailiffs of hundreds, till they are not now more than bare menangers, and mandates within their liberties, to serve writs, and such mean offices. In other respects, the name is still in good esteem; for the chief magistrates in divers towns are called bailiffs; and sometimes the persons to whom the king's courts are committed are called bailiffs: as the bailiff of Dover castle, &c.

Of the ordinary bailiffs, there are several sorts; viz. bailiffs of liberties, sheriff's bailiffs, bailiffs of lords of manors; bailiffs of huubandry, &c.

Bailiffs of Liberties, are those bailiffs who are appointed by every lord within his liberty, to execute process and perform such offices therein as the bailiff errant doth at large in the county; but bailiffs errant or itinerant, as they were formerly called, who went up and down the country to serve processes, are now out of use.

Bailiffs of liberties and franchises are to be sworn to take diligence to bring in the perjuries of juries, make returns by indenture between them and sheriffs, &c., and shall be punished for malicious dilferences by fine and treble damages, by ancient statutes 12 Ed. II. r. c. 5. 14 Ed. III. r. c. 9. 20 Ed. III. c. 6. 1 Ed. III. r. c. 5. 2 Ed. III. c. 4. 5 Ed. III. c. 4. 11 Hen. VII. c. 15. 27 Hen. VIII. c. 24. 3 Geo. I. c. 15. § 10.

The bailiff of a liberty may make an inquisition and extent upon an elegant. Cro. Car. 319. These bailiffs of liberties cannot arrest a man without a warrant from the sheriff of the county; and yet the sheriff may not enter the liberty himself, at the suit of a subject (unless he be on a quo warranto, or copias ulleagun), without a clause in his writ, non emitas popuer aliquam libertatem, &c. If the sheriff, &c. enters the liberty without such power, the lord of the liberty may have an action against him; though the execution of the writ may lie good. 1 Vent. 426. 2 Inst. 453.

Bailiffs of Sheriffs, are either bailiffs of hundreds, or special bailiffs. Bailiffs of hundreds are officers appointed over those respective districts by the sheriffs to collect fines therein; to summon juries; to attend the judges and justices at the assizes and quarter sessions; and also to execute writs and process in the several hundreds. But as these are generally plain men, and not thoroughly skilful in this latter part of their office, that of serving writs, and making arrests and executions, it is now usual to join special bailiffs with them;
Bailiffs, Royal, bailiffs regis, were those over provinces afterwards annexed to the crown. Something like these still subsist in Scotland, under the title of high or heritable bailiffs; as those of Cunningham, Carrick, and Kyle; the first in the families of the earls of Eglington, the second of the earl of Caithness, the third of the earl of London.

Bailiffs of Boroughs, bailivis burgorum, were magistrate anciently in cities and towns, answering, in some measure, to what of later times was called portrager, mayor, &c.

Canterbury was a bailiff town five hundred years before it was made a mayor town. Welleminister, Southwark, Scarborough, &c. are still governed by bailiffs.

Bailiffs differ in this from mayors, that the latter are always single in one place, whereas there were usually two bailiffs to a city, as formerly at London, and sometimes four, as at Norwich.

Bailiff of the Empire, was anciently the vicar or regent of the empire; as appears from a letter of Henry of Panners to pope Innocent III. wherein he says, the princes, barons, and knights, have elected me bailiff of the empire; bailiwm imperii.

Bailiff, Water, is an officer anciently estabished in all port-towns for the searching of ships, as appears from 28 Hen. VI. cap. 5.

There is such an officer still on foot in the city of London, who supervises and searches all ships brought thereto; and gathers the toll arising from the river of Thames. He attends also on the lord mayor in his expeditions by water, and hath the principal care of marshalling the guefts at the table. He also arrests men for debt, or other personal or criminal matters, on the river of Thames, by warrant of his superiors.

BAILI, DAVI, in Biography, a painter of perspective views, and portraits, was born at Leyden in 1574, learned to draw and design under his father, and prosecuted his studies under Adrian Verburg, and Cornelius Vanderwoort, with the latter of whom he spent six years. Baille copied many capital paintings of some great masters, in the possession of Vanderwoort, with critical care and observation; and particularly a perspective view of the inside of a church, originally painted by Stencywck, which was so accurately finished, that Stencywck himself could scarce distinguish the original from the copy. He traveled for improvement through several parts of Italy, and for some time resided at Rome; and the correctness of his drawings, and the minute handling and finishing of his pictures, procured for him everywhere employment, admirers, and friends. In the latter part of his life he discontinued painting, and only drew portraits on vellum with a pen, which he heightened with black-lead, so as to give them wonderful force and roundness. He died in 1658. Pilkington.

BAILIwick, Bailywick, or Bailiwick, the territory of a bailiff, or the place within which his jurisdiction is terminated. This is not only taken for the county, as it is frequently called in the writs, but signifies generally that liberty which is exempted from the sheriff of the county, over which the lord of the liberty appointeth a bailiff, with such powers within his precinct, as an under-sheriff exerceth under the sheriff of the county; such as the bailiff of Welleminster, &c. Stat. 27 Eliz. c. 12. Wood's Inst. 206.

BAILLEAU L'ESQUIE, in Geography, a town of France, in the department of the Eure and Loire, and chief place of a canton in the district of Chartres, 14 league north-west of Chartres.

BAILLE, a town of France, in the department of the Mayenne, and chief place of a canton in the district of
BAIIER, in Law. See BAILMENT.

BAILLET, ADRIAN, in Biography, an eminent French critic, was born in 1640, of obscure parents, at Neuville, a village near Beauvais. Having completed his education in the college of the city, he took holy orders in 1666, but soon quitted the clerical profession, and devoted himself entirely to study. Lemaison, president of the parliament of Paris, made him his librarian, and in this station he continued till his death in 1705. He was a man of indefatigable application, and extensive curiosity. As he was always reading or writing, it is no wonder that his acquaintance with authors was great, and his works numerous. His principal performance was "Jugemens des Savans sur les principaux Ouvrages des Autheurs," it is a valuable collection of facts and observations. In the first volume he lays down rules for judging of authors and their productions; the three following, published in 1683, treat of printers, critics, translators, authors of discoveries, &c.; and the next five on poets. The work would have been prosecuted agreeably to a plan presented by the author to the public in 1693, if he had not been discouraged by severe criticism and future in the Anti-Baillet of Menage, and other pieces. Abandoning this design, he directed his attention to other subjects; and he wrote, in 1693, "A Treatise on the worship of the Virgin Mary"; and another in 1695, "On the Care of Souls;" "The Lives of Saints," in 4 vols. in 1698.


Baillet is often tedious and uninteresting, and culpably negligent with regard to his style. Gen. Dict.

BAILLEUL, JOHN DE, Abbé de Jérolan, was so famed for his skill in reducing louted joints, Haller says, that his name passed into a proverb, and an expert bone-fetter was called a Bailleul. Hal. Bib. Chirurg.

BAILLEUL, in Geography, a town of France, in the department of the North, and chief place of a canton in the district of Hazencrook; it was formerly fortified, but is now without defence. It contains about 500 houses; three leagues E. S. E. of Caflé, and 4½ W. N. W. of Lille. N. lat. 50° 35'. E. long. 2° 55'.

BAILLEUL, a town of France, in the department of the Sarthe, two leagues from La Flesche.

BAILLAGE, in History, the name of a government in Switzerland, of which there are two forts: the one containing of certain districts, into which all the aristocratical cantons are divided, over which a particular sort of officer, called a bailiff, is appointed by government, to which he is accountable for his administration: the other fort is composed of territories belonging to two or more of them, who alternately appoint a bailiff. This officer, when not restrained by the peculiar privilege of certain districts, has the care of the police, and jurisdiction in civil and criminal causes in the same limits; and enjoys a flated revenue arising in different places from various duties and taxes. In case of exaction or mal-administration, an appeal always lies from the bailiff to the cantons, to which the bailiffs belong; and the place, the time, and the members who receive the appeal are regulated by the utmost exactness. Cowe's Trav. Switz. vol. i. p. 37

BAILLIE, RONAN, in Biography, a Presbyterian divine of the church of Scotland, was born at Glasgow, in the year 1596, and educated in the university of his native city. After he had taken his degree of master of arts, he applied with diligence to the study of divinity; and having, in 1622, received orders from archbishop Law, he was chosen a regent of philosophy in the university of Glasgow. In 1635, he modestly declined an offer which was made him of a chair at Edinburgh, and in 1637 refused to preach a sermon before the Synod in this city for recommending the canon and service book, then published by authority; and flatted in a letter to the archbishop of Glasgow the reasons of his refusal. In 1638, he was a member of the famous assembly at Glasgow, which was a prelude to the civil war, and it appears, notwithstanding the moderation of his con- descent, that he was not desirous of the civil war, and to struggle with the Popular party. He was a member of the following general assemblies till 1635, the time excepted during which he attended the Wellmington assembly. In 1640 he was sent by the covenanting lords to London, to draw up an accoustic against archbishop Laud, for the innovations he had obstructed upon the church of Scotland. Soon after his return, in 1642, he was appointed one of the professors of divinity at Glasgow; and his reputation was such that he received invitations before this time from the other three universities, all of which he refused. He retained his professorship till the restoration; but was often interrupted in the exercise of it by his residence in England; and for in 1649 he was chosen one of the commissioners of the church of Scotland, to the assembly of divines at Wellmington. In the principles and views of this assembly he seems to have entirely concurred; he returned, however, to his own country in 1649. When Charles II. was proclaimed in Scotland after the execution of Charles I. Baille was one of the divines appointed by the general assembly to wait upon his majesty at the Hague, and in a speech delivered on that occasion he expressed, in the strongest terms, his abhorrence of the murder of the late king, and in his sentiments with regard to this event the Presbyterian divines of that period, both at home and abroad, were almost universally agreed. After the restoration, Mr. Baillie was appointed, in 1661, principal of the university of Glasgow; but it is said that a bishopric was offered him, which he absolutely refused. In the course of the year 1662, his health began to decline: and during his illness he was visited by the newly created archbishop of Glasgow, whom he addressed in the following uncourteous language: "Mr. Andrew (I will not call you my lord), king Charles would have made me one of these lords; but I do not find in the New Testament that Christ has any lords in his house." In July of this year Mr. Baillie died at the age of sixty-three years. His character was not more distinguished by his loyalty, than by his zeal for presbytery, and his averseion to prelacy; and he seems to have been actuated, in a very considerable degree, by the intolerant spirit of the age in which he lived. In his letters, he every where manifests his dislike of sectaries; and he hardly omits any convenient opportunity of shewing his disapprobation of the doctrine of toleration. He had also imputed a considerable portion of that enthusiasm.
spirit which was then prevalent, and which protracted the religious services to an astonishmng length. Accordingly, Mr. Baillie, in one of his letters, written whilst he was attending the Westminster assembly, speaks of a devotional service that lasted nine hours. Nevertheless, he was a man of considerable learning and ability; he is said to have understood twelve or thirteen languages; and Mr. Wodrow, his biographer, commends his Latin style as not unsuited even to the Augustan age. Of his diligence and learning, he left sufficient evidence in his historical work, intituled, "Opus Historiae et Chronologicum." His other writings, which were chiefly on controversial and temporary subjects, and which indicated a degree of violence that is said to have flowed rather from the infltration of other persons than from his own inclinations, are of inferior value. His "Letters and Journals," published at Edinburgh by Robert Aiken, in 1755, in two volumes 8vo., contain an account of public transactions, both in Scotland and England, from 1637 to 1662, and may call for light on the civil and ecclesiastical history of that period. Bigh. Brit.

BAILORE, in Heraldry, is a lion rampant, holding a baton in its mouth.

BAILLOU, Guillaume de (Balliuus), M. D., a physician of considerable eminence in the sixteenth century, was born at Paris in the year 1538. After making great progress in the Greek and Latin languages, and in philosophy, he applied to the study of medicine. In 1570, he was created doctor; and in the year 1578, dean of the faculty of medicine at Paris. In his time the dispute between the surgeons and physicians at Paris, as to their precedence, began, in which Ballonius took an active part. It was decided in favour of the physicians, and the privileges usurped by the surgeons annulled. Ballonius was a voluminous writer; but as his works are now little noticed, we shall refer our readers, for titles of the particular treatises, and for an account of their contents, to Haller's Bib. Med. Prac.

BAILLY, Jean-Sylvain, a celebrated astronomer and writer of France, was born at Paris, on the fifteenth of September 1736, of a family which had produced distinguished painters for four successive generations. He was bred to the fame profecition, but manifested an early taste for poetry and the belles lettres. By an accidental acquaintance with La Caille, his attention was directed to the sciences, which he cultivated with affability and facility. He calculated the orbit of the comet of 1759; and in 1763 he published an useful and elaborate compilation, being the reduction of the observations made by La Caille in 1760 and 1761, on the zodiacal stars. About this time the theory of Jupiter's satellites became a particular object of his inquiries, and in the competition for this prize question of 1764, he had a formidable rival in La Grange, afterwards known as one of the first mathematicians in Europe. The results of his investigations were collected into a treatise, published in 1766, which also contained the first part of his "History of Astronomy." In 1771, he gave a very curious and important memoir on the light of the satellites, and introduced a degree of accuracy till that time unknown in the observations of their eclipses; and in the Journal Encyclopédique for May and July 1773, he addressed a letter to M. Bernouilli on some discoveries relating to Jupiter's moons, which he had contrived. However, the studies of M. Bailly were not confined to the abstract sciences; but he was no less successful in his cultivation of polite literature. His elegy of Leibnitz, published in 1766, gained the prize of the academy of Berlin; this, and also the elegies of Charles V., of Corinelle, of La Caille, of Cook, of Moller, and of Grellet, printed in 1779, were much admired. In 1775, appeared the first volume of the "History of Astronomy," which indeed drew a path of science with flowers, and in every respect is a most valuable work; abounding with animated description, luminous narrative, and interesting detail. His peculiar ideas concerning the early date of Upper Asia, occasioned an ingenious correspondence and discussion with the veteran philosopher Voltaire, the substance of which soon appeared in two volumes, intituled, "Letters on the Origin of Sciences," and "Letters on the Atlantide of Plato." If imagination shine forth in these essays, erudition was no less conspicuous in a great work composed in the years 1781 and 1782, on the fables and religious creeds of antiquity; which still exists in manuscript, and the publication of which would extend the fame of its author, and gratify the learned world. His opinions on some points happening to coincide with the theories of Buffon, he contracted with that celebrated naturalist an intimate friendship, which was dissolved by Bailly's uncourteous opposition to the election of the abbé Mauri into the académie Française. The other volumes of the "History of Astronomy" successively appeared, and that capital work was completed in 1797, by the "History of the Indian and Oriental Astronomy," a production of singular acuteness, research, and nice calculation. His "Discours and Memoirs," which include the eloge before mentioned, were published in two volumes, in 1796; and his memoirs communicated to the French academy, as they appear in Rojer's index, are as follows: "Memorial upon the theory of the comet of 1759," "Memoir upon the epochs of the moon's motions, at the end of the last century," "First, Second, and Third Memoirs on the theory of Jupiter's satellites, 1763," "Memoir on the comet of 1762," vol. for 1763; "Astronomical observations made at Nolm, 1764;" "On the sun's eclipse of the frill of April 1764;" "On the longitude of Nolm, 1764;" "Observations made at the Louvre from 1760 to 1764, 1765;" "On the cause of the variation of the inclination of the orbit of Jupiter's second satellite, 1756;" "On the motion of the Nodes, and on the variation of the inclination of Jupiter's satellites, 1766;" "On the theory of Jupiter's satellites, published by M. Bailly, with tables of their motions, and of those of Jupiter, published by M. Jeanrat, 1766;" "Observations on the opposition of the sun and Jupiter, 1768;" "On the equation of Jupiter's centre, and on some other elements of the theory of that planet, 1768;" "On the transit of Venus over the sun, on the third of June 1769; and on the solar eclipse, the fourth of June, the same year 1769;" "On the theory of Jupiter's satellites, published by M. Bailly, with tables of their motions, and of those of Jupiter, published by M. Jeanrat, 1766;" "Observations on the opposition of the sun and Jupiter, 1768;" "On the equation of Jupiter's centre, and on some other elements of the theory of that planet, 1768;" "On the transit of Venus over the sun, on the third of June 1769; and on the solar eclipse, the fourth of June, the same year 1769;"

Such was the reputation of Bailly, that he was received as an adjunct in the French academy, on the 29th of January 1753, and admitted to the 14th of July 1778. In 1771, he was a candidate, under the patronage of Buffon, for the office of secretary; but the interest of Condorcet, and the influence of D'Alembert, prevailed in favour of Condorcet. Of the académie Française, he was chosen secretary in 1754; and he was admitted, in the following year, into the Academy of Inscriptions and Belles Lettres; the only influence, since Fontenelle, of the same person being at once a member of all the three academies. In 1784, he was nominated one of the commission to examine and report concerning the animal magnetism of Meiner, as practised by Delon. His report was not only decisive with regard to its object, but furnishes a rule for the investigation of similar delusions. It likewise throws light upon the physical effects produced by moral causes; and these are peculiarly interesting, as causes of this nature have a political influence on the general opinions of society, and the destiny of nations.

M. Bailly, with an ardent, and, as it is generally believed, an honied mind, engaged in the support of that revolution of France, which at the time consumed Europe, and which, with regard to its consequences, has not yet subsided. His
ribe, as a principal agent in the transactions of this event, was very rapid. On the 26th of April 1790, he was nominated secretary by the doctors of Paris; he was afterwards appointed deputy to the state general; then chosen president of the "Tiers État;" and when this chamber was constituted the national assembly, he continued the chair. During the struggle between the popular part of the habitating assemblies and the court, Bailly was the most forward to assert the popular rights; at that time were new in France; and his temerity would probably have been fatal to himself; if he had not been supported by Mirabeau. Bailly dedicated the oath to the members of the tiers état, "to repel tyrants and tyranny, and never to separate, until they had obtained a free constitution." After the capture of the Bastille, on the 14th of July 1789, he was appointed by public acclamation mayor of the city, and in all his several functions he is said to have acted with integrity, courage, and moderation. But in the midst of revolutions the cause by which he professed was adapted to please neither of the contending parties; and though he acquired great popularity in the various steps by which the cause of the people gained predominance over that of the court, acircumstance occurred, which gave a turn to the popular opinion, and which rendered him an object of invective enmity. On the 17th of July 1790, the populace having collected tumultuously to demand the abdication of monarchy, Bailly received orders from the national assembly to disperse the mob. Deliberating that the existing laws and regulations should be respected; he arrested certain deputies who came from some military insurgents at Nancy; he opposed the rash proceedings of Mauv and Hubert; he was member of a club his followers in its admission of members then that of the Jacobins; and he exerted himself in endeavouring to persuade the populace to permit the royal family to depart to St. Cloud. Finally, on an occasion when the multitude assaulted the soldiery in the Champ de Mars, Bailly ordered the latter to fire, by which about forty persons were killed, and more than one hundred wounded. By these occurring circumstances his popularity declined, and at the dissolution of the constituent assembly, in the close of the year 1791, he resigned his office, and was succeeded by Petion. His health was impaired, and he retired from the scene of tumult, travelled through different provinces of France in the years 1792 and 1793; and pursued his literary and scientific researches. During this period, he wrote memoirs of the events which he had witnessed, and in which he had been a principal actor. Instead of withdrawing from France, which some of his friends advised him to do, he chose rather to submit to the injustice and ingratitude of his country. At the age of a vulgar tyrant, he was arrested, summarily condemned by a fragmentary tribunal, and, on the 15th of November 1792, was delivered over to appease the vengeance of an incensed and indiscriminating populace. His sufferings were indignantly protracted; circumstances of peculiar ignominy attended his execution; and he was executed near the spot where he gave orders for the military to fire on the people. He wore the red shirt, or badge of conspiracy, and was placed in a cart, with his hands tied behind him. In his progress to the place of execution, he was insulted and abused; and when he arrived at the fatal spot, during the removal of the guillotine, he was forced to descend from the cart, and to walk round the field, in order to gratify more completely the rancour of the mob. But all these trials were endured by him with firmness and magnanimity. A by-stander, at the time of his ascending the platform, infamously exclaimed, "Bailly, you tremble!" to which he faintly replied, "Yes, but not with fear," he shook indeed on account of the imminence of the weather. The character of Bailly, thus prematurely cut off in the fifty-seventh year of his age, may be estimated by his works. In his person he was tall; his deportment was sedate and grave; and he blended firmness with facility. During his magistracy, he spent part of his fortune in relieving the wants of the poor; nay he retired from office, impoverished rather than enriched; and in the various transactions of his life, he established the character of integrity and disinterestedness. His wife, who was the widow of his intimate friend Raymond Guye, and whom he married in 1787, survived him. He had eight nephews, whom he educated with all the attention and tenderness of a father. With regard to the motives which actuated his public conduct, there seems to be no difference of opinion, whatever discordant sentiments may be entertained concerning the cause to which his talents and life were devoted. Lalande's Eloge de Bailly. BAILLY, or BAILLIE, &c. la Revine, physician to King Henry IV., was born at Falaise in Normandy, about the middle of the sixteenth century. He was a distinguished advocate for the doctrines of Paracelsus, and in 1578 he published his "Democritian, or Aphorisms etc. continues summam doctrinam Paracelsiana," 8vo. Paris. It contains a defence of his practice, which being strongly opposed by the cotemporary physicians, in the following year he gave his "Reposicio ad quaestionem propositam Medicis Paracelsianus," also in 8vo. In 1580, he published "De peste tractatus," 8vo. Voces viri, Haller says, vex fenum admittat. We shall omit the titles of his various other writings, which may be found recited in Haller's Eth. Med. Pract. vol. ii. p. 218.

Moral. Carrere says of this physician, that perceiving he was about to die, he called his servants to him singly, and gave to each of them a portion of his money, then of his plate and furniture, bidding them, as soon as they had taken what he had given, to leave the house, and see him no more. When the physicians came to visit him, they told him they had found his door open, and the servants and the furniture removed and gone, nothing in fact remaining but the bed on which he lay. Then the doctor, taking leave of his physicians, said, since his baggage was packed up and gone, it was time that he should go also. He died the same day, November the 5th, 1605. Elyo Dict. Hist.

BAILEMENT, from Fr. bailler, to deliver, in Law, is a delivery of goods in trust, upon a contract express or implied that the trust shall be faithfully executed on the part of the bailer, a person to whom they are delivered; and the goods re-delivered as soon as the time or use for which they were bailed shall have elapsed or be performed. There are six sorts of bailments, which devolve a care and obligation on the party to whom goods are bailed; and which consequently subject him to an action, if he behave with regard to the trust repose in him.

1. A bare and naked bailment, to keep for the use of the bailer, which is called depofium; and such bailor is not chargeable for a common neglect, but it must be a good one to make him liable.

2. A delivery of goods which are useful to keep, and they are to be returned again in specie, which is called accommodation, or a lending gratis; and in such case the borrower is strictly bound to keep them; for if he be guilty of the least neglect, he shall be answerable, but he shall not be charged where there is no default in him.

3. A delivery of goods for hire, called lauris or conditio; and the hirer is to take all imaginable care, and restore them at the time, and if he use such care, he shall not be bound.
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4. A delivery by way of pledge, called pawn, and in such goods the pawnee has a special property; and if the goods be the worfe for using, the pawnee must not use them; otherwise he may use them at his peril; as jewels pawned to a lady, if the keep them in a bag, and they are stolen, she shall not be charged; but if she go with them to a play, and they are stolen, she shall be answerable. If the pawnee be at a charge in keeping them, he may use them for his reasonable charge; but if, notwithstanding all his diligence, he lose the pledge, yet he shall recover the debt. But if he lose it after the money tendered, he shall be chargeable, for he is a wrong-doer; after money paid (and tender and refusal is the same) it ceases to be a pledge, and therefore the pawnor may either bring an action of assumpsit, and declare that the defendant promised to return the goods upon requell; or trover, the property being vested in him by the tender. 5. A delivery of goods to be carried for a reward. (See Carrier.) 6. A delivery of goods to do some act about them (as to carry) without a reward, called by Bracton mandatum, in English, an acting by commission; and though he get nothing for his pains, yet if there were any neglect in him, he will be answerable, for his having undertaken a thing in sufficient consideration; but if the goods be misused by a third person, in the way, without any neglect of his, he will not be liable, being to have no reward.

On this subject, sir William Jones’s "Essay on the Law of Bailment" merits particular attention; and the following analysis will convey much knowledge in a short compass.

"Definitions. 1. Bailment, as before at the beginning of this article. 2. Deposit is a bailment of goods to be kept for the bailor without recompence. 3. Mandate is a bailment of goods, without reward, to be carried from place to place, or to have some act performed about them. 4. Leasing for use is a bailment of a thing for a certain time, to be used by the borrower without paying for it. 5. Pledging, is a bailment of goods by a debtor to his creditor, to be kept till the debt be discharged. 6. Letting to hire is (1) a bailment of a thing to be used by the hirer for a compensation in money; or (2) a letting out of work; and labour to be done, or care and attention to be bestowed, by the bailee on the goods bailed, and that for a pecuniary recompence; or (3) of care and pains in carrying the things delivered from one place to another, for a stipulated or implied reward. 7. Immovable bailements are those where the compensation for the use of a thing, or for labour and attention is not pecuniary; but either (1) the reciprocal use or the gift of some other thing; or (2) work and pains reciprocally undertaken; or (3) the use or gift of another thing in consideration of care and labour; and conversely. 8. Ordinary neglect, is the omission of that care, which every man of common prudence, and capable of governing a family, takes of his own concerns. 9. Gross neglect, is the want of that care which every man of common sense, how inattentive forever, takes of his own property. 10. Slight neglect is the omission of that diligence which very circumspect and thoughtful persons use in securing their own goods and chattels. 11. A naked contract is a contract made without consideration or recompense."

"II. The rules which may be considered as axioms flowing from natural reason, good morals, and found policy, are these. 1. A bailee who derives no benefit from his undertaking, is responsible only for gross neglect. 2. A bailee who alone receives benefit from the bailment, is responsible for slight neglect. 3. When the bailment is beneficial to both parties, the bailee must answer for ordinary neglect. 4. A special agreement of any bailee to answer for more or less, is in general valid. 5. All bailees are answerable for actual fraud, even though the contrary be conjectured. 6. No bailee shall be charged for a loss by inevitable accident or irresistible force, except by special agreement. 7. Robbery by force is considered as irresistible; but a loss by private theft is presumptive evidence of ordinary neglect. 8. Gross neglect is a violation of good faith. 9. No action lies to compel performance of a naked contract. 10. A repARATION may be obtained by suit for every damage occasioned by an injury. 11. The negligence of a servant, acting by his master's express or implied order, is the negligence of the master."

"III. From these rules the following propositions are evidently deducible. 1. A depository is responsible only for gross neglect; or, in other words, a violation of good faith. 2. A depository, whole character is known to his depositor, shall not answer for mere neglect, if he take no better care of his own goods, and they also be spoiled or destroyed. 3. A mandatory to carry is responsible only for gross neglect, or a breach of good faith. 4. A mandator to perform a work is bound to use a degree of diligence adequate to the performance of it. 5. A man cannot be compelled by action to perform his promise of engaging in a deposit or mandate; but,—6. A repARATION may be obtained by suit for damage occasioned by the non-performance of a promise to become a depository, or a mandatory. 7. A borrower for use is responsible for flight negligence. 8. A pawnee is responsible for ordinary neglect. 9. The hirer of a thing is answerable for ordinary neglect. 10. A workman for hire must answer for ordinary neglect of the goods bailed, and must apply a degree of skill equal to his undertaking. 11. A letter to hire of his care and attention, is responsible for ordinary negligence. 12. A carrier for hire by land or by water is answerable for ordinary neglect."

"IV. Exceptions to the above rules and propositions. 1. A man who spontaneously and officiously engages to keep or to carry the goods of another, though without reward, must answer for flight negligence. 2. If a man through strong persuasion and with reluctance undertake the execution of a mandate, no more can be required of him than a fair exertion of his ability. 3. All bailees become responsible for losses by casualty or violence, after their refusal to return the things bailed; on a lawful demand. 4. A borrower and a hirer are answerable in all events, if they keep the things borrowed or hired after the stipulated time, or use them differently from their agreement. 5. A depository and a pawnee are answerable in all events if they use the things deposited or pawned. 6. An inn-keeper is chargeable for the goods of his guest within his inn, if the guests be robbed by the servants or inmates of the keeper. 7. A common carrier by land or by water must indemnify the owner of the goods carried, if he be robbed of them."

"V. It is no exception, but a corollary from the rules, that every bailee is responsible for a loss by accident or force, however inevitable or irresistible; if it be occasioned by that degree of negligence for which the nature of his contract makes him generally answerable."

The following cases may serve to illustrate the above principles.

A man leaves a chest locked up with another to be kept, and doth not make known to him what is therein; if the chest and goods in it are stolen, the person who received them shall not be charged for the same, for he was not trusted with them. And what is said as to stealing is to be understood of all other inevitable accidents; but it is necessary for a man that receives goods to be kept, to receive them in a special manner, viz. to be kept as his own, or at the peril of
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of the owner. 1 Litt. Abr. 193, 194. And vide 1 Rol. Abr. 238. 2 Show. pl. 166.

If I deliver to A. to buy cattle, and he beflows gol. of it in cattle, and I bring an action of debt for all, I shall be barred in that action for the money bestowed and charges, &c. but for the rent I shall recover. Hob. 207.

If one deliver his goods to another person, to deliver over to a stranger; the deliverer may countenanc his power, and require the goods again; and if the bailee refuse to deliver them, he may have an action of account for them. Co. Litt. 286.

If A. delivers goods to B. to be delivered over to C. hath the property, and C. hath the action against B. for B. undertakes for the safe delivery to C. and hath no property or interest but in order to that purpose. 1 Rol. Abr. 665. see 1 Bulst. 68, 69. where it is said that in case of conversion to his own use, the bailee shall be answerable to both.

But if the bailement were not on valuable consideration, the delivery is countenancable; and in that case, if A. the bailor bring trover, he reduces the property again in himself, for the action amounts to a countenanc; but if the delivery was on a valuable consideration, then A. cannot have trover, because the property is altered; and in trover the property must be proved in the plaintiff. 1 Bulst. 68; see 1 Leon. 30.

And where a man delivers goods to another to be re-delivered to the deliverer at such a day, and before that day the bailee dott sell the goods in market ovet; the bailor may at the day feixe and take his goods, for the property is not altered. Godb. 160.

If A. borrows a horse to ride to Dover, and he rides out of his way, and the owner of the horse meets him, he cannot take the horse from him; for A. has a special property in the horse till the journey is determined; and being in lawful possession of the horse, the owner cannot violently seize and take it away; for the continuance of all property is to be taken from the form of the original bargain, which in this case was limited till the appointed journey was finished. Yelv. 172. But the owner may have an action on the cafe against the bailee for exceeding the purposes of the loan; for so far it is a secret and fallacious abuse of his property; but no general action of trespass, because it is not an open and violent invasion of it. 1 Rol. Rep. 128.

As to borrowing a thing perilable, as corn, wine, or money, or the like, a man must, from the nature of the thing, have an absolute property in them; otherwise it could not supply the uses for which it was lent; and therefore he is obliged to return something of the same sort, the same in quantity and quality with what is borrowed. Dr. & Stud. 170.

But if one lend a horse, &c. he must have the fame re-

ferred. If a thing lent for use be suffered to any other end or purpose than that for which it was borrowed, the party may have his action on the cafe for it, though the thing be never the worse; and if what is borrowed be lost, although it be not by any negligence of the borrower, as if he be robbed of it; or where the thing is impaired or destroyed by his neglect, admitting that he put it to no more service than that for which borrowed, he must make it good; so where one borrows a horse, and puts him in an old rotten horse ready to fall, which falls on and kills him, the borrower must answer for the horse. But if such goods borrowed perish by the act of God (or rather, as Sir William Jones says, it ought more reverentially to be termed, by inevitable accident), in the right use of them; as where the borrower puts the horse, &c. in a strong house, and it falls and kills him, or it dies by disease, or by default of the owner, the borrower shall not be charged. 1 Infr. 89. 29 Aff. 28.

If one delivers a ring to another to keep, and he breaks and converts the same to his own use; or if I deliver my sheep to another to be kept, and he suffers them to be drowned by his negligence; or if the bailee of a horse, or goods, &c. kill or spoil them, in these cases action will lie. 5 Rep. 13. 15 E. 4. 20b. 12 E. 4. 13.

If a man deliver goods to another, the bailee shall have a general action of trespass against a stranger, because he is answerable over to the bailor; for a man ought not to be charged with an injury to another, without being able to retire to the original cause of that injury, and in amendment there to do himself right. 13 Co. 69. 14 H. 4. 28. 25 H. 7. 14. See Jacob's Law Dictionarv by Tomlinis, art. Bailment. Blackft. Com. vol. ii. p. 356. 451. &c.

BAILO, or BAILE, a name given at Conflantinople to the ambaffador of Venice residing at the Porte, who also does the office of conful of his nation.

The word is doubtfuf the remins of the word hofjar, which the modern Greeks and Turks have formed into baiio.

The Venetian confuls at Aleppo, Alexandria, Smyrna, and other parts of the Levant, are also denominated baiio.


BAILYBOROUGH, in Geography, a market and poft town of the county of Cavan in Ireland, which, though of very mean appearance, has an excellent market. The crops in its vicinity consist of potatoes, flax, and oats, and are very poor. There is a black-green contiguous to the town, and there are some small farmers in the neighbourhood, who make butter for market, which is sent to Neney for exportation. Their pigs, which form a considerable article of trade, are sent to the same place. This town has been hitherto very much neglected; but such are its advantages of situation, that if any encouragement were given, it might be easily raised to a state of prosperity and confequence. Between this town and King's Court is a lake, or rather pool, on the summit of a mountain, which is celebrated for its anticoberute virtues, and is much frequented from June to August. Many bathe in the lake; but the mud, which is taken up from the depth of thirty feet, and rubbed on the affected parts, is deemed the most efficacious. This mud is a greatly liming subfance like tar. The lake covers about half a square good in area, and has a range of lofty hills to the east and west. For about six feet from the surface the water is pure and clear, with something of a callybate taste. It is observed of it, that the sun or atmosphere has no effect either in impor-
near the southern bank of the Nile, and runs southward through the heart of Egypt; and after a course of 400 miles mix-\-s with the Godavary, within the hills that bound our northern circuit, about ninety miles above the sea. It is not certain how far the Pain Ganga is navigable; but it is mentioned as a large river in the early part of its course; and is probably equal in bulk to the Godavary, when it joins it. Rapee's Spec. p. 246.

BAINBRIDGE, John, in Biography, an eminent physician and alchemist, was born at Adysh de la Zouche, in Staffordshire, in 1612, finished his education at Emmanuel college, in the university of Cambridge, and then returned to his own county, where for some years he taught a grammar school, and practiced physic. He also applied himself to the study of mathematics and astronomy, to which he had been devoted from his early years. Upon his removal to London, he was admitted a fellow of the college of physicians. His "Description of the comet" in 1613, introduced him to an acquaintance with Sir Henry Savile, by whom he was appointed, in 1619, his first professor of astronomy at Oxford, where he felt the entering himself a master commoner of Milton college, for some years. At the age of forty years he began the study of Arabic, with a view of publishing correct editions of the ancient astronomers. He died at Oxford, November the 30th, 1643, in the sixty-third year of his age. His works that were published are: "An Astronomical Description of the late comet from November 16th, 1613, to the 15th of December following," London, 1619. 4to; "Procli Sphaerae" and "Ptolemei de hypothecibus Planetarum liber fingulares," to which he added Ptolemy's "Canon regorum," 1620. 4to; "Canuncaria," published at Oxford, in 1648, by Mr. Grevius, together with a demonstration of the heliacal rising of Sirius or the dog-star for the parallel of Lower Egypt, written at the request of archbishop Usher. Several other treatises were prepared for the press, and left in MS. Biog. Brit.

BAINDER, in Geography, a town of Asiatic Turkey, in the province of Natalia, forty-four miles east from Baalbek.

BAINDT, a town of Germany, in the circle of Swabia, fix miles N.N.E. of Ravnspurg.

BAINt, a river of England, in Lincolnshire, which passes by Horncastle, Tatterhall, &c., and joins the Witham near the left-mentioned place.

BAINETTA, a town of Piedmont, in the province of Cuneo, on the Orlogio, six miles S. E. from Cuneo, and eight W. S. W. from Monday, in Pertine.

BAINS, a town of France, in the department of the Voges, and chief place of a canton in the district of Darcy; 24 leagues west of Plombieres, and 54 south-east of Darcy.

BAIOCCHO, in Commerce, a copper coin in modern Rome, equivalent to a tenth part of the lira, or a hundredth part of the ducat.

The basiocco is worth about nine deniers, French money.

BAIJOLE, Cape, in Geography, the most northerly cape of Minorca island, in the Mediterranean, ten leagues from the most northerly cape of the island of Majorca.

BAIPLA, a town of North America, in New Navarre, 15 miles south-west from Cafa Grand.

BAIRAM, a name given to the great annual feast of the Mahometans.

The word is also written, by some authors, more conformably to the oriental orthography, bellarn. It is originally Turkish, and signifies literally, a fast-day, or holiday.

The Mahometans have two baisams, the great and the little, which Scaliger, Euphranius, Rycruit, Hyde, Chardin, Babronus, and other European writers, commonly interchange, giving the appellation great to that which the Turks call tile, and vice versa.

This feast commencing with the new moon, the Mahometans are very exact in observing the time when the new moon commences, and which purpose, observers are sent to the tops of the high mountains, who, the moment they spy the appearance of a new moon, run to the city, and proclaim resplendens, ancient news; as it is the signal for beginning the feast.

The ceremonies are described at large by Rycraft and Tournefet.

BAIYAN, the Greater, is properly that held by the pilgrims at Mecca, commencing on the tenth of Dhu'l-Hijjah, which the Moors are fond, and lasting three days. This is called by the Arabs, el al korban, el elKal, that is, the feast of the sacrifices, as being celebrated in memory of the sacrifice of Abraham, whose son, Isa, was accorded with a great victim. By European writers it is called the Iftar benaram, as being left taken notice of by the generalty of the people, who are not struck with it, because the ceremonies attending it are performed at Mecca, the only scene of the solemnity.

The Iftar benaram is called in Arabic Ifta al Fait, that is, the feast of breaking the fast, and begins the first of Shawal, immediately succeeding the fall of Ramadan. This is called by the vulgar, and by most other writers who have written of the Mahometan affairs, the greater benaram, because it is observed in an extraordinary manner, and lasts for three days at Constantinople and in other parts of Turkey, and for five or six days in Perisa, during which no work is done; but presents pass from one to another, with many other manifestations of joy. If the day after Ramadan should prove cloudy as to prevent the sight of the new moon, the benaram is put off till the next day, when it begins; though the moon be still obscured. When they celebrate this feast, after numerous ceremonies, or rather strange mimeries, in their mosques, they end it with a solemn prayer against the hideks, to root out Christian princes, or to arm them one against another, that they may have an opportunity to extend the borders of their law.

Sale's Pred. Diff. p. 150.

BAIRDSTOWN, or BEARDS'TOWN, in Geography, a flourishing town of America, in Nelson county, Kentucky, containing 216 inhabitants, seated on the head-waters of Salt-river, fifty miles S. E. from Louisville, and about the same distance S. W. from Danville.

BAI'OULT, as it is pronounced by the Arabs, and as the modern Greeks pronounce Esghi, Belaou, or the ancient Berytus, a town of Syria, in the pashalic of Sidc or Aeros, is situated in a plain, which runs out from the foot of Mount Lebanon into the sea, narrowing to a point about two leagues from the ordinary level of the shore, and on the mouth side forms a pretty long road, receiving the river of Nabul-Salih, called also Nahar-Baout. The frequent floods to which this river is subject in winter, have occasioned the erection of a considerable bridge; but this is in a ruinous a state as to be impassable. The bottom of the road is rocky, which chafes the cables, and renders it insecure. The town of Baaut, which lies about an hour's journey westward towards the point, I clung till of late to the Druses, but Djezzar took it from them, and placed in it a Turkish garrison. It still continues, however, to be the emporium of the Maronites and the Druses, where they export their cottons and their silk, altho all of which are sent to Cairo. In return, they receive rice, tobacco, coffee, and specie, which they exchange again for the corn of the Bekaa and the
the Hauran. This commerce maintains near 6000 persons.

The deceit of the inhabitants is the most corrupt of any in the country; and it is said to unite in itself the twelve faults enumerated by the Arabian grammarians. The port of Baira, formed like all the others on the coast by a pier, is, like them, choked up with sand and ruins. The town is surrounded by a wall, the last and only float of which may be pierced by a cannon-ball, without breaking or crumbling; in other respects this wall, and its old towers, are defences.

Baira is subject to two inconveniences, which will always prevent its becoming a strong place; for it is commanded by a chain of hills to the south-call, and it is altogether deficient of water, which is fetched by the women at the distance of half a quarter of a league, and even this is but indifferent. Djereza has undertaken to construct a public fountain, as he has done at Acre; but the cauld will soon become useless. In digging, in order to form reservoirs, fabulous ruins have been discovered, from which it appears that the modern town is built on the site of the ancient Berytus; and without the wall, towards the sea, heaps of rubbish and shafts of columns indicate that Berytus has formerly been much larger than it is at present. The site around it is entirely planted with white mulberry trees, which are young and flourishing, and therefore the silk produced here is of the finest quality. In descending from the mountains, the verdure formed by the tops of these trees in the dilapidated bottom of the valley exhibits a very delightful prospect. The heat, and the warmth of the water, render Baira in summer an inconvenient place of residence; the town, however, is not unhealthy; more especially since the emir Fakr-ed-din has planted a wood of fir trees about a league southward of the town. Volney's Travels in Egypt and Syria, vol. ii. p. 187, &c. See BERYTUS.

BAISE, a river of France, which runs into the Garonne, near Aigunon.

BAIT, White, in Ichthyology, a small fish, which is caught in great plenty, from August 1, to October 1, by flat. 30 Geo. II. c. 21, in the river Thames. See WHITE BAIT.

BAIT, in Fishing. Baits make a capital article in angling; on the choice whereof much of the sport depends; different seasons, and different game, having their appropriate baits. The red, or earth-worm, is good for the small fry most of the year round; and small fish are good baits for pikes at all times; sheep's blood and cheese are good bait in April; the boeuf, dried wafps, and bees, are for May; brown flies for June; maggots, hornets, wafps, and bees, for July; fish in August; grasshoppers in September; corn, bramble-berries, and fields, at the fall of the leaf; artificial baits are for May, June, July, and frogs for March.

Baits are either natural or artificial.

Baits, Natural, include all kinds of worms, as the red worm, maggots, &c. also frogs, grasshoppers, hornets, bees, snails, roaches, blow, gnats, and locusts. &c.

These baits are to be kept each separate, and fed with those things which they like best.

The red worm is to be kept in rich black mould, with a little funnel chomped among it; a little ox or cow dung, newly made, is also a very acceptable thing to them. They may be kept in a box, with small holes in it, or in a bag. Red worms, and all other sorts, Seem quickly, and grow very tough and bright, on putting them into a thin clove, greased with fresh butter, or greafe, before they are put into moats.

This is the beer of all things to keep them in; but the moat must be first very well washed, and the water squeezed out again. As to food, a spoonful of cream, dropped into the moat once in three or four days, is better than any thing else. The moats is to changed every week, and kept in a cool place.

White large maggots are an excellent bait for many sorts of fish, and they are to be kept on sheep's feet and liver chopp'd in hot.

Hogs and grasshoppers are to be kept in wet moats, and long grass; and on moistening this air they will keep a long time. They are to have their legs and wings cut off when they are used.

Live flies must be used as they are caught; but wafps, bees, hornets, and humble-bees, may be preferred dry. The best method of drying them, is putting them in an oven after the bread is drawn. Care must be taken that they are not firstched; and when they are taken out they are to have the heads dipped in sheep's blood. This is to be suffered to dry on, and then they are to be preferred in a box. They will keep for three or four months. See ANGLING.

Baits, Artificial, are flies of all kinds and shapes, made of silk, feathers, and the like. The variety of these is very great; there being not only different ones for every season and month in the year, but almost for every fish. See ANGLING.

There are several artificial baits, for enticing of bough, and yet without tantalising or hurting the fish, so as to make it un-able.

Baits, Dead, are piles of divers sorts, made of corn, cheese, fruit, wafps, sheep's blood, boiled beans, &c. See ANGLING.

Bait, Ground. See ANGLING.

Bait, Ledger, is that which remains fixed in one certain place, while the angler may be absent; esp. in fishing for pike.

Bait, Walking, is that which the angler attends while he keeps moving from place to place, in quest of the fish.

Baits of Hemp, denote bundles of that plant, pulled and tied up, ready for deeping in water. See Fly-Fishing.

BAIT-EL-LAHAM, the ancient Bethelhem, in Geography, a town of Syria, in the pacelie of Damascus, is a village about two leagues south-east of Jerusalem, seated on an eminence in a country full of hills and vallies. The adjacent soil is the belt in all these districts; so that fruits, vines, olives, and sennaum, succeed here extremely well; and nothing is wanting but cultivation. They reckon about 600 men in this village capable of occasionally bearing arms; and occasions of this kind frequently occur, sometimes to refrain the pacha. Sometimes to make war with the adjoining villages; and sometimes in consequence of intestine divisions. Of these 600 men, about 100 are Latin Christians, who have a vicar dependent on the great convent at Jerusalem. The whole trade formerly confined in the manufacture of beads; but not finding a sufficient vent for them, they have refixed the cultivation of their lands. They make a white wine, which justifies the former celebrity of the wines of Judaea, but it has the property of being very heavy. The necessity of uniting for their common defence prevails over their religious differences, and induces the Christians here to live in tolerable harmony with their fellow-citizens the Mahometans. Both are of the party of Tamar, which, with its opposite called Keify, divides the whole of Palestine into two factions that are perpetually at variance. The courage of these peasants has been frequently tried, and renders them formidable through the whole country. Volney's Travels, vol. ii. p. 323. See BETHELHEM.

BAITHUSUS, in Biography, a Jewish teacher, and one of the founders of the sect of the Sadducees, flourished in Judea,
BAJULATIO, the office of a bajulus or bailiff.

Bajulus, an ancient officer in the court of the Greek emperors; whereof there were several degrees: as the grand bajulus, who was preceptor of the emperor, and the simple bajuli, who were sub-preceptors.

Hence the Italians use the word bajulus of a kingdom in the same sense with protector of a kingdom among the English. The word is derived from the Latin verb bajulare, to carry, or bear a thing on the arms, or on the shoulder.

Children, and especially those of condition, bad anciently, beside their nurse, a woman called gersul, as appears from several passages of Tertullian; when weaned, or ready to be weaned, they had men to carry them about to take care of them, who were called gersuli, and legule, air gerenda & bajulando.

Bajulus is also used by Latin writers in the several other senses wherein bailiff is used among us.

Bajulus was also the name of a conventual officer in the ancient monasteries, to whom belonged the charge of gathering and distributing the money and legacies left for masses and obits: whence he was also deminimissed bajulus obitanum novorum.

Bajulus, in Entomology, a species of Ceratbyx (Cylindrum) that is found in the trunks of trees in the northern parts of Europe. The thorax is villous, with two tubercles; body brown. Fabricius. This is ceratbyx cuadnus of Degeer; and leptura bajula of Scopoli. Gmelin.—Of a variety of this species (3) is described by Linnaeus. Fa. Succ. i. p. 450. The colour of which is tchaffa: thorax cinereous, and villous, with two little glabrous lines; in the Fabrician monstifin. Another variety (γ) is noticed: it is a native of Saxony, and only half the size of the former.

Baius, Michael, in Biography, a professor of divinity at Louvain, was born at Melin, in the territory of Aeth, in the year 1513, and educated in the university of Louvain; where he was elected, in 1541, principal of one of the colleges; and in 1544, lecturer in philosophy. In 1550 he took his doctor's degree, and was appointed professor of the holy scriptures. Baius and his associate having adopted the tenets of Luther, and appealing to the authority of Augustin, taught doctrines concerning grace and free-will, contrary to those which had been commonly received in the church of Rome. The complaint of heresy was excited; Baius was accused as a chief instrument of promoting it; and the doctors of the Sorbonne at Paris pronounced a sentence of censure. The clamour against him was circulated; and a number of propositions, collected from books published by him in 1561 and 1564, were transmitted in 1567 to pope Pius IV. The pope issued a bull condemning these propositions; but without mentioning the name of the author, and adding a kind of ambiguous clause, which seemed to intimate, that some of the propositions which he condemned, admitted of a favourable construction. By these measures of policy, suggested by the experience of the evils that had arisen from pursuing a more intemperate conduct with regard to Luther, the perfon of Baius was exempted from the penalties of ex-
BAK

communication, and he continued to exercise his functions, and even to vindicate his doctrines; whilst he solicited the pope to absolve the irregularity. About thirteen years after this transfiguration, complaints against Bains were renewed; and Pope Gregory XIII., at the mitigation of the Jesuits, confirmed the sentence of Pius IV. Bains quietly acquiesced in the papal sentence, and continued in condemning the propositions agreeably to the design and meaning of the bull. Bains, notwithstanding the popular odium which he incurred, retained his office, and received further preference. He, and Hellek, his associate in the professorship at Louvain, were the two divines commissioned to attend the council of Trent, in the year 1563. In 1575, he was preferred to the deanery of St. Peter at Louvain, and elected chancellor of the university; and, in 1578, was appointed confessor of its privileges. In 1580 he died, at the age of seventy-seven years. Mosheim represents him as equally remarkable on account of the warmth of his piety as the extent of his learning. In proof of his charitable disposition it is alleged, that by his will he left his whole estate to the poor. His manners were engaging; and Tolet, one of his adversaries of the fraternity of Jesuits, said of him, "Michaele Bino nihil docuit, nihil humanum:" nothing can be more learned, nothing more humble than Bains. As his works, relating chiefly to the controversy concerning grace and free-will, are not likely to be now much sought after, it is not unsafe to enumerate them. They were printed entire in 4to, at Cologne, in 1692. They are written with logical precision, and in a neat style. Gen. Dict. Mod. Eccl. Hist. vol. iv. p. 235, and 236.

BAIX, in Geography, a town of France, in the department of the Ardeche, two leagues and a half south-east of Privas.

BAIZE, a town of Germany; in the county of Tyrol, eight miles south of Trent.

BAIZE, in Commerce. See Bays.

BAKAL, in Geography, a town of Russia, in the government of Ufa, ninety-six miles N.W. of Ufa.

BAKAN, a town of Asia, in the Birmian empire, seated on the river Ava. N. lat. 19° 35', E. long. 98° 3'.

BAKER, Sir Richard, in Biography, an English historian, was the grandson of Sir John Baker, chancellor of the exchequer, in the reign of Henry VIII., and born at Sillingerhill in Kent, about the year 1508. He was entered as a commoner at Hart's Hall, in Oxford, in 1524, and having spent three years in academic studies, finished his education in one of the inns of court, and by travelling. In 1603, he obtained the honour of knighthood; and in 1620 he was appointed high-herifl of the county of Oxford. By involving himself in pecuniary embarrassment, in consequence of his marriage, he was obliged to take refuge in the Fleet prison, where, after remaining there several years, he terminated his life in 1645. In these circumstances of confinement and humiliating distress, he obtained relief by study, and from the influence of religious principles. Besides other tracts of less importance, in the composition of which he amined himself, his principal work was the "Chronicle of the Kings of England from the Time of the Romans' Government unto the Death of King James," published in folio, at London, in 1641, and afterwards continued by Edward Phillips, a nephew of Milton. This chronicle continued to be popular for several years, and deferredly so if the author's account of it be just; for he says, "that it was collected with so great care and diligence, that if all other of our chronicles should be lost, this only would be sufficient to inform posterity of all passages memorable or worthy to be known." But of this performance a least favor able opinion has been entertained by others; and the critical examination of Thomas Blount in his "Anecdotes upon Sir Richard Baker's Chronicle, and its Continuation," published in 1600, at Oxford, in 1672, in which many gross errors, respecting dates, names, places, and facts, were pointed out, greatly depreciated its value in the public estimation. Although a new corrected edition, with a second continuation, appeared in 1752, yet Baker's chronicle remained, after all, a performance ill-constructed, injudicious, and unworthy of confidence. Of the writer's taste and style the following commendation of his panegyrist, Sir Henry Wotton, will afford an adequate idea: "I much admire the character of your style, which seemeth unto me to have not a little of the African idea of St. Afinin's age; full of sweet raptures, and of researching conceits; nothing borrowed, nothing vulgar, and yet all flowing from you, I know not how, with a certain equal facility." Biog. Brit.

BAKER, Thomas, an eminent mathematician, was born at Ilton in Somercotes, about the year 1625, and was educated at Oxford. In 1645 he was elected scholar of Wadham college, took his degree of bachelor of arts in 1647, and soon afterwards left the university. As vicar of Bishops Nymnet in Devonshire, he lived in studious retirement, and chiefly applied himself to the study of mathematics; during which time he took the following note on the Geometrical Key, or the Gate of Equations unlocked, and published at London in 1684, 4to, in Latin and English. An account of this book is given in the Phil. Trans. vol. xiv. No. 157. p. 549, 550. (See Central Rule.) To some mathematical queries, sent to him by the members of the Royal Society, not long before his death, he returned an answer so satisfactory, that they gave him a medal, with an inscription honourable and respectable. He died at Bishops Nymnet, June 5th, 1699, and was buried in his own church. Biog. Brit.

BAKER, Thomas, a writer and antiquary of eminence, was born at Lanchester in the county of Durham, in 1656, and studied at St. John's college, Cambridge, where he became a fellow. In 1699 he published, in 8vo, an anonymous work, intitled, "Reflections upon Learning, wherein is shewn the Insufficiency thereof, in its several Particulars, in order to evince the Necessity and Usefulness of Revelation," which passed through several editions, and was regarded, for many years, as a standard of wise writing. As to its style, however, it has been observed, that, whilst it is allowed to be perspicuous and manly, it has no claim to any high degree of elegance; and whatever merit the work in general may be supposed to possess, it will be justly questioned, whether an author, who bewails cold and partial praise on Bacon, who in a chapter of metaphysics omits the mention of Locke, who speaks contemptuously of the Copernican system, and who attacked Le Clerc with an unbecoming airy, was duly qualified to pass judgment upon general learning. The ingenious Dr. Jortin says of him (Life of Erasmus, p. 550, 551), "that he was no critic himself, and not at all acquainted with the true state of chilfich books, and particularly of Greek authors." Baker, though he possessed real erudition, and though his remarks are often acute and ingenious, has unduly disparaged the writings of able men, and the discoveries of modern science. In the progress of his life, he pursued studies for which he seems to have been better qualified. As a collector of antiquities, and particularly of such as related to the church and university, he excelled. His talents in this way were employed in collecting materials for a history of the university of Cambridge; but though he lived to an advanced age, the history was never completed.

Baker
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Baker was unquestionably a man of integrity and candour. By life he was referred to as the ablest required by government at the election of George I. He left his fellowships; but he retained his chambers at St. John's college, which was highly esteemed, and Mr. Prior, the celebrated poet, at the profits of his own fellowship to Baker, in order to supply the loss of income which he had sustained. He corresponded with men of learning, and the letters of learning, and he was liberal in his literary contributions to those which he considered the purveyors of information and protection to his friends. who was indebted to him for several remarks and corrections relating to his "History of the Reformers." These two parts, though very different from each other with regard to their subjects and principles, met tender and friendly intercourse, which were honourable to both. Baker's private character was amiable, and he was beloved and respected by all who knew him. He died at Cambridge, July 21, 1746, in his eighty-fourth year. Of his extensive collections, he left twenty-three volumes in folio, written by his own hand, to Lord Oxford, and they now compose part of the Harlani collection in the British museum. He also bequeathed fifteen volumes folio, of a like kind, to the public library at Cambridge, together with other MSS. and printed books. Biog. Brit.

"Mr. Baker," says a late biographer, Horatio Walpole Earl of Oxford, "lived and died in charity with all mankind, and was perhaps the noblest man of his age, who bequeathed his valuable books to a society that eXected him, and to the ministers of a church in which he had left preferment." Memoirs of the Life and Writings of the late Thomas Baker, &c. by R. Maber. 1784.

BAKER, Isaac, an ingenious and diligent naturalist, was born in London near the close of the seventeenth or the beginning of the eighteenth century, and apprenticed to a bookseller. This employment, if he ever engaged in it after the expiration of his apprenticeship, he soon relinquished; and having directed particular attention to the methods which might be practicable and useful in the care of common rings, he engaged in teaching deaf and dumb persons to speak; and in this undertaking he was very successful. He married a daughter of the celebrated Daniel Defoe. In the earlier period of his life, he indulged a taste for poetry, and published, in 1725 and 1726, "Original Poems, serious and humorous," in two parts, in which there are some tales that resemble in wit, and also in licentiousness, those of Prior. He was the author likewise of "The Universe, a Poem intended to reclaim the Pride of Man;" several times reprinted, and of "An Invocation to Health," reprinted in his "Original Poems." At a more advanced period of life, he purposed various branches of study and experiment in philosophy and natural history, and devoted himself more exclusively to microscopical researches and observations. In 1742, he was elected a fellow of the Antiquarian and Royal Societies; in both which he was a regular attendant. In 1744, the Royal Society honoured him with Sir Godfrey Copley's medal in recompense of his microscopical discoveries, the crystallizations and configurations of saline particles. Among various topics, on which he communicated papers to the Royal Society, that have been published in their Transactions, one was the water-polyne (see Polype); and his remarks on this curious animal were enlarged into a separate treatise, which passed through several editions. The most important and valuable of his observations are contained in his two principal works, intitled, "The Microscope made safe," and "Employment for the Microscope," of which many editions have been published. Mr. Baker was one of the earliest and most zealous members of the society for the encouragement of arts, manufactures, and commerce; and by his extensive correspondence he was eminently useful in introducing into his own country several valuable methods of culture. To him we are indebted for the true history of the "Coccus Polonianus," for the "Alpina Strabiana," and for the "Rhamn Phalangus." After the first discoveries in electricity, he was one of the first who announced to the public the apprehended medicinal effects that might result from the application of it, and to relate the experiments of this kind which had been made at Rome and Bologna. He did not, however, cheapen the virtues of critics, and particularly of Mr. Hill, in his review of the works of the Royal Society. It has been said of him, more to the chagrin of those who have thrown out this invidious and injudicious reflection on him to his disgrace, that he was a philosopher in both things; but careless of his description in order to forget that the minute productions of nature display the great and small, as much as the large, and they generally change the vulgar eye. Mr. Baker, like one of his biographers, was "an intelligent, upright, benevolent man, much respected by those who knew him best. His friends were the friends of science and virtue; and it will be always remembered by his contemporaries, that no one was more ready than himself to afford those with whom he was conversant, in their various researches and endeavours for the advancement of knowledge and the benefit of society. After a life industriously devoted to these great objects, he died at his apartment, in the Strand, Nov. 23th, 1774. The bulk of his fortune was bequeathed to his only grandson; and he left 122l. to the Royal Society for an anatomical or chemical lecture. Biog. Brit.

BAKER'S Central Rule, in Mathematics. See Central

Rule.

BAKER'S Dyer Islands, in Geography, a cluster of islands near the east side of Hudson's bay, about N. lat. 57° 30' and W. long. 81°, to the west of an opening which goes to the east and north-east as far as the south-east end of Hudson's straits.

BAKERSFIELD, a newly-settled township of America, in Franklin county, Vermont, formerly in Chittenden county.

BAKERSTOWN, lies in Cumberland county, and diocircuit of Maine, containing 1276 inhabitants; distant 102 miles north-east from Boston.

BAKEU, or BACOU, a town of European Turkey, in the province of Mollavania, 80 miles west of Jaffa.

BAKEWELL, is an ancient market town of England, in the county of Derby. In the Saxon chronicle it is called Badeceawellum; from which circumstance Mr. Bray conjectures that a bath had been used in this place previous to the year 924, at which time King Edward the elder ordered a strongly fortified town to be built in the vicinity. The parish of Bakewell is the most extensive in the county; its length from north to south being more than twenty miles, and its breadth upwards of eight. Its number of houses is 299, and that of inhabitants 1472. In consequence of the extent of this parish, it has nine chapels of ease besides the church in the town. The latter, situated on an eminence, is an ancient and handsome structure, built in the form of a crescent, with an octagonal tower in the centre, supporting a lofty spire. The architecture of this fabric combines a variety of styles. The plain Saxon appears in the nave, and the arch of the western doorway is enriched with zigzag ornaments; but the other parts are built in that style which prevailed in the fifteenth century. Here are fone ancient and curious monuments. In the church yard is a Catholic stone cross, whose sides are ornamented with a rudely executed
The market was formerly held on a Monday, but it is now kept on Fridays. Near the entrance of the town from Ashford is a large mill for the carding, roving, doubling, spinning, and twining of cotton; in which manufacture from 300 to 350 persons of both sexes are constantly employed. This mill was erected by the late Sir Richard Arkwright, who was the founder of the cotton trade in this neighbourhood. Between the gritstone and limestone strata about Bakewell, is a thick stratum of flint, which being of an argillaceous nature, and retentive of moisture, renders the pallurage extremely good and thriving. Bakewell is 25 miles north of Derby, and 152 miles north-west from London. About three miles east of this town is Chatsworth, a magnificent seat of the duke of Devonshire. This celebrated mansion was erected by William the first duke of Devonshire, in the year 1702. It is built in the Ionic order, with a flat roof, surrounded by a balustrade. Its form is nearly a square, of about 106 feet, including a spacious quadrangular court, having a fountain in the centre, with the statue of Orpheus. The fronts which form the quadrangle, are decorated with rich sculptural representations of military trophies. This mansion is sumptuously furnished, and embellished with carved ornaments by the celebrated Gibbons, with painted walls and ceilings, with portraits, also a collection of fossils, &c. The unfortunate Mary, queen of Scots, was doomed to thirteen years' captivity in the old mansion at this place. The park is about nine miles in circumference, and is diversified with much grand, picturesque, and beautiful scenery. The water-works, which about fifty or sixty years ago gave Chatsworth great celebrity, are still preferred near the south-east and south sides of the house; but they attract little attention in the midst of such a variety of natural beauties.

About two miles south of Bakewell is Haddon Hall, a truly venerable mansion belonging to his grace the duke of Rutland. The high turrets and embellishments of this house, when beheld at some distance, give it the resemblance of an ancient fortified castle. It consists of numerous apartments and offices, which surround two paved quadrangular courts. The most ancient part is the tower of the gateway, which was probably built about the time of Edward the Third. The gallery was erected in the time of queen Elizabeth; but the chapel was raised in the reign of Henry the Sixth. Many of the rooms are very spacious; and the doors were concealed behind the hangings of arras, which must have been always lifted up for persons to pass in and out. Haddon Hall presents perhaps a more complete specimen of the ancient English baronial mansion, than is to be found in any other house in the kingdom. For a particular description of it see The Beauties of England and Wales, vol. iii. p. 494.

At a short distance from Bakewell is Ashford, where are some considerable marble works. Thence were the first of the kind established in England, and great quantities of black and grey marble are faved and polished. This operation is performed by machinery, which is kept in motion by water. One part, called the levering mill from its circular motion, will work upon, and level a foot of marble flabs of eighty superficial feet. Beauties of England and Wales, vol. iii.

**BAKEWELL BREED,** an improved species of sheep, which have been bred by Mr. Bakewell of Dilliegh. See SHEEP.

**BAKHYUSEN.** See BACHUYSEN.

**BAKIAN.** See BACHIAN.

**BAKING,** the art of preparing bread, or of reducing meats of any kind, whether simple or compound, into bread.

Vol. III.

The forms of baking among us may be reduced to two; the one for unleavened, the other for leavened bread.

The learned are in great doubt about the time when baking first became a particular profession, and bakers were introduced. It is generally agreed they had their rise in the East, and passed from Greece to Italy after the war with Pyrrhus, about the year of Rome 535. This which every housewife was her own baker, for the word *fōlor*, which we find in Roman authors before that time, signified a person who ground or pounded the grain in a mill or mortar to prepare it for baking, as Varro observes. According to Athenaeus, the Cappadocians were the most applauded bakers, after them the Lydians, then the Phrygians.

To the foreign bakers brought into Rome, were added a number of freedmen, who were incorporated into a body, or, as they called it, a *collega*; from which neither they nor their children were allowed to withdraw.—They held their effects in common, and could not dispose of any part of them. Each bake-hous had a *patronus*, who had the superintendency thereof; and three *patroni* elected one out of their number each year, who had the superintendence over the reft, and the care of the college. Out of the body of the bakers, every now and then, was one admitted among the senators.

To procure honour and honesty in the college of bakers, they were expressly prohibited all alliance with comedians and gladiators; each had his shop or bakehouse, and they were distributed into fourteen regions of the city. They were excused from guardianships and other offices, which might divert them from their employment.

By our own statutes, bakers are declared not to be handicrafts. No man for using the mysteries or sciences of baking, brewing, furnishing, or writing, shall be interpreted a handicraft. 22 H. VIII. cap. 13.

The bakers of London make the nineteenth company. They were incorporated about the year 1507, and constitue of a master, four wardens, thirty affillents, and one hundred and forty-nine on the livery, besides the commonalty. See COMPANY.

The bakers of London are under the jurisdiction of the lord mayor and aldermen. A penalty is inflicted on bakers selling at a higher price than is set by the lord mayor; and bakers are to let their marks on their bread. The issue of bread is regulated by several statutes. See BREAD.

The manner of baking at Otaheite, and in many islands of the South seas, is as follows. They make fire by rubbing the end of one piece of dry wood upon the side of another, just as the carpenters whet a chisel; they then dig a pit in the ground, about half a foot deep, and two or three yards in circumference; they pave the bottom of it with large pebble stones, which they lay very smooth and even, and then kindle a fire in it with dry leaves and the husks of the cocoa-nut. When the stones are properly heated, they take out the embers and rake out the ashes on every side, then cover the stones with a layer of green cocoa-nut tree leaves, and wrap up the animal that is to be dressed, in the leaves of the plantain. If it be a small hog, or dog, they wrap them up whole; if large, they split them. When placed in the pit, they cover it with hot embers, and lay upon them bread-fruit and yams wrapped up in like manner in the leaves of the plantain. Over these they spread the remainder of the embers, mixing among them some of the hot stones, with more cocoa-nut tree leaves and then close up all with earth, so that the heat is kept in. After a time proportioned to what is dressing, the oven is opened, and the meat taken out, tender, full of gravy, and, as captain Wallis thought, better in every respect than when it is dressed any other way. Having no vehicles
vessels in these islands that could bear the fire, the inhabitants of them had no idea of hot water, or its effects, and therefore always roasted or baked their meat in the manner above related. Hawkefoworth's Account of Voyages in the Southern Hemisphere, vol. I. p. 484.

Bakew is used for the exposing a substance, inclosed in a crust, to the fire. See Dressing of Meats.

Baking Porcelain. See Porcelain.

BAKON, in Geography, a large forest of Hungary, near Veprin, where Andrew, king of Hungary, in a battle with his brother, was forsaken by his followers, and trampled to death by his enemies.

BAKSAIKAL, a fortress of Russian Tartary, in the government of Caucausus, on the W. side of the Ural; 32 miles north of Gurica.

BAKTEGAN, the name of a salt lake of Persia, about fifty miles east of Shiraz, which receives the rivers of Kuren and Bundamir. It is represented in the maps as being about 40 British miles long, and 16 broad.

BAKU, a town of Persia, in the province of Shirvan, on the west coast of the Caspian sea, with a harbour. N. lat. 45° 25'. E. long. 55° 2'.

The port of Baku is reckoned the safest harbour of the Caspian, because ships may lie there at anchor in seven fathom water; yet in some places the entrance is dangerous on account of shallows, islands, and sand-banks. Baku, like Derbent, is inhabited by Persians, Tartars, and some few Armenian merchants. The principal articles of export by which the traffic of this place is chiefly supported, are the raphtha, and the fine rock-salt, both of which are collected on the east side of the bay. The inhabitants indeed cultivate saflron and cotton, but not with any considerable advantage. The trade of Baku is doubled of more consequence than that of Derbent, though in fact but very confined, and is mostly carried on with Shamachy, whence it gets silk and silk-roufs. A Russian consul usually resides here.

BALA, in Botany, a name used by some authors for the maidis, or plantain tree; called alo the banana and foetida, by others.

Bala, in Ancient Geography, a city of Pentapolis, so called because it was surrounded up, as the word imports; this is not quitting it. It is more usually denominated Zabor.

Bala, in Geography, a town in the county of Merianeth, in North Wales, confiding of one street, with a high artificial mount, apparently the keep of a fortress, on the southeast end of it. It is situated on the cañon extremity of the fine lake to which it gives a name, and whose fish contribute largely towards the subsistence of its inhabitants. The fairs and markets are considerable, and abundantly supplied with the produce of the surrounding country, and with flannels, gloves, flocks, &c. In the manufacture of the latter articles, the inhabitants of the town and of the neighbouring villages are constantly employed. "Knitting," observes Mr. Akin, "is the general leisured work of both sexes in Wales, especially about Bala; and it cannot fail of giving strangers a high idea of the industry of the people, to see the men and women going to market with burdens on their heads, while their hands are employed in working the fibres of their own sheep into articles of dress, coarse indeed, but equally warm and serviceable with the more costly and elaborate manufactures." Bala is in the parish of Llanyci, a village about one mile from the town. The whole parish includes a population of 2445. Though endowed with many valuable privileges, Bala cannot boast of any particular or elegant structures. It is an incorporated town by prescription, and the government is vested in two bailiffs and a common council; but neither this nor any other town in the county has ever sent members to parliament. The alms are kept here and at Dulpsey alternately. Its market is on Saturdays, and here are two fairs annually. It is 36 miles from Holywell, and 203 from London. "The object best worth notice in this neighbourhood is—

"Bala Pool, or Pimble-more, or Lyn-tregy, which is the largest lake in Wales. Its length from N. E. to S. W. is about four miles, and its breadth in the widest part is 1200 yards. The water, like that of most rocky lakes, is so pure that the most delicate chemical tests detected scarcely any perceivable quantity of foreign admixture. The south-western extremity, where three mountain torrents fall into the pool, is the shallowest, owing to the great quantity of earth and stones which are borne down in flood time from the country through which they flow; the gradual aggregations have formed several banks and low islands in this end of the lake, and in consequence obliged it to encroach proportionally on the north-eastern boundary. This tendency is further increased by the prevalence of strong westerly winds, which drive on the shore a heavier forf than would be imagined. When these two causes combine, a circumstance that not unfrequently happens, the waters rise to such an alarming height, as to threaten the town of Bala with an inundation, were it not for a dyke that is raised on the shore: the water being thus obstructed pours over the road at the extremity of the mound, and discharges itself into the low grounds through which the Dee flows, doing no small damage to the rich and extensive pastures. The lake is well stocked with excellent fish, of which the red trout and the gwyniad are esteemed the most delicious. These are all caught by angling from the shore, for Sir W. Wynne, who claims the property of the whole pool, will not allow any boats to be kept on it." The scenery round this lake is much admired for its diversified, wooded, and rocky characteristics. Akin's Journal of a Tour through North Wales, &c.

From the bottom of this lake issues the river Dee, which is said to pass through it without mingling its waters with that of the lake (see Abyssinia); and passing under a romantic old bridge, winds gently in a wide and deep stream towards Corwen and Llangollen. Bala is surrounded with mountains, through which various roads are formed towards Dinamshowy, towards Llangwilling over the Berwin, and towards Llanrwst in the vicinity of Snowdon.

BALAAM, in Scripture Biography, the son of Beor or Bofor, a prophet or diviner, of the city of Pethor on the Euphrates. He was sent for by Balak, king of the Moabites, to curse the Israelites; but he pronounced upon them a blessing. He was killed, together with Balak, in a battle, in which the Israelites defeated the Midianites, about 1450 years before Christ. Numb. xxii., xxiii., xxiv. Deut. xxi. 4. 2 Pet. ii. 15. Jude, ver. 11. Rom. ii. 14. It has been a subject of controversy, whether Balaam was a true prophet or a mere diviner, magician, or fortune-teller, bariloche, as he is called. Numb. xxii. 5. Origen says, that his whole power consisted in magic and cursing. Theodoret is of opinion that Balaam did not consult the Lord, but that he was supernaturally inspired, and constrained to speak against his own inclination. Cyril says, that he was a magician, an idoleater, and a false prophet, who spoke truth against his will; and St. Ambrose compares him to Caiphas, who prophesied without being aware of the import of what he said. Jerome seems to have adopted the opinion of the Hebrews; which was, that Balaam knew the true God, created altars to him, and that he was a true prophet, though corrupt-
B L A

rupted by avarice. Numb. xxii. 18. St. Aulfin and other commentators have inclined to this opinion.

Maimonides thinks, that every thing which happened to Balaam in the way to Balak, was done in a prophetic vision. The abbot Jerusalem, and his followers, suppose Balaam to have been an erring impostor, who had acquired the reputation of being a prophet, and made a public traffic of his divinatory art. With this view he身形 frequent consultations with God, and delivers his own ideas for divine oracles. He supposes that Moses infected the history of Balaam, as an episode, from Nabonide's memoirs, for the purpose of obviating prophetic difficulties, on the supposition that Moses was the original writer. Dr. Geddes, in conformity to the few extant words which he had adopted with regard to the pentateuch, declares it to be his opinion that this history was written, not by Moses, but by the compiler of the pentateuch, from such traditional stories or scraps of written documents as he could find. "Indeed," he adds, "it has all the air of a legendary tale."

The story of Balaam's afs has often been an object of ridicule among sceptics and infidels. The abbot Jerusalem thinks that it was all a fiction of Balaam, to save himself from obloquy, if he should bleed, instead of cursing, the Israelites. Dr. Jortin (Six Dillertations, Diff. v.) supposes, that Balaam was a worshipper of the true God, and a priest and prophet of great reputation; and that he was sent for by Balak, from a notion which generally prevailed, that priests and prophets could sometimes, by prayers and sacrificces duly and skillfully applied, obtain favours from God, and that their imprecations were efficacious. He conceives that the prophet had been accustomed to revelations, and that he used to receive them in visions, or in dreams of the night. With regard to the intercourse between Balaam and his afs, he conjectures that it was transferred in a trance or vision. Accordingly, he admits that an angel of the Lord did, indeed, come to oppose Balaam in the way, and suffered himself to be seen by the beast, but not by the prophet; that the beast was terrified, and Balaam smote it, and immediately fell into a trance or ecstasy; and in that state of vifion, conversed with the beast first, and then with the angel. The angel presented the objects to his imagination, as strongly as if they had been before his eyes; so that this was a miraculous or supernatural operation. Dr. Geddes says, that to him there appears nothing strange in the story of the afs, but the manner of telling it; and it ceases to be wonderful, when we recollect the oriental mode of narrating. Balaam is riding on his afs on yet a doubtful errand; the afs startles at something, and turns aside from the way; throws his master's legs against a wall, and at length falls down under him. All this he takes for a bad omen, and a sign that his journey is not agreeable to God. God is thence conceived to be angry with him, and an imaginary dialogue ensues between God and Balaam, as had been before supposed to be held between Balaam and his afs. Geddes's Crit. Remarks, vol. i. p. 394.

BALAMITES, in Ecclesiastical History, the name of a sect in the first age of Christianity, of the fame import in the Hebrew language with Nicolaitsans. See Nicolaitsans.

BALABAC, in Geography, one of the Philippine, or rather Bornean islands, between Borneo and Palawa, near the south-western point of the latter island. N. lat. 7° 50'. E. long. 117° 30'.

B A L A B A D E A, an island near the north-west end of New Caledonia. S. lat. 27° 17'. E. long. 164° 22'.

B A L A B O L A. See BOLBOLO.

B A L A C H N A. See B ALANKA.

B A L A D, a town of ABA, in the country of Diarbekir, twenty miles north-west of Mosul.

BALADE, the name of a harbour on the north-west coast of New Caledonia island, in the South Pacific ocean, formed by a reef which runs parallel to the coast, at the distance of three leagues, and near the western extremity of the island. S. lat. 20° 15'. E. long. 164° 40'.

B A L A E N A, Whale, in Zoology. Whales are a tribe of cetaceous creatures, which in external appearance, and certain habits of life, in their native element, the water, form to approach to nearly to the other kinds of the funny race, that the earlier writers, who were little acquainted with their history, and perhaps fill less with their internal structure, may be fully excused for confounding them to the tribe of fishes. To say nothing of their anatomy, the want of fct, which is an obvious defect in the whale, was among other cogent reasons for retaining it with the latter. Our countrymen, Ray and Willughby, both include the whales in their systems of ichthyology; Ray, whose natural arrangement of the animal tribes deferves no common praise, divides his fishes into two principal sections, one comprehending those which have lungs for respiration, and the other, those which breathe by means of the gills, and are truly fishes. The reasons he offers for including the former with the fishes are these; because the form of their bodies agrees with those of fishes; because they are entirely naked, or covered only with a smooth skin; and because they live entirely in the water, and have all the actions of fishes. Notwithstanding this, Linnaeus, whose accuracy of discrimination an enlightened politerity bid fair to honour and esteem, has referred them to the mammalia tribe of animals; a reference extremely just, but the propriety of which will not appear so obvious at the first glance to the curiously observer, as to the accurate anatomist, or indefatigable historian of nature.

The whale, notwithstanding its fish-like external appearance, and residence in the waters, has no other claim to a place among fishes; for its internal anatomy is precisely the same as that of the terrestrial animals, and of the quadruped tribe in particular. Such is the opinion advanced by that eril of naturalists, Linnaeus; and such is the opinion confirmed by the remarks of that able anatomist the late Mr. Hunter. In a paper presented on the anatomy of whales, to the Royal Society of London, a few years ago by the latter, it is observed, that this order of animals has nothing peculiar to fish, except living in the same element, and being endowed with the same powers of progressive motion, as those fish which are intended to move with a confiderable velocity. Although inhabitants of the waters, they belong to the same class as quadrupeds; breathing air, being furnished with lungs, and all other parts peculiar to the economy of that class, and having warm blood. The projecting part, or tail, contains the power that produces progressive motion, and moves the broad termination, the motion of which is similar to that of an oar in fowling a boat; it supercedes the necessity of posterior extremities, and allows of the proper shape for swimming. The tail is flattened horizontally, which is contrary to that of fish; this position of tail giving the direction to the animal in the progressive motion of the body. The two lateral fins, which are analogous to the anterior extremities in the quadruped, are commonly small, varying however in size, and seem to serve as a kind of oars. The element in which they live renders some parts, which are of importance in other animals, useless to them; gives to some parts a different action, and renders others of less account. The larynx, fize of the trachea, and number of ribs differ exceedingly. The coecum is only found in some of them. The teeth in some are wanting. The blow holes are two in number in many; in others only one. The bones alone, in many animals, when properly united...
into what is called the skeleton, give the general shape and character of the animal. Thus a quadruped is distinguished from a bird, and even one quadruped from another; it only requiring a skin to be thrown over the skeleton to make the species known. But this is not so decidedly the case in this order of animals, for the skeleton in them does not give the true shape. An immense head, a small neck, few ribs, and in many a short sternum, and no pelvis, with a long spine, terminating in a point, require more than a skin being laid over them in order to give the regular and characteristic form of the animal. The structure of the bones is similar to that of the bones of quadrupeds; they are composed of an animal substance, and an earth that is not animal; they are less compact than those of quadrupeds that are similar to them. From these and other observations we may infer, that the structure, formation, arrangement, and union of the bones, which compose the forms of parts in this order of animals, are much upon the same principle as in quadrupeds. The skin and muscles of this order of animals are red, resembling those of quadrupeds, and perhaps more like those of the bull or horse than any other animal.

The Linnaean definition of the mammalia class, having a heart with two auricles and two ventricles, and the blood warm and red, applies most strictly to the whale. "The heart," Mr. Hunter says, "is inclosed in its pericardium, which is attached by a broad surface to the diaphragm, as in the human body. It is composed of four cavities, two auricles, and two ventricles; it is more flat than in the quadruped, and adapted to the shape of the chest. The auricles have more falciculi, and these pass more across the cavity from side to side, than in many other animals; besides being very muscular, they are very elastic, for being flattered they contract again very considerably. There is nothing uncommon or particular in the structure of the ventricles in the valves of the ventricles, or in that of the arteries." In their amours and mode of producing their young, the whales agree with other creatures of the mammalia tribe; and like them they have teats, and suckle them.

The balena genus is distinguished, according to Linneus, by having horny lamina in the superior jaw instead of teeth, and a double respiratory orifice on the upper part of the head. By these characters the tritca whales may be distinguished from the other genera of cetaceous animals, as the monodon, physeter, and delphinus. The history of the whales will be considered under the respective species, of which Linneaus and Gmelin describe the following: Mysticetus (common whale), Physalus (fin-fish), Balaena (piked-headed whale), Globisculus (round lipped whale), and Rostrata (beaked whale). The French naturalists distinguish two other species: Virg. speeches of the Baleine Franche, or Baleine de Groenland (B. myficus Linn.); le nord caver, or Baleine d’Irlande (baleena glacialis Bonn.); le gibar, or fin-fish (B. fin-fish Eng. and baleena phylalus Linn.); la baleine tasman (baleena nodica Bonn.); la Jambre (baleeni leons Linn.); le corral (balea musculus Linn.); and la baleine a bec (balea rostrata Linn.).

In concluding these remarks on the whale tribe, we cannot avoid advertting to the British Zoology of Mr. Pennant, in which these and other cetaceous animals found on our coasts are admitted under the title of cetaceous fishes; he follows the arrangement proposed by Ray, and seems to object chiefly to that of Linneus, because "to have preserved the chain of beings entire," he says, Linneus "should have made the genus of "sharks," or seals, and that of trichecus or manati, immediately precede the whale, those being the links that connect the mammals or quadrupeds with the fishes for the seal is, in respect to its legs, the most imperfect of the former class, and in the manati the hind feet coalesce, aflumming the form of a broad horizontal tail." Brit. Zool. vol. iii.

M. Bloch excludes the whales, and other cetaceous creatures, except the manofis or porpoise, from his work on fishes; but these are included in one of the smaller editions of the work, in the "seventh class, les cetacees." In a prefatory note we are informed, however, that Linneaus places these at the conclusion of the mammals, immediately after the hog-tribe; but as it might be agreeable to give the entire class in which the largest animals which nature produces are arranged, the omission of Bloch is supplied from Duhamel, with the assistance of Anfieron, Bonnerre, Artedi, Ray, and Delon.

BALANAE, in Natural History, a species of Echinodermata, that infests the intellines of the whale. Phips. "Ibid."

BALANARIS, in Cucanology, a species of Lepis, having a fuchiculous tail, with six elevated rugged four-parted lobes, and a membraneous bidentated operculum. Mili. Found adhering to the pericard fins and wrinkles of balana boops, or pike-headed whale.

BALANARUM, in Entomology, a species of Phalan- gium (Pyenogenum Fabr.), with two feelers and an ovate body. Gmel. This is phalangium littorale of Strocumfandum; pediculus ceti, Bailer; pyenogonum littorale Fabr. fn. Groenl.; and acarbus mannxus fen polygonopsis of Pallas. Inhabits European seas, lurking under stones. Back red; fucker advanced, straight, obtuse at the end, with a round perforation; feelers about as long as the fucker, and inferred near its base.

BALAGANSKOI, in Geographer, a town of Siberia, on the Angara, 50 miles W.N.W. of Irkuck. N. lat. 53° 45'- E. long. 103° 14'.

BALAGAT, or Balga-Gaut, a province of the Deccan, in the Indian peninsula. It is a tract naturally very strong, particularly on the west side towards the sea, where a flupenduous wall of mountains, called the Gants, rises abruptly from the low country, called the Conc, or Cockun, supporting, in the nature of a terrace, a vast extent of fertile and populous plains, which are so much elevated, as to render the air cool and pleasant. This elevated tract is continued not only through the Marhatta territories, but extends through the peninsula to the southern extreme of Mylore, and is named Balga-Gaut, throughout its whole extent; meaning literally the Higher or Upper Gants; or perhaps more correctly the countries lying above or below the Gants. In the peninsula, it is applied in contradistinction to Payen-Gaut, or the Lower Gants; but in the Deccan, it appears to be used only as a proper name, and not as a correlative; as we have never heard of the Deccan Payen-Gaut. Kennell's Mem. Introd. p. 127.

As a province, it was formerly the largest of the three which composed the northern Deccan, bounded on the north by Candis and Berar; on the east by Tellinga; on the west by Baghana and part of Guzerat; and on the south by Vifapore. This province, after it fell into the hands of the Moguls, assumed the name of Dowlatabad, from its former capital. It is a fruitful pleasant country, abounding with cotton and sugarc. Its chief city is Aurungabad.

BALAGUER, a town of Spain, in Catalonia, seated on the north bank of the river Segra, at the foot of a high hill. N. lat. 41° 38'. E. long. 0° 48'.

BALAKF, a district of the government of Saratof, in Russia, on the river Khoper.

BALAKNA, or Balachna, a town of Ruffia, in a district of the same name, being one of the thirteen districts of Nuhme Novgorod, on the right side of the Volga. The town was built in 1536, and contains 767 timber houses, and 1489 inhabitants. It trades to St. Petersburg, transports and sail, constructs biling-boats. It has one monastery.
monastery, five brick, and ten timber churches. N. lat. 56° 30'. E. long. 45° 5'.

BALEKAVLA, a fishing town of Crim Tartary, or Taurica, containing about 200 houses, and seated on a bay of the Black or Euxine sea, in N. lat. 44° 35'. E. long. 33° 41'. The bay forms a harbour; which, in the imperial proclamation declaring Theodosia and Eupatoria free ports, is described from navigation.

BALAKZEL, in Ornithology, the Turkisb name of the hernon.

BALALAIKA, in Music, a musical instrument of the lute kind, of very ancient Slavonian origin; it is in common use both with the Russians and Tartars; according to Neubuh, it is also frequent in Egypt and Arabia. The body of it is an oblong semicircle, about a span in length, with a neck or finger-board of four spans. It is played on with the fingers like the handour or guitar; but has only two wires, one of which gives a monotonous bass, and by the other the piece is produced. Under the touch of able fingers, accompanied by a good voice, it sounds agreeably enough; and therefore it is not unfrequently seen in the hands of people of fashion.

BALAMANGAN, in Geography, a small island in the Eastern Pacific ocean, near the northern point of Borneo, between this island and Palaw, remarkable for a settlement attempted by the English in 1773; but evacuated either on account of the unhealthy climate, or of a Dutch invasion. N. lat. 7° 10'. E. long. 117°.

BALAMBUAN, or PALAMBUAN, the name of a district or territory on the east part of the island of Java, which produces pepper, cotton, rice, Indian corn, and fruit in great plenty, and which abounds with pastures that feed a great number of horses, antelopes, buffaloes, and oxen. The capital, which is a strong trading town, is of the same name. S. lat. 7° 10'. E. long. 115° 30'.

BALAMUAN Channel. See Balli.

BALAMUS, Ferdinand, in Biography, born in the island of Sicily, about the middle of the sixteenth century, not less celebrated for his accomplishments in polite literature, and his skill in the Greek language, than for his knowledge of medicine, was greatly esteemed by pope Leo X. to whom he was physician. He published in 1556, at Lyons, "De eisbus bonis et mali fuci;" translated from the works of Galen; also "Galeni liber de obisbus, et Tyrus" 8vo. re-published at Frankfort, in fol. with observations by Gaifpar Hoffman, 1630. The above are infered in the edition of Galen's works, published by the Junta, 1786, fol. Since his death the following was printed at Rome: "De opima corporis nostrorum constitutione" "De bona valentudine," "De hyridinibus, cucurbitula, &c." 1636, 8vo. Haller Bib. Med. Præt. Eloy Diet. Haft.

BALAM PULLI, in Botany, a name used by some authors for the tree whose fruit is the tamarind of the shops.

BALANCE, or BALANCE, Libra, in Mechanics, one of the seven simple powers, or rather a species of that mechanical power called the lever, used principally for determining the equality or difference of weights in heavy bodies, and consequently their males or quantities of matter.

The balance is of two kinds, viz. the ancient and modern. The ancient or Roman, called also flatera Romana, or fcel- yard, consists of a lever or beam, moveable on a centre, and suspended near one of its extremes; on one side the centre are applied the bodies to be weighed, and their weight is estimated by the division marked on the beam, on the other side, where a weight moveable along it keeps the balance in equilibrio. See Steel-Yard.

The modern balance, now ordinarily in use, consists of a lever, or beam, suspended exactly by the middle; to the extremities whereof are hung scales or balances.

In each case, the beam is called the jugum, and the two moieties thereof on each side the axis, the brachia, or arms; and the handle whereby it is held, trivium; the line on which the beam turns, or which divides its brachia, is called the axis; and when considered with regard to the length of the brachia, it is esteemed but a point, and called the centre of the balance; and the places where the weights are applied, the points of suspension, or application.—That fnder part perpendicular to the jugum, by which either the equilibrium, or preponderancy of bodies is indicated, is called the tongue of the balance.

In the Roman balance, therefore, the weight used for a counterbalance is the same, but the points of application are various; in the common balance, the counterpoise is various, and the point of application the same.

The principle on which each is founded is the same, and may be conceived from what follows.

Balance, Doctrine of the.—The beam AB (Plate Mechanics, fig. 8.) the principal part of the balance, is a lever of the first kind, which, instead of resting on a fulcrum at C, its centre of motion, is suspended by somewhat fastened to the centre C: so that the mechanism of the balance depends on the same theorem as that of the lever.

Hence, as the known weight is to the unknown, so is the distance of the unknown weight from the centre of motion to the distance of the known weight, where the two weights will counterpoise each other; consequently, the known weights shew the quantity of the unknown.

Or thus: the action of a weight to move a balance is by so much greater, as the point prefixed by the weight is more distant from the centre of the balance; and that action follows the proportion of the distance of the fixed point from that centre. When the balance moves about its centre, the point B describes the arc BB (fig. 9.); whilst the point A describes the arc AA, which is the largest of the two; therefore in the motion of the balance, the action of the same weight is different, according to the point to which it is applied, hence it follows, that the proportion of the space gone through by the point A is as AA, and at B as BB, but those arcs are to one another as CA, CB.

Balance, Varieties in the Application of the.—If the brachia of a balance be divided into equal parts, one ounce applied to the ninth division from the centre, will equiconverte with three ounces at the third; and two ounces at the fifth division, as strongly as those at the fourth, &c.

Hence it follows, that the action of a power to move a balance is in a ratio compounded of the power itself, and its distance from the centre; for that distance is as the space gone through in the motion of the balance.

It may be here observed, that the weight equally preffes the point of fulpenion at whatever height it hangs from it, and in the fame manner as it was fixed at the very point: for the weight at all heights equally stretches the cord by which it hangs.

A balance is said to be in equilibrio, when the actions of the weights upon the brachia to move the balance are equal, so as mutually to deffroy each other. When a balance is in equilibrio, the weights on each side are said to equiponderate: unequal weights may also equiponde rate; but then the distances from the centre must be re-eropa as the weights. In which case, if each weight be multiplied by its distance, the product will be equal; which is the foundation of a fcel-yard, and the fee.

Thus in a balance whose brachia are very unequally, a scale hanging at the shortest, and the longest divided into equal parts; if such a weight be applied to it, as at the
the first division shall equiponderate with one ounce in the scale; and the body to be weighed be put in the scale, and the above mentioned weight be moved along the longest brachium, till the equilibrium be found; the number of divisions between the body and the centre shews the number of ounces that the body weighs, and the subdivisions the parts of an ounce. On the same principle also is founded the deceitful balance, which cheats by the inequality of the brachia: for instance, take two scales of unequal weights, in the proportion of 9 to 10, and one of them at the tenth division of the balance above described, and another at the ninth division, so that there may be an equilibrium; if then you take any weights, which are to one another as 9 to 10, and put the first in the first scale, and the second in the other scale, they will equiponderate.

But it is easy to discover the deceit of a false balance by changing the weights that are in equilibrio to the contrary scales; and thus the owner of the balance must either confess the fraud, or add to the commodity fold by means of such a balance, not only the quantity by which it was deficient, but also as much as he intended to gain by the fraud, and a fraction of that added weight proportional to the inequality of the arms of the balance. In this case, the buyer, instead of 9 lb offered to him for 10 lb his due, will have by changing the scales, $\frac{11}{\frac{11}{10}}$ pounds. For $9:10::10:11\frac{1}{10}$.

Several weights, hanging at several distances on one side, may equiponderate with a single weight on the other side: to do this it is required, that the product of that weight, by its distance from the centre, be equal to the sum of the products of all the other weights, each being multiplied by its distance from the centre.

To demonstrate which, hang three weights of an ounce each, at the second, third, and fifth divisions from the centre, and they will equiponderate with the weight of one single ounce applied to the tenth division of the other brachium; and the weight of one ounce at the sixth division, and another of three ounces at the fourth division will equiponderate with a weight of two ounces on the other side at the ninth division.

Several weights unequal in number on either side, may equiponderate: in this case if each of them be multiplied by its distance from the centre, the sums of the products on either side will be equal; and if those sums be equal, there will be an equilibrio.

To prove which, hang on a weight of two ounces at the fifth division, and two others, each of one ounce, at the second and seventh; and on the other side hang two weights, each also of one ounce, at the ninth and tenth divisions; and these two will equiponderate with those three. A balance of this kind, the arms of which are equally divided, has been sometimes called an arithmetical balance; because the arithmetical operations of addition, subtraction, multiplication, and the rule of three, may be easily performed by it.

E. g. To add the numbers 2, 3, and 7; apply an ounce weight at the second division, and another on the same arm at the third, and another at the seventh, then take an ounce weight, and move it along the other arm, till the beam is in equilibrio, which will be at the twelfth division; so that

$$2 + 3 + 7 = 12.$$  

To subtract 5 from 12; hang an ounce weight at one end of the arm at 12 inches, and another at the other end at 5; then move a third ounce weight along the arm till the equilibrium is restored, and it will be found at the seventh division, which gives $12 - 5 = 7$.

To multiply 4 by 3; suspend a four ounce weight at the third division on one arm, and move an ounce weight on the other, till the beam be in equilibrio, and it will mark out

$$12 = 4 \times 3.$$  

To divide 12 by 4; suspend an ounce at the twelfth division, and move a four ounce weight on the other arm, till there is an equilibrium, and it will be found at the quotient $12 = \frac{1}{4}$. G's Gravieand, Physica & Math. vol. i. p. 50.

To the justness of a balance it is required, that the points of suspension be exactly in the same line as the centre of the balance; that they be precisely equidistant from that centre on either side; that the brachia be as long as conveniently they may, in relation to their thickness, and the weight which they are intended to support; that there be as little friction as possible in the motion of the beam and scales; and lastly, that the centre of gravity of the beam be placed a little below the centre of motion.

We shall here add some further observations, which may serve to illustrate these properties of a good balance, and which deserve attention in the construction of this instrument for purposes that require peculiar accuracy. The balance is properly a lever, whose axis of motion is formed with an edge like that of a knife, and the two edges or scales at its extremities are hung upon edges of the same kind, which are first made sharp, and then rounded with a fine hone, or a piece of buff leather. On the regular form of this rounded part the excellence of the instrument very much depends. When the lever, or beam of the balance, is considered as a mere line, the two outer edges are called points of suspension, and the inner the fulcrum. The points of suspension are supposed to be at equal distances from the fulcrum, and to be previded with equal weights when loaded.

1. If the fulcrum be placed in the centre of gravity of the beam, and the three edges be all in the same right line, the beam of the balance will have no tendency to one position than another, but will rest in any position in which it may be placed, whether the scales be on or off, empty or loaded. 2. If the centre of gravity of the beam, when level, is immediately above the fulcrum, it will overset by the smallest motion; that is, the end which is lowest will descend; and it will do this with the greater velocity, in proportion as the center of gravity is higher, and the points of suspension are less loaded. 3. But if the center of gravity of the beam be immediately below the fulcrum, the beam will not rest in any position but when level; and, if disturbed from that position, and then left at liberty, it will vibrate, and at last come to rest in an horizontal position. Its vibrations will be quicker, and its horizontal tendency stronger, the lower the centre of gravity, and the less the weight upon the points of suspension. 4. If the fulcrum be below the line joining the points of suspension, and these be loaded, the beam will overset, unless prevented by the weight of the beam tending to produce an horizontal position, as in the third case. In this last case small weights will equilibrate, as in the last case; a certain exact weight will rest in any position of the beam, as in the first case; and all greater weights will cause the beam to overset, as in the second case. Many feakel are often made this way, and will overset with any considerable load. 5. If the fulcrum be above the line joining the points of suspension, the beam will come to the horizontal position, unless prevented by its own weight, as in the second case. If the centre of gravity be near the fulcrum, all the vibrations of the loaded beam will be made in times nearly equal, unless the weights be very small, when they will be flower. The vibrations of balances are quicker, and the horizontal tendency stronger, the higher the fulcrum. When the fulcrum, or centre of motion, C, (see fig. 10.) is in the right line joining the centres of suspension, it is evident that the equilibrium of equal weights, e. g. P and W, will obtain in every position; for the perpendicular
diculars let fall from C upon the directions will be always equal, but when C is above or below WP, an equilibrium of equal weights does not occur, and WP coincide with the horizontal line AB. In this case, the perpendiculars let fall from C upon the directions of W and P, projected to GB and GA, CG being perpendicular to AB; but when the balance is in any other position WP, the perpendicular CI is greater than CH, because \( \frac{CG}{CI} \) which is less than CI, is equal to \( \frac{CM}{CH} \), which is greater than CH. W will therefore descend and continue to vibrate till its motion be arrested by friction. (See Lever.) If P and W be unequal, and C be in the right line WP, the heavier of them will descend till WP be perpendicular to the horizon, or, if the center of motion be not in WP, till \( PX \tan \theta = WX \). It is evident from what has been said, that the nearer the centre of gravity of the beam is to the centre of motion, the nearer will be the balance, and the slower its vibrations; thus, if \( \triangle CBE \) (fig. 11.) is the beam, and C the center of motion, the difference between the effects of having the centre of gravity at K, or \( \theta \), will be the same as if we compared the velocities of two pendulums, of the length \( CK \) and \( CE \), which are in a subduplicate ratio of their lengths. The tendency to an horizontal position is, therefore, increased by lowering the center of gravity, in which case it will also require a greater additional weight to cause it to turn or incline to any given angle, and it is consequently less sensible with a greater load. The fixing of the centre of motion in a balance is, therefore, of peculiar importance, for on this depends the ease with which it will be affected by a smaller weight; and the readiness with which it will return to its horizontal position: and it is evident, that the belt position is that in which the centre of motion is a little above the centre of gravity; and even in this it should be proportioned to the distance of the weights from the fulcrum, and the quantity of matter to be weighed, which, in different beams, can only be attained by the practice and experience of the maker.

It has already appeared, that if the arms of a balance be unequal, the weights in equipoise will be unequal in the same proportion. But it should be observed, that though the equality of the arms of a balance is useful in the measurement of weights by bisection, a balance with unequal arms will weigh more accurately as another with equal arms, provided the standard weight itself be suitably counterpoised. Then taken out of the scale, and the thing to be weighed put into the scale, and adjusted against the counterpoise: or, when proportional quantities only are considered, the bodies under examination may be weighed against the weights, taking care always to put the weights in the same scale; for then, though the bodies may not be really equal to the weights, yet their proportions to one another will be the same as if they had been accurately equal to them. However, it is indispensably necessary that their relative lengths should continue invariable. For this purpose it is necessary either that the three edges be all truly parallel, or that the points of suspension and support should be always in the same part of the edge, which is requisite is most easily obtained.

If a beam is adjusted so as to have no tendency to any one position, as in case t. above stated, and the scales be equally loaded; then, if a small weight be added in one of the scales, that balance will turn, and the points of suspension will move with an accelerated motion, similar to that of falling bodies, but as much slower in proportion, very nearly, as the added weight is less than the whole weight borne by the fulcrum. The stronger the tendency to an horizontal position in any balance, or the quicker its vibrations (see cases 3. and 5.), the greater additional weight will be required to cause it to turn or incline to any given angle. If a balance were to turn with the ten thousandth part of the weight, it would move at the quickest 10,000 times slower than a falling body; that is, the diance containing the weight, instead of falling through sixteen feet in a second of time, would fall through only two hundred thousandth part of an inch, and it would require four seconds to move through one third part of an inch; consequently, all accurate weighing must be slow.

Long beams have been generally recommended; because the quantity of motion in a given body varies as its distance from the fulcrum; and, therefore, the greater the distance, the more distinguishable will be the motion arising from any small difference between, e.g. P and W. Long beams are also thought to have less friction; but this has been doubted. And it has been remarked, that the quicker angular motion, greater length, and less weight of a short balance, are certain advantages.

The index that is placed perpendicularly to the beam of a balance, in order to ascertain its position, affects its equilibrium, except it be in a horizontal situation; the momentum of the index being measured by the weight multiplied into the distance of its centre of gravity, from a line perpendicular to the horizon. But the error that would arise from hence is corrected by continuing the index, or placing a weight on the opposite side of the beam. The scales of a balance should be suspended in such a manner, that in all positions the string of the scales may be parallel to one another; otherwise the weights, though equal, will not be in equilibrio.

Very delicate balances are not only useful in nice experiments, but they are much more expeditious than others in common weighing. If a pair of scales, with a certain load, be barely sensible to \( \frac{g}{10} \) of a grain, it will require a considerable time to ascertain the weight to that degree of accuracy, because the turn must be observed several times, and it is very small. But if no greater accuracy were required, and scales were used which would turn with the hundredth of a grain, a tenth of a grain, or less, would make no great a difference in the turn, that it would be seen immediately. A degree of fineness may be given to a balance, that turns with a certain addition, but is not moved by any smaller weight, by producing a tremulous motion in its parts. Thus, if the edge of a blunt saw, a file, or other similar instrument, be drawn along any part of the scale or support of a balance, it will produce a jar, which will diminish the friction in the moving parts so much, that the turn will be evident with one third or one fourth of the addition that would else have been required. In this way a beam which would only turn by the addition of a tenth of a grain, will turn with the thirty or fortieth of a grain. In order to regulate the horizontal tendency in some beams, the fulcrum is placed below the points of suspension, and a sliding-weight is put upon the flye or index, by means of which the centre of gravity may be raised or lowered.

Mr. Nichollon, of whose observations on the properties of the balance we have availed ourselves in the preceding part of this article, has recommended the following set of weights, as proper to accompany it, when it is applied to chemical and similar purposes: viz. 1000 grains, 900 g. 800 g. 700 g. 600 g. 500 g. 400 g. 300 g. 200 g. 100 g. 90 g. 79 g. 69 g. 50 g. 40 g. 30 g. 20 g. 10 g. 9 g. 7 g. 6 g. 5 g. 4 g. 3 g. 2 g. 1 g. 1/2 g. 1/3 g. 1/4 g. 1/5 g. 1/6 g. 1/8 g. 1/16 g. 1/32 g. With these the philosopher will always have the same number of weights in his scales as there are figures in the number expressing the weights in grains. Mr. Nichollon subjoins an account of some balances, which have been constructed.
Armed by different persons for nice experiments. The first he mentions is that of Muifhetenbrook, which turned with \( \frac{1}{2} \) of a grain, and which weighed to \( \frac{\pi}{5} \) part of the weight, and a circle, made figures of about equal of the weight, and the other weighed \( \frac{1}{2} \) an ounce, and turned with the \( \frac{\pi}{5} \) of a grain, or the \( \frac{\pi}{5} \) part of the weight. Mr. Read's balance mentioned in p. 511 of the same volume, turned with less than a penny-weight, and even with four grains, when loaded with fifty-five pounds, i.e. about \( \frac{\pi}{5} \) part of the weight, and which might be relied on to five places of figures. Mr. Whitbread's balance (Ibid. p. 526) weighs one penny weight, and is sufficiently affected with \( \frac{\pi}{5} \) part of a grain, or \( \frac{\pi}{5} \) part of the whole. This balance, he says, will serve to determine all weights between 100 grains, and 4000 grains to four places of figures. Mr. Alcock's (mentioned Ibid. vol. ixxvii. p. 205) is true to three grains with 151\(^\circ\) an end; and hence the weight is known to \( \frac{\pi}{5} \) part, or to four, or barely five places of figures. The balance of Dr. George Fordyce, made by Mr. Ramfien, mentioned in the xxvii. volume of the Phil. Trans. when loaded with four or five ounces, and a difference of \( \frac{\pi}{5} \) part of a grain, or \( \frac{\pi}{5} \) part of the weight. Mr. Magellan's would bear \( \frac{\pi}{5} \) part of a grain, and when \( \frac{\pi}{5} \) part of a grain, with and one pound an end. This is the \( \frac{\pi}{5} \) part of the weight and answers to five figures. The Royal Society's balance, lately made by Mr. Ramfien, turns on feeler edges upon planes of polished crystal, and affords a weight to the seven millionth part, and may be used in general practice to determine weights to five places and better. To which we may add, that the balance used by count rumford, in his experiments for ascertaining the weight of beef to heat (Phil. Trans. for 1799. part ii.), served, as he informs us (p. 187), to measure \( \frac{\pi}{5} \) part of the weight, which he examined. Nicholson's Chemistry, c. vi. Parkinson's System of Mechanics, &c. p. 250, &c. Desaguliers' Exp. Phil. vol. i. p. 140, &c. Mr. Ludlam has contrived a balance of a new construction for the woolen manufacturers. Their thread is made into \( \frac{\pi}{5} \) parts of the same length; and the fineness of it is denominated from the number of \( \pi \) parts which go to a pound; the cotton being about \( \frac{\pi}{5} \) of a pound, and the flax near \( \frac{\pi}{5} \). This machine is designed for weighing the \( \frac{\pi}{5} \) parts of the weight, it being to determine their respective fineness. It resembles the beam of a common pair of scales; at one end of it is fixed a weight, called a counterpoise, and at the other end a hook; in forting, the \( \frac{\pi}{5} \) of the beam to be examined is put upon the hook, and finally down more or less, according to its weight, till the counterpoise, by resting, balances it: then the index or cock of the beam, points out on a graduated arch the number of \( \pi \) parts of that weight which go to the pound. A scale, instead of the hook, might be used for weighing money, if the arch were properly divided for that purpose. See a drawing of this machine and the explanation of the theory of it, in Phil. Trans. vol. x. N. 25, p. 205. The bent-lever balance, is a balance (fig. 12.) which acts by a fixed weight \( C \), increasing in power as it ascends along the arc \( FG \) of a circle, and pointing by an index to the number or division of the arc which denotes the weight of any body put into the scale \( E \). With this instrument, one constant weight serves to weigh all others, by only varying the position of the arms of the balance, instead of varying the places or points of suspension in the arms themselves. The following property of the balance was first sug-
upper arm, another arm 1½ inch long, projects from the pillar at right angles, with a hole through it two lines long, and a quarter of a line broad, and placed perpendicularly below the pulley of the upper arm, to receive a small plate 1½ inch long, and of such breadth and thickness that it may freely move up and down, and yet not play too freely in the hole. At each extremity of the plate is a small hook. The whole of this apparatus is included in a small case (fig. 13.), furnished with glazes, α, α, α, at the top and about it. The manner of using the ally balance is to place a fillet on the three pulleys of the support and arm; then the support is placed in the middle of the small case, and the other end of the fillet is passed below through a hole in the middle of the lower part of the frame, containing the window in the front part of the case, and fastened to a small weight of a cubic form. The fork of the balance is suspended on the inferior hook of the plate. By moving backwards and forwards the weight fastened to the string, placed upon the top of the drawer projecting beyond the fore-part of the case, the balance within is either raised or lowered. The bodies to be weighed, and the weights themselves, being put into the drawers, the drawer is put into the case, through the side-windows, which must be opened for that purpose. When any thing is added or taken away, by means either of the pinches, or of the small shovel, or spoon, the balance is let down so that the scales may rest upon the bottom of the case; and before it is lifted up again the windows must be shut, especially if the air is not perfectly still. The flat pieces of glass, often placed under the scales of an ally balance, serve, by their electrical power, capable of attracting, and of thus causing the lighter scales to preponderate where the whole matter weighs is to very small. See Phil. Trans. No. 419. p. 235.

The electricity of a flat surface about three inches square has been known to hold down one scale, when there was a weight of about 200 grains in the other.

**Balance, in Astronomy.** See Libra.

**Balance, in Horology,** is that part of a clock or watch, which, by its motion regulates and determines the beats.—The circular part of it is called the **rison,** and its spindle the **verge:** there belong to it also two **pallets** or nuts, which play in the flats of the crown-wheel; in pocket-watches, that strong fluid, in which the lower pivot of the verge plays, and in the middle of which one pivot of the crown-wheel runs, is called the **poeune:** the wrought piece which covers the balance, and in which the upper pivot of the balance plays, is the **cock:** the small spring in the new pocket-watches is called the **regulator.**

It appears from the testimony of historical accounts, as well as other evidences, that the balance was universally adopted in the construction of the first clocks and watches; nor was it till the year 1657, that Mr. Huygens united pendulums with clock works. (See Paxman.) In watch of early construction, the balance vibrated merely by the impulses of the wheels, without any other control or regulation: the motion communicated to the balance by one impulse continued till it was destroyed, partly by friction, and partly by a succeeding impulse in the opposite direction; and therefore the vibrations null, of course, have been very unsteady and irregular. These imperfections were in a great measure remedied by Dr. Hooke's ingenious invention of applying a spiral spring to the balance, the action of which on the balance of a watch is similar to that of gravity on a pendulum; each kind of force having the effect of correcting the irregularities of impulse and resistance which otherwise disturb the uniformity of the vibrations. In clocks and watches, the real measure of time is the balance, and all the other works merely to continue the motion of the balance, and to indicate the time as measured by its vibrations. The regularity of a time-keeper will therefore depend on that of the time in which the balance vibrates; and the investigation of this time of vibration, from the several data or conditions on which it depends, is an important object in this part of mechanical science. See Escapement, Clock, Time-keepers, and Watches.

That the balances of watches, when manufactured of steel, as they generally are, might be in a small degree magnetic, and that this property might have some influence in disturbing their vibrations, some have suspected, and others have denied, but Mr. Varley has lately, (See Philos. Magaz. vol. 1. p. 185.), pointed out a source of error which has been hitherto little, if at all, apprehended: and this is the polarity of the balance, or tendency of a particular point to the north; and of an opposite point to the south, so strong as to be sufficient materially to alter the rate of going of the machine, when set in different positions. If this cause of error had been known, the use of these balances would have been substantially long ago, particularly where accurate performance is indispensable, as in time-pieces for astronomical and nautical purposes. Mr. Varley having ascertained the fact, and knowing the position of the poles, proceeded to examine the effects produced by this cause upon the watch's rate of going. Having put on the pendulum spring, and replaced the balance in the watch, he laid the watch with the dial upwards, that is, with the plane of the balance horizontally, and in such a position that the balance when at its place of rest should have its marked side towards the north, in this situation it gained 5° 37' in 24 hours. He then changed its position, so that the marked side of the balance when at rest should be towards the south, and in 24 hours it lost 6° 38' producing, by its change of position only, a difference of 12° 23' in its rate. This difference must be still further augmented or diminished as the weather might happen to carry in his watch coat pocket, a key, a knife, or any other article made of steel. Substituting in the room of the steel-balance, one made of gold, he found that the watch's rate of going was as uniform as that of any watch on the like construction.

**Balance, Hydrostatical, in Hydrostatics,** is an instrument for determining the specific gravities of bodies. See Hydrostatical, and Specific Gravity.

**Balance of Forces, in Mechanics.** See Compound Motion.

**Balance, in the Accounts of Merchants,** is, when the debtor and creditor sides of any distinct account are equal. In such case the account is said to be balanced.

Balance of a merchant, or trader's books, is a branch of the art of accountancy. In the method of keeping the books of traders, according to that excellent art of charge and discharge by double entry, such books, if correctly kept, will always be fit for a general balance. For such is the excellence of that method, that the books of themselves must necessarily balance on the whole, though not in every distinct account throughout the ledger. See Book-keeping.

**Balance, among Painters.** See Equilibrium.

**Balance of the Constitution, in Political Economy,** denotes the security which each part of the legislature possesses in the exercise of the powers assigned to it from the enfranchisement of the other parts. The political equilibrium signified by this phrase, conflicts in two contrivances, viz. a balance of power, and a balance of interest. By the former is meant, that there is no power profited by one part of the legislature, the abuse or excess of which
is not checked by some antagonistic power, residing in another part. Thus the power of the two houses of parliament to frame laws is checked by the king's negative; on the other hand the arbitrary application of this negative is checked by the privilege that parliament possesses of refusing supplies of money to the exigencies of the king's administration. The constitutional maxim, "that the king can do no wrong," is balanced by another maxim not less constitutional, "that the illegal commands of the king, do not justify those who assail, or concur, in carrying them into execution;" and by a second rule, subsidiary to this, "that the acts of the crown acquire not any legal force, until authenticated by the subscription of some of its great officers." The power of the crown to direct the military force of the kingdom is balanced by the annual necessity of referring to parliament for the maintenance and government of that force. The power of the king to declare war is checked by the privilege of the house of commons to grant or withhold supplies by which the war must be carried on. The king's choice of ministers is controlled by the obligation he is under of appointing those men to offices in the state, who are found capable of managing the affairs of his government with the two houses of parliament. By the balance of interest, which accompanies and gives efficacy to the balance of power, is meant this, that the respective interests of the three states of the empire are so disposed and adjusted, that whichever of the three shall attempt any encroachment, the other two will unite in refuting it. If the king shall endeavour to extend his authority by contracting the power and privileges of the commons, the house of lords would see their own dignity endangered by every advance which the crown made to independency, upon the resolutions of parliament. The admission of arbitrary power is no less formidable to the grandeur of the aristocracy than it is fatal to the liberty of the republic; that is, it would reduce the nobility from the hereditary share they possess in the national councils, in which their real greatness consists, to being a part of the empty pagentry of a despotic court. On the other hand, if the house of commons should intrench upon the distinct province, or usurp the established prerogative of the crown, the lords would receive an instant alarm from every new stretch of popular power. In every contest in which the king may be engaged with the representative body, in defence of his established share of authority, he will find a safe ally in the collective power of the nobility. If the nobles should attempt to revive the superiorities exercised by their ancestors under the feudal constitution, the king and the people would alike remember how the one had been infituted, and the other enlaced by that barbarous tyranny. Paley's Principles of Philosophy, vol. ii. p. 268—212.

Balance of Power, in the Political System, originates from, and is maintained by, the alliances of different nations; as their circumstances and interest may require. See this subject at large under the article Power.

Balance of Trade, denotes an equality between the value of commodities bought of foreigners, and the value of the native productions transported into other nations.

The balance of trade with any foreign nation is said to be against or in favour of the country simply as it tends to carry money out, or to bring it in; that is, according as the price of the imports exceeds or falls short of the price of the exports; so invariably is the increase or diminution of the species of a country regarded as a test of the public advantage or detriment, which arises from any branch of its commerce. According to Dr. Smith (Wealth of Nations, vol. ii. p. 212.), there is no certain criterion by which we can determine on which side what is called the balance between two countries lies, or which exports to the greatest value. The two criterions to which an appeal has been usually made on such occasions are, thecustom-houses, and the court of exchange. The custom-houses, says this writer, are now generally acknowledged to be a very uncertain criterion, on account of the inaccuracy of the valuation at which the greater part of goods is rated in them; and the court of exchange is, perhaps, almost equally precarious.

Balance of Annual Produce and Consumption, is that which, according to Dr. Smith (ubi supra, p. 250.), necessarily occasions the prosperity or decay of every nation, as it happens to be either favourable or unfavourable. If the exchangeable value of the annual produce exceeds that of the annual consumption, the capital of the society must annually increase in proportion to the excess. The society in this case lives within its revenue, and what is annually saved out of its revenue is naturally added to its capital, and employed so as to increase still further the annual produce. On the contrary, if the exchangeable value of the annual produce fall short of the annual consumption, the capital of the society must annually decay in proportion to this deficiency. The expense of the society in this case exceeds its revenue, and necessarily encroaches upon its capital. Its capital must, therefore, necessarily decay, and together with it, the exchangeable value of the annual produce of its industry. The balance of produce and consumption is entirely different from that which is called the balance of trade. It might take place in a nation which had no foreign trade, but which was entirely separated from all the world. It may take place in the whole globe of the earth, of which the wealth, population, and improvement may be either gradually increasing, or gradually decaying. This balance may be constantly in favour of a nation, though the balance of trade should be generally against it. A nation may import to a greater value than it exports for half a century, perhaps, together; the gold and silver which come into it during all this time may be immediately sent out of it; its circulating coin may gradually decay, and different sorts of paper money being debilitated in its place, and even the debts too which it contracts in the principal nations with which it deals may be gradually increasing; and yet its real wealth, the exchangeable value of the annual produce of its lands and labour, may, during the same period, have been increasing in a much greater proportion. See on this subject more largely under the articles Commerce and Trade.

Balance, in Sea Language, signifies to contract a fall into a narrow compass, in a storm, by retrenching, or, folding up a part of it in one corner. To this purpose serves the balance-reef, which is a reef-band that crosses the fall diagonally. See Reef.

Balance of the Beam Mainsail, is performed after all its reefs are taken in, by rolling up a similar portion of the headsail, or aftmost lower corner called the ear, and fastening it strongly to the boom, securing it from being fretted by the cord that fastens it. See Boom.

Balance of the Mizen, is thus performed; the mizen-yard is lowered a little, a small portion of the sail is rolled up at the peak, or upper corner, and fastened to the yard, about one-fifth inward from the outer end, or yard-arm, towards the mast. See Mizen.
BALANCE-Fish, in Ichthyology, an English name of the figulus synnes of Linnæus and Gmelin. It is also called by some the hammer-fish, or hammer-baited fish, from the very singular form of the head; and its specific character is taken exclusively from that particular; head very broad, transversely, and hammer-shaped. Savilian calls it libella ciamabatia; and Belon libella, balista, cagnola, &c. See ZYGENA SQUALUS.

BALancers, or Poizers, in Entomology, a term synonymous with the French word balanciers, and balarees of Linnæus; denoting those little filamentous bodies which terminate in a round, truncated, or oval capitulum, or knob; and of which one is placed on each side of all the diterous, or two-winged insects, immediately under a small scale or arch, below the wing. In different genera these vary a little in respect of situation, and are also of larger or smaller size in proportion to the other parts of the insect in different kinds.

The use of these organs is by no means obvious. Some imagine that they beat the little arch or scale, beneath which they are situated, in the motion of flying, and thereby occasion that humming or buzzing noise, which every one must have observed the house-fly, flesh-fly, and other very common two-winged insects to emit in flight. The cicada, we well know, make a like noise by means of somewhat similar organs under the handle, but whether the noise which the diterous insects make is occasioned in this manner or not, we shall not presume to say. Olivier thinks it is not, because it appears from certain experiments, that when any of these insects are deprived of the balancers, and are permitted to refuse their flight, the same buzzing sound is heard without the flighted variation. The more general opinion is, that they are designed to facilitate the motion of the creature in the air, by equilibrising, or preferring the true equilibrium, just as a stick, made heavy at each end, is held by rope-dancers to preserve their balance, and hence these organs have been called the balancers. This is most probably the real use of the balancers, notwithstanding that their diminutive size is some objection to such opinion, for when these are accidentally injured, the motion of the creature becomes very irregular, and it evidently appears unable to direct its course with the same facility as before; either suffering great pain, or being deprived of the means it previously possessed.

BALANCER, a machine used in the striking of coins, medals, counters, and the like. See Coinage.

BALANTUS, in Ancient Geography, a town seated on the coast of Syria, between the towns of Gabala and Antinodes; convenient for commerce, and furnished with grain and fruits in abundance. Strabo, Pliny, and Ptolemy place it in Syria, properly so called; to the north of the river Euphrates, which separated Syria from Phrygia. Under the reign of Theodorus the younger, this town was compred in the province called Syria secunda: but afterwards belonging to a new province which the emperor Julian formed under the name of Thedodiacia.

BALANITES, in Natural History, a name given by the ancients to a stone, seeming to have been of the sapphire kind. They describe two species of it; the one of which was yellow, and the other green, but each having veins of a flame colour. Their descriptions are too short for us to be able to ascertain what stones, among those known at this time, they meant.

Some think the balantiæ to have been the lapis Judæicus, on account of its acorn-like figure and size. Plin. Nat. Hist. lib. xxi. cap. 10. ed. Hardouin.

BALANOIDES, in Conchology, a species of LEPIAS, with a conic truncated smooth shell, and obtuse operculum. Linna. Fa. Succ.—Donov. &c. This is balanus parvus vulgaris of Petiver; and a variety of it with a long tubular flalk is described by Da Costa, Pennant, and Donov. Brit. Shells.

BALANTE, in Geography, a town of the island of Cebes, in the country of Bacula.

BALANUS, in Conchology, the name of a genus of multivalve shells, in the works of several writers on the teufaces, as Petiver, Cates, Da Costa, &c. The shells of this kind are comprehended by Linnæus and Gmelin in the genus LEPIAS, which see.

BALANUS, a species of LEPIAS, with a conic falcated shell, and sharp-pointed operculum. Found adhering to rocks, stones, shells, &c. in the general plenty in all the European seas. Linna. Fa. Succ.—Donov. Brit. Shells, &c.

BALANUS, Balanus, or Glans, is sometimes used by Antonyfus for the nut of the yard. Sometimes also the cithoras is so called.

BALANUS is also sometimes used for a suppository.

BALANUS MYRTEUSIS, in Pharmacy, the Ben-nut, which see.

BALANUS, in Geography, the name of a port in Italy, in Lucania.

BALARA, in Ancient Geography, a commercial city, seated on the coast of the Indian ocean, between the mouth of the Indus and that of the Euphrates. Philostratus.

BALARUC, in Geography, a town of France, celebrated for its mineral springs, in the department of the Herault, four leagues from Montpellier.

BALARUC, Waters of. These are hot springs of some celebrity, employed both internally, and especially as baths. From the description and analysis of Le Roy (in the Memoires de l'Academie des Sciences for 1772), they appear to contain a small portion of sea salt, some fixed air, and some delectuous waters, but no iron nor sulphur. They are limpid, and fatal to the taste. Their temperature when fresh is about 123° Fahr.; but they are cooled down to about 115° before they are used.

BALASCHIEV. See Balakoff.

BALASORE, a sea-port town of Hindostan, in the country of Orissa, and a place of considerable trade, seated on the river Ganges, about twenty miles from its mouth in the bay of Bengal. Ships generally take pilots here to carry them up the Ganges. It is about 101 geographical miles S.W. from Calcutta. N. lat. 21° 20'. E. long. 87° 17' 30".

BALASS, BALLAS, or BALAS, in Mineralogy. See Ruby.

BALATAM, in Geography, a volcanic mountain in the island of Sumatra.

BALATITI, in Ornithology, a name given by the people of the Philippine islands to a kind of bird, by the flight of which they divine the event of things. What bird this is has not been ascertained.

BALAUSTINA, in Conchology, a species of Tellina, having the shell dilated, orbicular, and one valve furnished with lateral teeth. Inhabits the Mediterranean sea. Colour white, with obscure rufous rays. Size of a lupine seed.

BALAUSTIUM FLORES, BALAUSTIUM FLORES, the flowers of punica graminaria, or pomegranate tree. These are large rose-like flowers of a deep red colour, set in long, bell-shaped cups, and are brought from the southern parts of Europe. They are mildly astringent, as indeed is the whole of the
pomegranate, and will strike a black with solutions of iron. They have little or no smell, and readily yield their astrigent virtue to watery or spirituous menstrua. An extract was formerly prepared from the halalines, and it entered into some of the official powders. It is now almost, if not entirely, disused.

BALAYAN, in Geography, a district or province in the island of Manila or Luzon, with a town of the same name. It lies near the city of Manila, and extends along the coast on the call side of the island, inhabited by about 25,000 tributary Indians, and abounds in cotton, rice, and palm-trees.

BALASTRE, Claude, in Biography, an eminent organist at Paris, and a spirited composer, of the old school, for keyed-instruments. He was born at Dijon, 1720, and was a favourite disciple of Rameau, and organist of Notre-Dame and S. Roch. He was a zealous cultivator of his art, and suggested to harpichord and piano-forte makers many improvements.

BALASTRO, in Geography, an episcopal town of Spain, in Arragon, seated on the Vero, near its confluent with the Cinca, with a diocese extending over 170 parishes, forty-seven miles N.W. of Barcelona, and forty E.N.E. of Saragossa. N. lat. 41° 50'. E. long. 0° 20'.

BALLEC, Ballec, or Balbec, a famous city of Syria, in the parish of Sable, celebrated by the Greeks and Latins under the name of Helipolis, or the city of the fun; defended by the Arabians as the wonder of Syria, and denoting by its present Arabic name Balkh, 1. e. the name of Bel, its connection with the worship of the fun, of which Baal, the chief idol deity of the country, was an appropriate denomination. It is pleasantly situated near the north-east extremity of the valley of Buen, or Bekaa, at the foot of mount Anti-Lebanus, on the left rising ground where the mountain terminates in the plain; it is well watered by the Litane, rising from Anti-Lebanus, and the Barounni from the foot of Lebanon, and abounds in gardens. It is of a square figure, extending as Munnadell conjectured (Journey from Aleppo to Jerusalem, p. 133), about two furlongs on each side: and its houses are of the meanest structure, being such as are usually seen in Turkish villages. Its distance from Damascus is about fifty miles to the north-west, and about thirty miles from the nearest sea-coast, which is the situation of the ancient Byblos, N. lat. 34°. E. long. 36° 45'.

As we arrive from the south (says Volney, Travels in Egypt and Syria, vol. ii. p. 222, &c.) we discover the city at the distance of only a league and a half, behind a hedge of trees, on the verdant tops of which appears a white edging of domes and minarets. After an hour's journey we reach these trees, which are very fine walnuts; and soon after, crossing some ill-cultivated gardens, by winding paths arrive at the entrance of the city. We there perceive a ruined wall, flanked with square towers, which affords the decivity to the right, and traces the pre-
cincts of the ancient city. This wall, which is only ten or twelve feet high, permits us to have a view of those void spaces, and heaps of ruins which are the invariable appendage of every Turkish city; but what principally attracts our attention, is a large edifice on the left, which, by its lofty walls, and rich columns, manifestly appears to be one of those temples which antiquity has left for our admiration. These ruins, which are the fame of the most beautiful and best preserved of any in Asia, merit a particular description.

To give a just idea of them, we must suppose ourselves defending from the interior of the town. After having crossed the rubbish and huts with which it is filled, we arrive at a vacant place, which appears to have been a square; there, in front towards the west, we perceive a grand ruin, which consists of two pavilions ornamented with pilasters, joined at their bottom angle by a wall 165 feet in length. This front commands the open country from a fort of terrace, on the edge of which we distinguish, with difficulty, the bases of twelve columns, which formed extended from one pavilion to the other, and formed a portico. The principal gate is obstructed by heaps of stones; but that oblique form, we enter an empty space, which is a hexagonal court of 180 feet in diameter. This court is surrounded with broken columns, mutilated capitals, and the remains of pilasters, entablatures, and consoles; around is a row of ruined edifices, which display all the ornaments of the rich cell architecture. At the end of this court, opposite the well, is an outlet, which formerly was a gate through which we perceive a still more extensive range of ruins, whose magnificence strongly excites curiosity. To have a full prospect of these, we must ascend a steep, up which were the steps to this gate; and we then arrive at the entrance of a square court, much more spacious than the former. The eye is first attracted by the end of this court, where its enormous and majestic columns render the scene alcmomingly grand and picturesque. Another object not less interesting, is a second range of columns to the left which appear to have been part of the peril of a temple; but before we pass through, we cannot refuse particular attention to the edifices, which enclose this court on each side. They form a fort of gallery which contains various chambers, seven of which may be reckoned in each of the principal wings; viz. two in a semicircle, and five in an oblong square. The bottom of these apartments still retains pediments of niches and tabernacles, the supports of which are destroyed. On the side of the court they are open, and present only four and fix columns, totally destroyed. It is not easy to conceive the size of these apartments; but this does not diminish our admiration at the beauty of their pillars, and the rich seen of the frieze of the entablature. Neither is it possible to avoid remarking the singular effect which results from the mixture of the garlands, the large foliage of the capitals, and the sculpture of wild plants with which they are every where ornamented. In traversing the length of the court, we find in the middle a little square esplanade, where was a pavilion, of which nothing remains but the foundations. At length we arrive at the foot of the fix columns; and then first conceive all the boldness of their elevation, and the richness of their workmanship. Their shafts are twenty-one feet eight inches in circumference, and fifty-eight high; so that the total height, including the entablature, is from seventy-one to seventy-two feet. The fitness of this superb ruin, thus solitary and unaccompanied, at first strikes us with astonishment; but on a more attentive examination, we discover a series of foundations, which mark an oblong space, 256 feet in length, and 146 wide; and which, if it seems probable, was the periphery of a grand temple, the primary purpose of this whole structure. It presented to the great court, that is to say, a front of ten columns, with nineteen on each side, which, with the other fix, make in all fifty-four. The ground on which it stood was an oblong square, on a level with this court, but narrower than it, so that there was a terrace of twenty-seven feet wide round the colonnade. The esplanade this produces, fronts the open country, toward the well, by a lining wall of about thirty feet. This descent, as you approach the city, becomes less steep, so that the foundation of the pavilion is on a level with
with the termination of the hill, whence it is evident that the whole ground of the court has been artificially raised. Such was the former state of this edifice; but the southern side of the grand temple was afterwards blocked up to build a smaller one, the peristylium and wall of which are still remaining. This temple, however, some feet lower than the other, presents a side of thirteen columns, by eight in front (in all thirty-four), which are likewise of the Corinthian order; their shafts are fifteen feet seven inches in circumference, and forty-four in height. The building itself is round an oblong, square, the front of which, facing the sea, is out of the line of the left wing of the great court. To reach it you must first traverse the courts of columns, built by Emperor Julian, and a ruined wall by which it is now hid. After surmounting these obstructions, you arrive at the gate, where you may survey the inclosure which was once the habitation of a god; but instead of the awful scene of a prostrate people, and sacrifices offering by a multitude of priests, the sky, which is open from the falling in of the roof, only lets in light to throw a show of ruins, covered with dust and weeds. The walls, formerly enriched with all the ornaments of the Corinthian order, now present nothing but pediments of niches, and tabernacles of which almost all the supports are fallen to the ground. Between these niches is a range of fluted pilasters, whose capitals support a broken entablature; but what remains of it, displays a rich frieze of foliage rolling on the heads of fayts, horses, bulls, etc. Over this entablature was the ancient roof, which was fifty-seven feet wide, and 110 feet in length. The walls which supported it are thirty-one feet high, and without a window. It is impossible to form any idea of the ornaments of this roof, except from the fragments lying on the ground; but it could not have been richer than the gallery of the peristylium; the principal remaining parts contain tablets in the form of lozenges, on which are represented Jupiter seated on his eagle; Leda carried by the swan; Diana with her bow and crescent, and several busts which seem to be figures of emperors and empresses. It would lead us too far, to enter more minutely into the description of this abominable edifice. The lovers of the arts will find it described with the greatest truth and accuracy in a work published at London in 1757, under the title of "Ruins of Balbec." This work, compiled by Mr. Robert Wood, the world owes to the attention and liberality of Mr. Dawkins, who, in 1751, visited Balbec and Palmyra. It is impossible to add any thing to the fidelity of their description.

Several changes, however, have taken place since their journey: for example, they found nine large columns standing; and, in 1784, there were but five. They reckoned nine and twenty at the lefier temple, but there now remain but twenty; the others have been overthrown by the earthquake of 1759. It has likewise shaken the walls of the lesser temple, that the stone of the soffit of the gate has slid between the two adjoining ones, and defended eight inches; by which means the body of the bird, sculptured on that stone, is suspended, detached from its wings, and the two garlands, which hang from its beak and terminated in two genii. Nature alone has not affected this devastation; the Turks have had their share in the destruction of the columns. Their motive is to procure the iron cramps, which serve to join the several blocks of which each column is composed. These cramps suffer no little from the war intended, that several of the columns are not even disjointed by their fall; one, among others, as Mr. Wood observes, has penetrated a stone of the temple wall without giving way. Nothing can surpass the workmanship of these columns; they are joined without any cement, yet there is not room for the blade of a knife between their interludes. After so many ages, they in general still retain their original whiteness. But, what is still more astonishing is, the enormous stones which compose the foping wall. To the west, the second layer is formed of stones which are from twenty-eight to thirty-five feet long, by about nine in height. Over this layer, at the north-west angle, there are three stones, which alone occupy a space of 175 feet and one half; viz. the fifth, fifty-eight feet seven inches; the second, fifty-eight feet eleven; and the third, exactly fifty-eight feet; and each of these are twelve feet thick. These stones are of a white granite, with large shining flakes, like gypse; there is a quarry of this kind of stone under the whole city, and in the adjacent mountains, which is open in several places, and, among others, on the right, as we approach the city. There is still lying there a stone, hewn on three sides, which is sixty-nine feet two inches long, twelve feet ten inches broad, and thirteen feet three in thickness. By what means could the ancients move these enormous masses? This is doubtless a problem in mechanics curious to resolve. The inhabitants of Balbec have a very commodious manner of explaining it, by supposing these edifices to have been constructed by Djemoun, or Genni, who obeyed the orders of King Solomon; adding, that the motive of such immense works was to conceal, in subterraneous caverns, vast treasures, which shall remain there. To discover these, many have descended into the vaults which range under the whole edifice; but the inutility of their researches, added to the oppressions and extortions of the governors, who have made their suppressed discoveries a pretext, have at length discouraged them; but they imagine the Europeans will be more successful; nor would it be possible to persuade them, but what we are possessed of the magic art of destroying Talismans. It is in vain to oppose reason to ignorance and prejudice; and it would be no less ridiculous to attempt to prove to them that Solomon never was acquainted with the Corinthian order, which was only in use under the Roman emperors. The tradition which ascribes the buildings at Balbec, and also at Palmyra, to Solomon, and on which the inhabitants of the country confidently rely, is founded on an opinion generally prevalent, of his wisdom and love of pleasure, with both which the magnificence, beauty, and disposition, of these buildings perfectly agree; and on the mention of 'Tadmor' in the wilderness, and the tower of Lebanon looking towards Damascus, which are said in the Old Testament to have been built by his direction. Some have supposed that these are the ruins of a temple of the sun, built by the Phœnicians, because it is certain that the sun was worshipped at this place when the Phœnicians were in their most flourishing state. Others have thought that these buildings were erected by the Greeks, who succeeded the Phœnicians in the possession of this country, because they are of the Corinthian and Ionic order; but as they are not mentioned from the time of Alexander's conquest to that of Pompey, there is great reason to suppose that they are of later date.

When we consider the extraordinary magnificence of the temple of Balbec, we cannot but be astonished at the silence of the Greek and Roman authors. Mr. Wood, who has carefully examined all the ancient writers, has found no mention of it, except in a fragment of John of Antioch, named Malala, who attributes the building of this edifice to Antoninus Pius. He says that this emperor 'built a great temple to Jupiter at Heliopolis, near Libanus, in Phœnicia, which was one of the wonders of the world.' This is the only historical authority that has yet been discovered.
covered relating to this subject. As these buildings seem to have been erected between the time of Pompey and Caracalla, it is very probable that they were the work of Antoninus Pius. The inscriptions which remain corroborate this opinion, which perfectly accounts for the common use of the Corinthian order, since that order was not in general use before the third age of Rome; but we ought by no means to allege as an additional proof, the bird sculptured over the gate, for if his crooked beak, large claws, and the caduceus he bears, give him the appearance of an eagle, the tuft of feathers on his head, like that of certain pigeons; proves that he is not the Roman eagle: besides that the same bird is found in the temple of Palmyra, and is therefore evidently an oriental eagle, consecrated to the sun, who was the divinity adored in both these temples. His worship excelled at Balbec, in the most remote antiquity. His statues, which resembled that of Osiris, had been brought thither from the Heliopolis of Egypt, and the ceremonies with which he was worshipped there have been described by Macrobius, in his curious work, intitled, "Saturnalia." Mr. Wood supposes, with reason, that the name of Balbec, which in Syrian signifies City of Baal, or of the Sun, originated in this worship. The Greeks, by naming it Heliopolis, have in this instance, only given a literal translation of the oriental word, a practice to which they have never always adhered. We are ignorant of the date of this city in remote antiquity; but it is to be presumed that its situation, on the road from Tyre to Palmyra, gave it some part of the commerce of those remote capitals. Under the Romans, Heliopolis was constituted a colony by Julius Cesar, and in the time of Augustus, it is mentioned as a garison town, for it received part of the veterans of the fifth and eighth legions; and there is still remaining, on the wall of the southern gate on the right, as we enter, an inscription which proves the truth of this, the words "Kerturin Primus," in Greek characters, being very legible. One hundred and forty years after, Antoninus built there the present temple, instead of the ancient one, which was doubtless falling into ruins; but Christianity having gained the ascendancy under Constantine, the modern temple was neglected, and afterwards converted into a church, a wall of which is now remaining, that hid the sanctuary of the idol. It continued thus until the invasion of the Arabs, when it is probable they enroved the Christians so beautiful a building. The church being left frequented, fell to decay; years succeeded, and it was converted into a place of defence; battlements were built on the wall which surrounded it, on the pavilions, and at the angles, which still stand; and from that time, the temple, exposed to the ravages of war, fell rapidly to ruin. The date of the city is not left deplorable: the wretched government of the Emirs of the house of Huxfonie had already greatly impaired it; and the earthquake of 1759 completed its destruction. The wars of the Emir Youlef, and Djezzar, have rendered it still more deserted and ruinous: of 5000 inhabitants, at which number they were estimated in 1751, not 1200 are now remaining, and all those poor, without industry or commerce, and cultivating nothing but a little cotton, some maize, and water-melons.

BALBI, John, in Biography, a learned Dominican monk of the thirteenth century, was born at Genoa, and hence called "Balbi-jannensis;" and distinguished as the author of a grammatical work, intitled "Catachiron," published in 1276, and entitled to attention principally from its having been one of the first printed books. It was printed in folio at Mento, in 1460; and this edition is become very scarce.

BALBIAN, Justus, of Aloft, in Flanders, studied at Padua, where he was admitted doctor in medicine, which he practiced with considerable reputation, towards the latter end of the sixteenth century, at Gouda. He openly professed the Calvinistic religion, in which faith he died in 1616, and was buried in the principal church of that city, with the following inscription on his tomb:

Singular diee, singularis vites puta,
Justa a Balbian,
[sepulchrum :
Flandi Aloliani, Philo-Chymici, ejufque hereditum
ille heri, ego hodie, tu caras.
Obit anno 1616.


BALBINUS, Decimus Cerialis, a Roman emperor, was a descendant of a noble family, founded by Cornelius Balbinus Theophanes, originally of Cadiz in Spain, who was the friend and historian of Pompey, and admitted into the freedom of the city under his patronage. Balbinus was distinguished both as a poet and an orator; and as a magistrate he had governed several provinces with reputation. His fortune was sufficient, and his manners liberal and affable. After the defeat and death of the two Gordians, on the 3d of July, A.D. 237, Balbinus was elected emperor by the senate in conjunction with Maximus. Their election was soon succeeded by a tumult at Rome, occasioned by a licences multitude: who neither loved the rigid Maximus, nor sufficiently feared the mild and humane Balbinus; and who, surrounding the temple of Jupiter, demanded, that, besides the two emperors chosen by the senate, a third should be added of the family of the Gordians, as a just return of gratitude to those princes who had sacrificed their lives for the republic. Accordingly, Maximus and Balbinus being driven back into the capital, a boy, thirteen years of age, the grandson of the elder, and nephew of the younger Gordian, was presented to them, and invested with the title and ornaments of Caesar. The tumult was appeased by this easy accommodation; and the two emperors, as soon as they had been peaceably acknowledged in Rome, prepared to defend Italy against the common enemy. Maximus marched against Maximin, who was then laying siege to Aquileia; but this tyrant having been abounded by his guards, and affaminated in his tent, Maximus returned in triumph to Rome, and was received with cordial congratulations, not only by his colleague and young Gordian, but by the senate and the people, who perfused themselves that a golden age would succeed an age of iron. The conduct of the two emperors corresponded with these expectations. The rigour of the one was tempered by the clemency of the other: the oppressive taxes imposed by Maximin were repealed or moderated, discipline was revived, and many salutary laws were enacted. "What reward," said Maximus, "may we expect for delivering Rome from a monster?" To which question Balbinus replied, "the love of the senate, of the people, and of all mankind." "Alas!" rejoined his more penetrating colleague, "Alas! I dread the hatred of the soldiers, and the fatal effects of their resentment." His apprehensions were justified by the event. At length dissensions broke out between the two emperors, and they were thus prevented from uniting in any vigorous measures of defence against their common enemies of the Prætorian camp. These fierce troops, proceeding to an open revolt, seized on both the emperors, stripped them of their garments, dragged them
them ignominiously through the streets of Rome, and terminated the tragedy by infamously massacring them. Thus they both fell after a reign of little more than a year, July 15th, A. D. 1515. Crozier's Hist. Emp. vol. viii. p. 322. &c.

Gibbon's Hist. vol. i. p. 290—305

BALBOA, Vasco Núñez De, a famous Spanish adventurer, was a native of Cadiz; and one of those who formed a settlement in Hispaniola. In 1510, he commanded a feeble colony, established at Santa Maria Antigua, or the ancient, so called because it was the first settlement on the southern continent of America. Aroused for being involved with a legal title to the supreme command, he dispatched one of his officers to Spain, in order to solicit a royal commission; and with a view of more efficaciously recommending himself to the patronage which he was endeavouring to obtain, he made frequent visits into the adjacent country, furnished several of the caciques, and collected a considerable quantity of gold, which abounded more in that part of the continent than in the islands. In one of his expeditions he met with a young cacique, who expounded his affrontment at the high value which was set upon the gold, which the Spaniards were weighing and distributing:

"Why do you quarrel," said he, "about such a trifle? If you are so passionately fond of gold, as to abandon your own country, and to disturb the tranquillity of distant nations for its sake, I will conduct you to a region where the metal, which seems to be the chief object of your admiration and desire, is, so common that the mercenary utopians are formed of it." Transported with the intelligence, Balboa eagerly inquired where this happy country lay, and how they might arrive at it. The cacique informed them, that at the distance of six fars, or six days journey to the south, they would discover another ocean, near which this wealthy kingdom was situated; but if they intended to attack it, they must assemble forces far superior in number and strength to those which now attended them. This was the first information which the Spaniards received concerning the great southern continent known afterwards by the name of Peru. Balboa diligently prepared for the enterprise; and procuring talents for conducting so hazardous and almost desperate an undertaking as that of marching across the island of Dwien, he arranged his troops, amounting upon a muster to only 150 men, who were hardy veterans, that had been induced to the climate of America, and who were ready to follow him through every danger. A thousand Indians attended them to carry their provisions; and to complete their warlike array, they took with them several of those fierce dogs which were no less formidable than destractive to their naked enemies. On the 18th of September, A. D. 1513, he set out on this expedition; and having continued their progress for 25 days through woods and mountains, and amidst contending enemies, he at length reached the top of a mountain from which he was able to discover the ocean, which was the object of their wishes. On viewing this glorious spectacle, which no European eye had ever before beheld, he fell on his knees, and returned thanks to heaven with uplifted hands for conducting him to a discovery so beneficial to his country, and so honourable to himself. His followers united with him in expressions of wonder, exultation, and gratitude. Pursuing their course, they at length arrived at the shore of the ocean; when Balboa, advancing into the waves with his sword and buckler, took possession of it in the name of the king his master, and vowed to defend it with these arms against all his enemies. The part of the great Pacific, or Southern ocean, which Balboa first discovered, still retains the name of the gulf of St. Michael, which he gave to it, and is situated to the coil of Panama.

Here he obtained a supply of provisions; and partly by force and partly by gift, he enriched himself with a considerable quantity of gold and pearls. He also received information that there was a mighty and opulent kingdom situated far towards the south, where the inhabitants had tame animals, making the Llamaroas, or stalwart men, to carry their burdens. His followers were also supplied with fan-tigue and discipline; and he therefore determined to lead them back, instead of attempting to take possession of this country, to their settlement at Santa Maria in Darien; and, after an absence of four months, he returned to it with greater glory and more treasure than the Spaniards had hitherto acquired in any of their expeditions against the New World. Balboa hastened to transmit information of his important discovery to Spain, and to solicit a reinforcement of 1000 men for the conquest of the opulent country, of which he had received so favourable an account. Ferdinando, the king of Spain, determined to avail himself of the intelligence which Balboa had communicated; but regardful of his merit, he appointed Pedrarias Dávila to supersede him in the government of Darien. He also provided him with a well equipped fleet and 1500 followers, who were joined by a great number of volunteers and vassals. Upon their arrival at Darien, they found Balboa, whose fame had reached Spain, and of whose uprightness they had formed such high ideas, clad in a canvas jacket, with cotton breeches, and Rudolph, and employed in thalving his own tent with reds. Balboa, however, received them with dignity, and treated Pedrarias with the deference due to his character. Pedrarias appointed a judicial inquiry to be made into Balboa's conduct, and imposed upon him a considerable fine. At length remonstrance against the imprudent government of Pedrarias, which had ruined a happy and flourishing colony, and Pedrarias reprimanded by accusing him of having deceived the king, by magnifying his own exploits, as well as by a false representation of the opulence and value of the country. Ferdinando, sensible of his own imprudence in having superseded Balboa, appointed him Admiral and lieutenant-governor of the countries upon the South sea, with very extensive privileges and authority; and he enjoined Pedrarias to avail himself of Balboa's counsel in all his operations. After some time Pedrarias and Balboa were apparently reconciled; and by way of cementing the union between them, the former agreed to give his daughter in marriage to the latter. This happened in 1515. Jealously still mired in the breach of the governor, and when Balboa had engaged in a laborious fluted four small brigantines, and provided 1500 choicest men, in order to fall towards Peru, Pedrarias desired him to postpone the voyage; and having solicited an interview, ordered him to be arrested, and then to be tried for an accusation of disloyalty to the king, and of an intention to revolt against the governor. He was found guilty, and sentence of death was pronounced; and though the judges who passed it, recoiled by the whole colony, warmly interceded for his pardon, the governor continued inexorable; and the Spaniards beheld, with astonishment and sorrow, the public execution of a man whom they universally deemed more capable than any who had borne command in America, of forming and accomplishing great designs. Upon his premature death in 1517, at the age of
BAL

42: the expedition, which he had planned, was relinquished.

Bala was distinguished among his countrymen by a variety of important and useful qualities, adapted to the station he occupied, and the services in which he engaged. Besides bravery, which he purchased in an eminent degree, he was prudent in conducting himself, affable, and popular with those of his rank, in which, in the most desperate undertakings, inspired confidence and secured attachment. Robertson's Hist.

Amer. vol. i. p. 257—301.

BALBRIGG&N, in Geography, a small port town of Ireland, in the county of Dublin. It has a safe harbour with a pier, within which ships of 200 tons burden may lay their broadside, and unload on the quay. The base of the pier is 18 feet thick, and on the outside is a considerable rampart of large fragments of rock, fink to defend the pier against the waves. At this town there once was an extensive cotton factory; but it has lately declined so much that the proprietors are now converting one of their principal cotton mills into a flour mill. Many of the inhabitants derive a subsistence from fishing, in which nine wharves are employed. On the shore near the town is a fine rock, which is a good quarter for blocks of sufficient size for making ton flutes. It is distant from Dublin 135 Irish miles. N. lat. 53° 36'. W. long. 13°.

BALBUL, in Ornithology, a species of Anas, or duck, having a black back, and spot of the wing above obliquely green, beneath obliquely black. Forck. Fin. Arab.

BALBURA, in Ancient Geography, town of Acha Minor, in Cœlia, a country of Cariu, situated in the vicinity of Cythera Major. When the prefect Muræus extended the principality of Cythera, Balbara was annexed to Lycaia.

BALBUS, a mountain of Africa, between the town of Chypoca, the territory of Cartagia, Numidia, and the sea. Hitherto Masumilla retired, after having been defeated by Syphax, king of Numidia.

BALBUSARDUS, in Ornithology. See BAL-BUZZARD.

BALCASH, Tents, or Palati, in Geography, a lake of Independent Tartary, in the country of the Kalmsaks, subject to China, is about 140 Britsh miles in length by half that breadth; being the largest lake in Asia, next to the seas of Aral and Balaik.

BALCUDPHA, a settlement in the eastern part of Kentucky, in America, on the west side of the Big Sandy river.

BALCH, a river of Germany, which runs into the Rhine at Cologne.

BALCHIKANSKOI, a town of Siberia, 140 miles south-west of Doronimik.

BALCHYSEN, a town of Germany, in the circle of Weilphalia, and duchy of Juliers, nine miles west of Cologne.

BALCONY, from the French balcon, in Architecture, a kind of open gallery without the walls of buildings, contrived chiefly for the convenience of looking around, facing processions, cavalcades, and the like.

Where there is but one, it is usually in the middle of the front of the edifice, and level with the first floor; sometimes they are made of wood, sometimes of cast iron; the former surmounted with a rail or balustrade, the latter wrought in various figures in demi-reliefs. Some are also made of bar iron, fashioned in chain-work, or flourishes of divers fancies.

BALCONY, in a ship, denotes a gallery either covered or open, made abaft, either for ornament or convenience of the captain's cabin.

BALDA, in Ancient Geography, a town of Hifpania Baetica, in the country of the Tartulii. Ptolemy.

BALDACANIFER, corruptly also written balacanifer, denotes a standard-bearer; chiefly in the ancient order of knights Templars.

BALDACHIN, or Balduinus, in Architecture, a building in form of a canopy, supported with columns, and serving as a crown or covering to an altar.

The word comes from the Italian baldacchino, which signifies the same.

BALDACHIN, or Baldhin, or Bal'dkin, popularly Bau-dekin, in Middle Age Writers, denotes a rich kind of cloth made of gold warp and silk woof, variously figured. It took the denomination from its being formerly brought into these countries from Balconia, or Babylon.

BALD-BOZZARD, in Ornithology, the name under which Falco spartus is described by Willughby and other English naturalists. It is also called balacard by Buffon.

BALD-EAGLE, in Geography, or Warrior Mountains, lie about 250 miles W. of Philadelphia, in the county of Bedford, in Pennsylvania, and form the western boundary of Bald-eagle valley.

BALD-EGLE is also a river which runs a north-east course forty-four miles, and falls into the western branch of the Susquehanna river. The water of Huron river, which falls into the lake Erie, is called Bald-eagle creek.

BALD-EAGLE, Valley, or Sinking-Spring Valley, lies upon the frontiers of Bedford county in Pennsylvania, about 250 miles west of Philadelphia. On the east it has a chain of high rugged mountains, called the "Came ridge," and on the west, the "Bald-eagle," or Warrior mountains. It is a pleasant vale of lime-stone bottom, about five miles wide; and its vicinity abounds with lead-ore. In 1779, it contained about 60 or 70 families that lived in log-hovels, and formed in less or eight years several valuable plantations. Among the curiosities of this place is that called the "Swallows," which affords several of the largest streams of the valley, and after conveying them several miles under ground, return them again upon the surface. These subterraneous passages have given occasion to the name of "Sinking-Spring Valley." Of these the most remarkable is called the "Arch Springs," which run close upon the road from the town to the fort; being a deep hollow formed in the lime-stone rock, about thirty feet wide, covered with a flinty arch, and giving passage to a fine stream of water. The subterraneous river enters the mouth of a spacious cave, whose exterior aperture is sufficient to admit a hollow with her falls full spread; and in the middle of this cave, from eighteen to twenty feet wide, are timber, branches of trees, &c. which being lodged upon the roof of the passage, shew that the water rises to the top during times. The cave, extending about forty yards, widens into a large kind of room, at the bottom of which is a vault, where the water forms a whirlpool, and absorbs pieces of floating timber, which are instantly conveyed out of the cave. From the top of the Bald-eagle mountains there is a fine prospect of the Alleghany, stretching along till they seem to meet the clouds. Much stone is found here; and there are flint rocks of pit-coal.

BALDEGG, a lake of Swisserland, four miles long and one wide; nine miles S.S.W. of Bruggarten.

BALDENAU, a town of Germany, in the circle of the Lower Rhine, and bishopric of Treves: 36 miles S.S.W. of Coblenz.

BALDÉRIC, in Biography, a French historian, a native of Orleans, lived in the 12th century, and was bishop of Dole in Brittany. He afield at the council of Clermont, held on occasion of the holy war, and wrote a history of that war in four books, containing an account of the
events of that fanatical expedition from its commencement to the year 1599, when Jerusalem was taken by Godfrey of Bouillon. This work may be found in "Gea Dei per Francos a Dongar," folio, 1541. He also wrote "Poems," preferred in the fourth volume of Du Chefne's collection of French historians. Nouv. Dict. Hitor.

BALDERN, in Geography, a town of Germany, in the circle of Swabia, and county of Ottingen, one mile S.S.E. of Zobing.

BALD-HEAD, a cape of the north-west coast of America, and on the west coast of Newfoundland, between Perrouges harbour on the S.S.W. and Fort Agnus on the N.N.E. Baldhead is also at the mouth of Cape Fear river in North Carolina, and being at the south-west end of Smith's island, forms with Oak island the main entrance into the river.

Bald-head makes also the south-west part of what is called Wells bay, in the district of Maine.

BALDI, BERNARDINO, in Biogaphy, a learned Italian, was born at Urbino, in 1553. Such was his ardour in the prosecution of knowledge, that he sacrificed both his meals and his sleep to the attainment of it. Having studied mathematics under Commandino in the place of his nativity, he purveyed his studies in the university of Padua; where in his twentieth year, he was distinguished by his literary application and proficiency. Such was his acquaintance with the Greek language, that he translated the Phenomena of Aratus into Italian verses, and other Greek writers into Latin; and he polished such a talent for acquiring the knowledge of languages, that he learned twelve of them, several of which were oriental. When he left Padua, he became mathematician to Ferrante Gonzaga II. duke of Guastalla; and in 1586, he was created abbot of Guastalla, which church he governed for many years with great reputation. At Rome, where he spent part of his time, he obtained the title of apostolical prothonotary. Towards the latter part of his life, he refugied the church of Guastalla, and returning to Urbino, devoted himself entirely to his studies. He died in that city in 1617, at the age of 64 years. Balòi obtained as high a rank among the Italian poets as he polished among the scholars and mathematicians. In pastoral poetry, his "Céo," or "Orto," is thought to be excelled by few works in the language; and his blank verse is much esteemed. In mathematics and mechanics his labours were numerous. He translated into Latin the Greek work of Hero of Alexandria, "On Automata, or self-moving Machines," and into Latin, the name author's treatise, "On warlike Machines." He also wrote "Exercitations on the Mechanics of Architecture," and published two Latin works relative to Vitruvius, the one containing an explanation of all the terms used by him, and the other inquiring into the meaning of his "Seamills impares." A profound work, intituled, "Cronica de Mathematicis," being a compendium of a larger one on the lives of mathematicians, was printed in 1507. Many other monuments of his genius and industry, which obtained reputation in their time, are now configned to oblivion. Nouv. Dict. Hitor. Gen. Biog.

BALDI, DE UBALDI, a celebrated lawyer, was born at Perugia in 1349, and carefully educated by his father Francis Ubaldi, a learned physician. After having studied law at Perugia under Bartoli, he became a preceptor, and acquired high reputation in most of the universities of Italy. He was the rival of his master Bartoli, and contrived many of his opinions. The duke, John Galeazzo, was his generous patron; and he was liberally rewarded by pope Urbain VI. for pleading his cause against Clement. Having retained the full vigour of his faculties and his disting. guished reputation as an oracle of jurisprudence till the year 1400, when he had attained the age of 76, he died at Pavia, in conformance of the bite of a dog, with which he was playing. His numerous treatises of law, published in three volumes folio, manifest deep knowledge and excellent talents; but they are written too much in the barbarous style of the age. His reputation was so great, that his family, after his death assumed the name of Baldechi instead of that of Ubaldi. Nouv. Dict. Hitor.

BALDINGER, ERNSTUS GOTTFRIED, a medical writer, of whom we have no memorial, but that, in 1764, he published at Berlin, "Introductio in Notitiam Scipentorum Medicine Militarum," 8vo., a valuable work, in which, besides the titles of the books, the author has given a critical account of their contents. Haller, Bib. Med. Præd.

BALDINI, JOHN ANTHONY, Count, was born at Placentia, July 7, 1654, finished his studies at Bologna and at Rome, and then travelled into France and Poland. In 1698, he went to Spain, and continued there nine years as ambassador from the duke of Parma. On his return to Parma, he was again dispatched to German courts, and at last to England, whence he was sent to attend the congresses at Utrecht. His figure was handsome, and his manners engaging; and the greater part of his time was devoted to the study of nature philosophy, mathematics, and more especially civil and ecclesiastical history. In England, he was elected fellow of the Royal Society; and in Spain, he collected many rare gems, with a view of having them engraved; but in the progress of this work he was interrupted by his public occupations and travels. At Amsterdam, he enriched his cabinet of curiosities with many Indian and Chinese subjects; and he purchased, at a great expense, all the lexicons, atlases, and books of travels he could procure that related to the Eastern countries. The editor of the "Atlas Historique," in 5 vol., published at Amsterdam in 1719, was much indebted to Baldini's collection; and the discourse annexed to these maps was originally written in Italian by Baldini. On the 23d of February 1725, Baldini died, in consequence of a stroke of the apoplexy. Gen. Biog.

BALDINUCCI, PHILIP, was born at Florence in 1624; and distinguished himself by his knowledge of the arts of design, and his researches concerning the lives of their proficients. His great undertaking was a general history of the most eminent painters from Cimabue to his own time, comprehended in six volumes, and divided into centuries. A new edition of this whole work was published at Florence in 1731, and it has been since reprinted at Florence and at Turin, with copious notes and additions, by Sig. Ingegnere Lancenzi. Baldinucci likewise published "A Vocabulary of Design," in consequence of which he was admitted into the Academy della Cruce. His work, intitled, "The Commencement and Progress of the Art of Engraving on Copper," Florence, 1686, 4to., abound with curious information. He also published several smaller works; one of which drew upon him a furious and unjust attack from Cennini. He died in 1696, at the age of 72 years. Nouv. Dict. Hitor.

BALDINUS, GERARD, an Italian physician, who flourished about the middle of the fifteenth century, taught medicine at the university of Padua, and afterwards at Milan, where he died in the year 1600. In 1567, he published at Venice, "Problematum excerpta ex Commentaris Galeni in Hippocratem," 8vo.
BALDINUS, Bastius, another Italian physician of the
fame age, published, at Florence, "In Librum Hippocratis,
de Aquis, Aecy, et Locis, Commentaria;" "Tractatus de
Hift.

BALDIVIA, or Valdivia, in Geography, the name of
a government in the kingdom of Chili, in South America.
It was formerly subject to the viceroy of Lima, but is now
annexed to the jurisdiction of the president of Chili. 
Valdivia, or Valdivia, is also the name of a port town, situated
on the north-east face of a bay of the same name, in S. lat.
40° 5'. W. long. 80° 5'. The town was built by the Spa-
nish general Baldivis, about the year 1551; in 1559, the
people of Chili chaffed the Spaniards from this settlement,
burned the town, and put the inhabitants to the sword.
Near this place are many gold mines, and therefore the Spa-
niards have fortified it, regarding it as the key to the South
sea; and the fortifications are supported by the whites of
Peru and Chili, who are bannished hither for their crimes.
In 1643, it was taken possession of by the Dutch; but they
were compelled to abandon it, and to leave all their cannon,
confisting of 30 or 40 pieces, their baggage, and their stores,
on receiving intelligence that succours were transmitted from
Peru. Valdivia receives from the treasury of Lima an an-
nual supply of 70,000 dollars; 50,000 in specie, the value of
30,000, in cloths for the soldiers, and 10,000, in specie
which is paid to the king's folders at Santiago, in order to
purchase flour and other necessaries for the garrison at Val-
divia. These remittances are conveyed in ships which fall
from Valparaiso. The hay has a narrow entrance, and is
spacious within; it is well secured from winds by point Ga-
lera and Bonifacio, which is remarkable for its high land
juft on the north of the bay. The rivers of Baldivis and
Guyaquil are the beggar on this coast; but neither of them
can carry a ship of burden six leagues within land.

BALD-MOUNTAIN, in Geography, a noted promon-
tory in the gulf of St. Lawrence, in North America, being
a mark on the main, about 30 leagues from the nearest
north-west point of Anticosti island.

BALDNESS, Calvities, a falling of the hair, espe-
cially that of the scalp.

It differs from alopecia, are, ophioys, and tinea, as thefe
all arise from some vice in the nutritious humour; baldnes,
from the defect of it. But the defcription is not always
observed by modern physicians.

When the eyelids bled their hair, it is called a pticas.
Among the caufes of baldness, immoderate venery is re-
puted one of the chief; old age ufually brings it on of
itself. Some will have the proximate caufe of baldness to
be the dryness of the brain, and its shrinking from the cra-
nium; it having been observed, that in bald persons there
is always a vacuity or empty space between the skull and
the brain.

Buffon says, that the crown of the head, and the space
immediately above the temples, are the parts which first
become bald; but that the hair below the temples, and on
the inferior part of the back of the head, feldom falls off.
He adds, baldness is peculiar to man; women, in the most
advanced age, though their hair becomes white, are feldom
affectcd with baldness. Children and young people are not
more fubjeft to it than women. It is alleged by Arifto-
tele, that no man becomes bald before having intercourse
with women, except such as have been bald from their
birth. The ancient writers reproach the inhabitants of the
islands of the Archipelago with the epithet "bald-heads," and
affert, that these islands are all brought into the world

Calvus, bald pate, was a frequent term of reproach
among the Romans; among whom this defect was in great
discred. Hence divers arts to conceal it, as false hair, and a
galericus, contrived on purpose. The latter Romans, how-
ever, seemed to have been reconciled to baldness; for we
find among them a kind of officers or servants, called gla-
bratores, or glabarii, whose business was to take off the
hair from all parts, even from the head. In an ancient in-
scription, there is mention of one Diophantus, ti. cera-
ris. or napum. Glab. that is, ornamen. glabrius. See
Alopecia.

BALDO, Mount, in Geography, a part of the Alps,
in the Austrian territories, lying on the caft of the lake
Guida, and separating the country of Tyrol from that of
Verona, about 50 miles in circumference.

BALDOCK, Ralph de, in Biography, an English di-
vine of the fourteenth century, was educated at Oxford, ap-
pointed bishop of London in 1304, chosen in 1307 lord
chancellor of England, and in 1313 died at Stepney. His
history of the British affairs, intitled, "Historia Anglica,"
feen by Lalond, is now lost. Biog. Brit.

Ballock, in Geography, is a neat and pleasant market
town of Hertfordshire, in England. It is leated between
hills on that great Roman road which bore the name of
Felling-way, or Ickenfield-greet. This town has been con-
derably improved of late years by the erection of many re-
peetable houses; and being on a great travelling road, it
has a constant fucceflion of new company. Here are a
good market on Thursday, and five annual fairs; the for-
mer is plentifully supplied with barley; and a great quanti-
ty of malt is made in this town. Ballock dates its origin
and the foundation of its church to an earl of Pembroke,
who granted two hundreds acres of waste land, in the reign
of king Stephen, for that purpose. This was conferred on
the knights Templars, who dedicated the church to the Vir-
gin Mary, and named the town Balbece, from the name of
their former place of residence in Syria. The knights ho-
pitalers of St. John, and those of Jerusalem, also erected
buildings at the east end of the town, in the porith of
Clothhall. On the hills in the vicinity are four ancient en-
campments. Here is a manor-house founded by William
Wian, in 1621, for twelve poor widows, who are also pro-
vided with a small legacy of forty shillings annually by the
will of the same worthy founder. According to the returns
published by authority of the house of commons, this town
has 231 houses, and 1283 inhabitants; of whom 648 are
males, and 635 females.

BALDOVINI, Francesco, in Biography, an Italian
poet, was born at Florence, in 1634. His first studies were
devoted to the law, for which profession his father intended
him; but after the death of his parents, he surrendered him-
self wholly to the enchantments of poetry and music. On
visiting Rome, he obtained, through the interest of his un-
cle cardinal Flavio Chigi, the place of secretary to cardinal
Jacopo Filippo, and at the age of 40, entered into holy
orders. In 1676, he obtained the living of St. Leonardo
d'Artimino; and in 1694, Cosmo III. grand duke of Tuf-
cany, conferred on him the priorship of Orbetello, which
he changed, in 1699, for that of Santa Felicita. In the
discharge of his new functions, he gave equal satisfaction
to the court, the religious orders, and his parishioners, by
his exemplary piety, and his rigid attention to the duties of
his station, to which the amiablenes of his manners, his
knowledge of the world, and his proficiency in learning,
rendered
rendered him perfectly adequate. He lived in prosperity and health till his 82d year, and died in 1716. He excelled in that species of simple, rural, and pleasant poetry, which is neither heroic nor burlesque, and which perhaps no poetry in our language resembles more than Gay's pastorals. His "Il Lamento di Cecco da Varlungo," or "Cecco's Complaint," is a playful poem, written in the provincial dialect of Tuscan, and published first at Florence in 1614, by Parto Commes; and afterwards, in 1775, with the author's life by Domenico Manni, and curious notes by Marini. The poem was translated into English by John Hunter, esq. in 1820, London, 8vo. See the Translator's Preface.

BALDUS, or as he wrote his name, BADUS, SEBASTIAN, a native of Genoa, who flourished in the middle of the seventeenth century, was one of the earliest writers on the properties of the Peruvian bark, and the most zealous advocates of its value. It appears that he passed the latter part of his life at Rome, where he was patronized by the cardinal De Lugo, himself an admirer of that celebrated medicine, and who procured a parcel of it to be imported from Spain into Italy, in 1649. Baldus learned from Bollini, a Genoese merchant, that the tree producing the bark, of which he gives a description, grows at Quito, a Spanish province in South America; and that its power in curing intermittent fevers became first known to the Spaniards, from its being successfully administered to the countess of Cincon, the wife of the governor. He is very diffuse in his account of the qualities of the bark, and of the most efficacious mode of administering it; and gives numerous examples of the cures performed by it, not only in intermittent, but in continued fevers likewise. His works, which are all controversial, are: "Sanguis ceptator, feu de Sanguine inac-" fecundum," Genex, 1643; "Cortex Peruanae redivivus, contra Plempium," Gen. 1676, 12mo.; "Analefis Criticis Peruv., feu Chirurgii Defenfius contra Ventilationes J. Jacobi Chiuffet, et geminus V. F. Plempii," Genex, 1663, 4to.; "Neceflitas Paleobotomica in Exanthenathus," Gen. 1663, 4to. Haller. Bib. Med. Pract. Eloy. Dict. Hist.

BALDUS, BALDUS, M. D., a native of Florence, flourished about the middle of the seventeenth century. After acquiring considerable reputation in his own country, he removed to Rome, where he was soon advanced to be physician to pope Innocent the tenth, and archbishop; but died a few months after being elevated to that post. He published, in 1631, "Præcepta de Contagione pelifera," 4to.; and in 1637, "Disquisition ad textum secundum Hippocratis, de Aere, Aquis, et Locis, accedit, de Calculorum Causis; Auspe Tic-" berii Bonitate; Quæstio de majori nunc quam præterito Se-" culo, calculorum in urbe frequents," 4to. Hall. Bib. Med. Pract. Eloy. Dict. Hist.

BALDUS, in Euphrodes, a species of Papilio, with very entire brown wings; on the anterior ones above and beneath, an ocular spot, with a double pupil; on the polle-" rior ones, four ocular spots above and six beneath. Fabri-" cius. InhabitAs India. Donov. Inf. Ind.

BALDWIN I., in Biography, emperor of Conflantinople, was born in 1172, and succeeded his father as count of Flan-" ders and Hainaut. In the fourth crusade, which commenced A.D. 1198, he assumed the cross at Bruges, together with his brother Henry, and the principal knights and citizens of the rich and indolent province of Flanders, and distin-" guished himself so much in the wars which preceded the capture of Conflantinople, that after this event he was chosen emperor of the east, A.D. 1204. But the Greeks soon revolted against this foreign empire; and formed an alliance with John, or Calo-John, the revoluted chief of the Bulgarians and Walachians. Baldwin, in his attempt to recover Adrianople, from which the French and Venetians had been expelled, was drawn into an ambush by the feigned flight of the enemy, and taken prisoner, A.D. 1205. He soon after died in prison; but the time and manner of his death are not known. Some say, that after a confinement of sixteen months, he was cruelly murdered by an am-"putation of his hands and feet, and by exposing his bleeding trunk to birds of prey. The Flemings for a long time be-"lieved that he was alive; and about twenty years after his death, found a hermit in a wood of the Netherlands, who was acknowledged as the true Baldwin, the emperor of Con-"flantinople, and lawful sovereign of Flanders. But the French court detected the impostor, and he was punished with an ignominious death. Baldwin, who was esteemed for his private virtues, and for his military and princely quali-"ties, was succeeded in the empire by his brother Henry; and in his county of Flanders by his daughter Joan or Jane, who has been accused, by some grave historians, of sacrificing to her ambition the life of an unfortunate father. Gibbon's Hist. vol. xi. p. 192—262.

BALDWIN II. emperor of Conflantinople, was the son of the emperor Peter of Courtenay; and in his eleventh year, succeeded his brother Robert, A. D. 1228. On account of his youth, John of Brienne, the veteran king of Jerusalem, was appointed to be regent, and invested for his life with the title and prerogatives of emperor, on the sole condition that Baldwin should marry his second daughter, and succeed, at a mature age, to the throne of Conflantinople. The royal youth was sent to visit the western courts, and to ob-"tain some supplies of men and money, for the relief of the "linking empire. His father repeated these mendicant visits, in which he seemed to prolong his stay, and postpone his return. Of the twenty-five years of his reign, a greater number was spent abroad than at home; and no place did the emperor deem himself less free and secure than in his native country and his capital. In his first visit to England he was stopped at Dover, and checked by a severe reprisal for prevarication, without leave, to enter an independent kingdom. After some delay, he was permitted to proceed, and after a reception of cold civility, thankfully departed with a present of 700 marks. From the averseness of Rome he could only obtain the proclamation of a crusade, and a treaty of indulgences. By various humiliating and minions expeditions, he at length returned to Romania, with an army of 30,000 soldiers, and obtained some partial and temporary success. But his poverty and weakness admitted of no effec-"tual relief; and by the sale of sacred relics, such as the "crown of thorns which had been placed on the head of Christ, a portion of the true cross, the baby-linen of the son of God, the lance, the sponge, and the column of his passion, the rod of Moses, and part of the loins of John the Baptist, he could only raise a fortune of very limited extent, and of short duration. His kingdom was soon reduced to the limits of Conflantinople; and in 1261, this city was taken from him by Michael Palaeologus. Baldwin, with some of the principal families, embarked on board the Venetian galleys, and fled first for the isle of Euboea, and afterwards for Italy, where the royal fugitive was entertained by the pope and Sicilian king with a mixture of contempt and pity. Having continued thirteen years in soliciting the Catholic powers to join in his restoration, without success, he died in 1273, and his son Philip became the heir of an ideal empire; and by Catherine, the daughter of Philip, it was transferred, in consequence of her marriage, to Charles of Valois, the brother of Philip the fair, king of France. Gibbon's Hist. vol. xi. 273—287.

BALDWIN,
Baldwin, archbishop of Canterbury, was born of obscure parents at Exeter, where he received the rudiments of a classical education, and taught school; and afterwards he took orders, and was preferred to the archdeaconry of his native place. But changing his course of advancement, he assumed the monastic habit in the Cistercian order, and rose through the abbacy of his monastery to the episcopal see of Worcester, and from thence, in 1184, to the metropolitan see of Canterbury. From the monks he met with some obstruction in this last stage of his prefersments; and therefore, in order to counteract their interest and power, he formed a plan for establishing a church and monastery at Houghton near Canterbury, for the reception of secular priests; but the monks, by their interest with the pope, disconcerted the design. Under the next pope the project was resumed, and Baldwin purchased a manor at Lambeth, where, upon the spot where the archbishop's palace now stands, he began to build his college, with the materials collected at Houghton; but he did not live to complete his design. In 1189, he performed the ceremony of coronation for Richard I. at Westminster; and upon the translation of the bishop of Lincoln to the see of York, he took occasion to establish the preeminence of the archbishop of Canterbury, by forbidding any English bishop to receive consecration from any other hands than those of this metropolitan. Archbishop Baldwin took a part in the crusade for the recovery of the holy land, and when Richard I. conducted an army into Palestine, this prelate appeared in his train; and by his private contributions and pious exertions encouraged the enthusiastic adventurers to persevere. At the siege of Acre or Ptolomeis, or, as some relate, at Tyre, the bishop was feized with a violent disorder, which terminated in his death, A.D. 1191, or A.D. 1193. During his illness, he directed his executor, the bishop of Salisbury, to distribute, at his discretion, all his effects among the soldiers. He was distinguished by his humanity and generosity; but the mildness of his temper betrayed him into remissness in his pastoral offices; so that a letter was addressed to him by pope Urban III. with this superscription; "Urban, bishop, servant of the servants of God, to Baldwin, a most zealous monk, a fervent abbot, a lukewarm bishop, and an negligent archbishop." Baldwin wrote several tracts, chiefly theological, which were collected and published by father Tiffner, and which may be found in the fifth volume of the "Bibliotheca Cisterciensia." Cave, H. L. vol. ii. p. 250. Biog. Brit.

Baldwin's "Phosphorus, in Medicine," a phlegm-horsetail sublimate, formed by calcining the nitrate of lime in a low red heat. See "Phosphorus, Baldwini."
Roman catholic writers; and he has been charged with
diligence and erudition by several respectable critics;
among whom we may reckon Wharton and Nicolson.
Granger (Biol. Hist. vol. i. p. 139, 280.) allows, that the
intermediate zeal of this prophet often carried him beyond
the bounds of decency and candour in his accounts of the
papists; nevertheless, his sufferings may furnish some apolo-
gy for his acrimony, and many things which he relates,
though before delicately concealed or ingeniously glossed
over by Roman catholic writers, might probably be true.
This biographical work, with considerable allowances for the
strong bias of party zeal, may be read with advantage.
Balcus de Scip. (apud Seript. Wharton. Pref. to Anglia

Bale, in Commerce, a term denoting a quantity of mer-
chandise wrapped or packed up in cloth, and corded round
very tight, after having been well secured with hay or
seed, to keep it from breaking, or to preserve it from the
weather. Most of the merchandise, capable of this kind of
package, that is sent to ports, or intended for exportation,
ought to be in bales; and too much care cannot be taken
in packing them, to secure them from damage. To fell
goods in the bale is to fell them in the lump, or throwing a
specimen, without unpacking or taking off the cordage.
Thus it is the East India company sell their bale-goods.

Bale-Goods, in the East India Trade, the bulky goods, as
fall, petre, pepper, red-earth, tea, &c. The bale goods
fand opposed to piece goods.

Bales of Camden, at Smyrna, are called tables, on account
of their flat square figure.

A bale of cotton yarn is from three to four hundred
weight; of raw silk, from one to four hundred; of
lockram or dowlas, either three, three and a half, or four
pieces, &c.

Bale of Paper, denotes a certain number of reams packed
together in a bundle.

There are bales of more and fewer reams. Those sent from
Marailles to Constantinople usually contain twelve reams.
A bale or ballon of crown paper manufactured in some parts
of Provence, consists of fourteen reams, and is fold in the
Levant for Venice paper.

Bale of Dry Goods, denotes a little packet or paper, containing
some dozens of dices for playing with.

Bale, in Geography. See Bale.

BALEARIS INSULAE, or Balearic Islands, in Ancient
Geography, the name by which the two islands of Majorca
and Minorca, and some others in the Mediterranean sea,
were formerly distinguished. They derived their name from
that of the inhabitants, who were denominated Baleares,
as some have suppossed from baalas, to throw, because they
were excellent fencers. Bochart (Geog. Sacr. apud, Op. t. i.
col. 634.) deduces the appellation, as well as the people,
from a Phoenician origin; and he says, citing the authorities of Polybius, Strabo, and Stephanus, that the
name is formed of the two words θήλασις, θαλασσα, denot-
ing a matter of throwing, and thus he adds, the term θήλασις
θαλασσα, base ethinon, Gen. xlix. 23. signifying skillful archers.
The Greeks called these islands Gymnaxis, either as Livy
or Diodorus supposed, because in summer the inhabitants were
naked, or rather, as Heyfichius observes, because they
went to battle armed only with a fling. M. Gebelin in-
mates, that θήλασις signified among the orientals, the fan, and
hence it became a denomination for elevated objects; so that
the Baleares were persons who projected darts or throws from
flings to a very great height. Whatever be the precise ety-
omy of the name, the Baleares were famous for their
dexterity in the use of the fling; and in order to attain perfec-
tion, they accustomed themselves from their infancy to
this kind of exercise; insomuch that mothers did not put
bread into the hands of their children, but obliged them to
beat it down from a considerabie eminence with their flings.
They also united force with this address, and the best tem-
pered arms were fearfully proof against the darts or
throws it discharged. When they went to battle they carried with them
three flings of unequal length, according to the different
distances at which they might have occasion to use them
against the enemy. They were originally Phoenicians or
Carthaginians, who possessed the islands called by their name
from the extreme antiquity, that their first arrival is prior to
every thing related of them by every historian now extant,
except their peopling the island Ebusus or Ercusus, now
Yvica, about 1632 years, as Diodorus Siculus (l. c. 1 & 2)
inform us, after the foundation of Carthage. This island,
according to Vitruvius, was reckoned to belong to the Bal-
eric islands. We learn from Justin (l. xiv.), that the first
expedition which the Carthaginians made to Spain, was in
order to afflit the city of Gades (now Cadiz); and as the
Carthaginian fleet, failing from Carthage to Gades, might
easily take Ebusus and the other Balearic islands in its way,
there is great reason to believe, that Gades was relieved,
and Ebusus, with the other Balearic islands, planted or
reduced much about the same time. The Balearic lived for
a long time in the simplicity of uncultivated nature. Caves
under the rocks, or holes dug in the earth, served them for
habitations. They were almost naked, except that during
the cold of winter they covered themselves with sheep-skins.
The soil of their country was fertile, and supplied them with
the necessaries of life; but being very eager for wine, much
of them as had served in the Carthaginian armies did not
fail at their return to lay out all the money they had acquired
in this article; indeed, they were not allowed to bring mo-
ney into their country, as the use of it was prohibited in
both islands. They said, as Diodorus Siculus informs us,
that Geryon's riches had of old been fatal to him, in draw-
ing Hercules upon him as an enemy; and that, taught by
this example, they had from the remotest antiquity always
dreaded introducing among them a metal, capable of exciting
the avarice of other nations, and thus dangerous to their tranquility.
They were in general a pacific people. However, some individuals having longed themselves with
the pirates that infested the seas, Metellus, who was consul of
Rome about the year 163, B.C. 124, projected an expedition for invading their country.
In order to secure his success, he is said to have rendered their flings
useless, by placing skims on the sides of the rocks, which
deeded the blows. As soon as the Roman troops landed,
the inhabitants fled, and dispersed themselves over the coun-
try, so that it was more difficult to find than to defeat them.
Metellus, for securing his conquest, planted two colonies,
viz. Palma and Polentia, the one at the east, and the other at
the west extremity of Balearic major. He obtained a tri-
umph A. U. C. 631. B.C. 123, and assumed the surname of
Balearius. Flor. l. iii. c. 8. The largest of these islands was
called Balearia maior, now Majorca, and the least Balearia
minor, now Minorca. They were distant from one another,
according to Pliny, thirty miles; and in the latter of the
two islands, the most considerable towns were Mago and
Jarmo. These were at first cities or forts, but being erected
near the mouths of two convenient harbours, they
became considerable sea-ports, especially that of Mago, now
known as Port Mahon. The Baleares formed a part of the
provincia Tarragonensis, and were denominated "Fortuna-
te," on account of their situation and harbours.

BALEARICA.
BALEARICA. Briff. genus balericus Aldr. balericus fronce Ray, Willughby, Sloane, &c., in Ornithology, a trivial name given by thec and some ornithological writers to the crowned heron of Latham, and Ardea Pavoia Gmelin.

BALECHOU, John Joseph, in Biography, an celebrated French engraver, flourished about the year 1570, and died not many years since at Avignon. He was perfect master of the graver, with which he entirely worked; and distinguished by the clearness of his strokes, and the depth of colour which he produced; but for want of drawing well, his prints fall in point of freedom, correctness, and harmony. His two large plates from Venet, one representing a 'Storm,' the other a 'Calm,' are well known, and universally admired. Strutt.

BALEME Port, in Geography, is a port of North America, two leagues distant from Louvain, on the coast of the island of Cape Breton. The rocks, which are covered by a high sea, render it difficult of access.

BALEN, Hendrick Van, in Biography, a painter of history and portrait, was born at Antwerp, in 1560; and after having been a disciple of Adam Van Oort, he pursued his studies at Rome. By copying the antiques, and attending to the works of eminent modern artists, his improvement was such, that, in his return to his own country, he obtained the esteem of the ablest judges. He was distinguished by a good manner of designing, and his works are admitted into the cabinets of the curios, among those of the principal painters. He particularly excelled in the shades, and gave to his figures so much truth, roundness, and correctness of outline, that few of his contemporaries could enter into competition with him. Several of his fine portraits are at the Hague; and particularly one adorned with the figures of wisdom and justice, which is very highly commended. His designs of the deluge, of Moses bearing the rock, and the drowning of Pharaoh, are grand and noble compositions. His "Judgment of Paris" is also acknowledged a masterly performance; in which the figure of Venus is so elegantly designed, so full of life, and so round, that it seems to stand forth from the surface. He died in 1632.

Pilkington.

BALEN, Jacob Van, a painter of history, landscapes, and boys, was born at Antwerp, in 1611, and derived from his father Hendrick Van Balen his knowledge of the art, and his fine taste of drawing; but for want of drawing well, he traveled to Rome, and other cities of Italy. His particular merit was exhibited in his figures of boys, epochs, and nymphs bathing or hunting; and he gained wealth and fame by his landscapes and histories. His pictures were well handled, his trees touched with spirit, and his herbage and verdure appeared natural and lively. The caricatures of his figures were clear and fresh, his colouring in general was transparent, and the art of his heads were in the manner of Albano. Pilkington.

BALENDERS, in Geography, a town of Germany, in the circle of the Lower Rhine, and territory of Mentz, two miles north-west of Krefthen.

BALENGER, Balescario, in Middle Age Writers, a kind of vellum of war, but what in particular seems not well known. Blunt says, that by the flat. 28 Hen. VI. cap. 5, balenger seems to have been a kind of barge.

BALES, Peter, in Biography, an extraordinary master of penmanship and fine writing, was born in 1547, and deserves to be recorded on account of the skill which he acquired in the exercise of his art. Anthony Wood mentions him as "a most dexterous perfon in his profession," and as having spent several years in sciences among the Oxfordians, particularly as it seems in Gloucester hall; but that study which he used for a diversion only, proved at length an employment of profit." Holinshed, in his Chronicle, A.D. 1575, records his skill in micrography or miniature writing; and Mr. Evelyn (Numismata, fol. 1697, p. 262.) says of him, that in 1557 he wrote the lord's prayer, creed, dialogue, with two short Latin prayers, his own name, motto, date of the month, year of our Lord, and of the queen's reign, to whom he presented it at Hampton Court, all within the circle of a single penny, encahed in a ring and border of gold, and covered with crystal; so nicely wrote as to be plainly legible, to the admiration of her majesty, her privy-counsel, and several ambassadors, who then saw it." He possessed also an extraordinary skill in imitating the writing of others; and he seems to have been employed in this and similar ways for the service of the state, with a view to the complete discovery and conviction of traitors, between the years 1585 and 1589. At this time he had reason to expect some place or preference at court; but being disappointed in his expectations by the death of secretary Wallingham, he pursued the business of a writing-maister in the Old Bailey; and in 1590, he published his "Writing Schoolmaster, in three Parts," containing the art of brachygraphy, or short writing; the order of orthography, or true writing; and the key of caligraphy, or fair writing. In 1595, he was engaged in a trial of skill with another performer in the same way, for a golden pen of 25l. value, which he gained; and in another more general competition, he obtained the arms of caligraphy, which are the, a pen, a. By various exercises of his pen, he recommended himself to several persons of knowledge and distinction; and Anthony Wood says, that he was engaged in the transcriptions of the Earl of Essex, in 1620: but the real fact was, that Bales was innocently employed in serving the treacherous purpofes of one of the earl's mercenary dependants. Towards the close of his life, he seems to have been reduced to a defult and distressed condition, either by his own extravagance, or by imprudence in confidence in others; and to have died about the year 1670. Blong, Brit.

BALESCOU de Tharares, or Valdes de Tarenta, a Portuguese. It appears from his own testimony, that he began writing in the year 1418, after thirty-six years experience. His first publication "De Philonimo," was printed at Venice, 1418; then at Lyons, in folio, in 1511; and his work, "De Morbis," was published by Guido de Liguacq, at Lyons, in 1560, in 4to, and afterwards at Frankfort 1590. A short tract, "Tractatus Carolior," is printed with the Philonimo. He propsoes expirating cancers by an application, in which arsenic is an ingredient. This drug, we know, formed the basis of a preparation of late introduced, for the same purpofe, by Plincket. Our author, however, admiths pitfalls, that erisnic is not used without danger. He saw a person who died suddenly in the night, whose head had been anointed with an arsenical preparation, for the cure of these capsins. It appears, from his works, that he was well acquainted with the doctrine of Galen, and of the Arabic writers. Haller. Bib. Chirurg.

BALESIUM, in Ancient Geography, a town of Italy, in Magna Graecia, in the country called Metapoa. Livy and Mela.

BALESOS, an island of the Egean Sea, between Thrace and the island of Crete. Anton. Ita.

BALESSAN, in Deymus. See Balsam.

BALESTRA, Antonio, in Biography, an historical painter, was born at Verona, in 1660: at the age of twenty-one, entered himself in the school of Antonio Balucci, at Venice, and afterwards visited Bologna and Rome, at which latter place he became the disciple of Carlo Maratti. Having
ing made great proficiency in designing after the antiques, after Raphael, Correggio, Annibale Carracci, and other admired painters, he obtained the prize of merit in the academy of St. Luke, in the year 1694, when he was only twenty-eight years of age. From that time his reputation was established, and his paintings were admired in every part of Europe. His style is sweet and agreeable, not unlike that of Maratti; and men of judgment observed, with delight and approbation, a certain mixture in his works of the several manners of Raphael, Correggio, and Carracci. At Venice there are two capital pieces of this matter; one representing the nativity of our Saviour, in the church of Santa Maria Mater Domini; and another, a dead Christ in the arms of the Virgin, in a chapel belonging to the church of St. Gemmiano. We have some etchings by him, in a bold, masterly style, but very flight. According to Pickering, he died in 1723; but Strutt says, he died in 1740, at the age of 74.

Balestrina, in Geography, a town of Italy, in the state of Genoa, a chief of the empire, nine miles north of Albenga.

Baiet de la Royne, in Music. This dance, more ancient than any mentioned in the long article on the subject, in the Encyc. Meth., where it has not been honoured with notice, merits a place, as a curiosity, if not for its superior plan and execution.

Henry III. of France having, in 1581, married his favourite minion, the due de Joyeuse, to mademoiselle de Vaudemont, filter to the queen Louise de Lorraine, also found his kingdom in balls, masquerades, tilt, tournaments, and every species of expensive festivity which could be devised on the occasion.

The queen, likewise, in honour of her father's nuptials, gave an entertainment at the Louvre, in which a ballet was exhibited, called "Ceres et sa nymphes," which was then a new kind of spectacle in France, with a grande mufique, composed by the celebrated Claude le Jeune. The "Entrées de Ballet," in this ietz, were invented by Bailletar de Beaufioy, the famous Piedmontese performer on the violin, who having published an account of his device in a book which is now become extremely scarce, we shall present our readers with its title, and a sketch of its contents.

"Ballet comique de la Royne, faite aux noces de monsieur le due de Joyeuse et mademoiselle de Vaudemont fa feur. Par Balfar de Beaujoyeulx, valet de chambre du Roy, et de la Royne fa mere." A Paris, 1582, 4to. The types and paper equal in beauty those of Elzevir in the next century; and the musical characters, though cut in wood, are much more clear and neat than any we ever saw of the kind. But as to the music itself, it is more barbarous, in point of melody, than any we have ever seen on paper. The counterpart. Indeed, is not incorrect: nor can the French be faulted accused of ever being deficient in the mechanical rules of composition. Since they were first established; but for fancy, air, and rhythm, there is not a passage in this whole performance, except in a few of the dances, by which we are reminded of their existence. But it seems as if dancing could not subsist without a marked measure; indeed, when poetry is sung without measure, it becomes worse than prose. In the operas of Lulli and Rameau, the music of the dances was always much more pleasing to foreigners than that which was sung, from its being necessarily more marked and accented: that is, in what was danced some determined measure and movement was always perceptible. But in the vocal part of de Beaufioy's balia, there is nothing that resembles an air, or that seems to imply a felection of notes, or to suggest a reason for one sound being higher or lower, more quick or more slow, than another.

But it should be remembered, that the music of this old French ballet was not composed by Bailtazari, the Italian, who only acted as ballet master on the occasion, but by Messrs. de Beaulieu and Salmon, of the king's band, whom his majesty had ordered to assist him in composing and preparing all that was most perfect in music for this festival; "and M. Beaulieu," says Bailtazari, "whom all professors regard as an excellent musician, has, on this occasion, even surpassed himself, assisted by Maître Salmon, whom M. Beaulieu and others highly esteem in his art."

We have dwelt the longer on this performance, as it is the only French theatrical music extant of the time. And in comparing it with that of Lulli, it appears that he did not disdain to comply with the national taste, which had been long established, with respect to measure and melody; he certainly added much to both, but confounded to the genre.

As it will be no kindness to curious readers to refer them to so scarce a book for examples of this music, we may venture to mention the Gen. Hist. of Mus. vol. iii. where copies extrals from it are inserted.

Bally, Walter, in Biography, born in the county of Dorset, in the year 1529, received his education at Winchester, and went thence to New college, Oxford. Applying himself to the study of medicine, in the year 1558 he was licensed to practise. About the same time he was made a prebendary in the cathedral church of Wells, which office he resigned the following year. He was then appointed Queen's professor of physic at Oxford. In the year 1563, he was created doctor in medicine (Wood's Oxf. vol. i. p. 92.), and soon after, Physician to Queen Elizabeth. For the remainder of his life, which was extended to the age of 63 years, he enjoyed a considerable share of reputation and practice. Of this physician we have the following works, three of which were published in his lifetime, "A Discourse of three kinds of pepper in common use," 1588, 8vo. "A brief treatise on the preservation of the eye-light," in which he attributes great virtues to the herb eye-bright. This was re-published in 1616, and in 1622 was added to Bailer's treatise of 113 diseases of the eyes and eyelids, but without the name of the author. "Directiones for health, natural and artificial, with medicines for all diseases of the eyes," 1626, 4to. "A brief discourse of certain medicinal waters in the county of Warwick, near Newnham," 1587. In the library of Robert earl of Aylebury was a MS. of this author, entitled "Explicatio Galeni de potu convalecentium, et feum, et præcipitata de nostra aetate et hirie paratior." Biograph. Mem. of Med. J. Aikin.

Balfusch, in Geography, a town of Persia, the capital of the province of Malanderan, sittuate at the southern extremity of the Caspian sea. Hither the Russians and Armenians convey their merchandise, though the traffic is much less considerable than it was, on account of the interventions of the khan of Malanderan. The chief productions are silk, rice, and cotton, of which articles there is a large exportation. Merchants from Kaik, Ipahan, Schiras, and Korasan resort to Balfusch, and bring for sale the Persian and Indian commodities. N. lat. 33° 40'. E. long. 50° 50'.

Balga, a town of Prussia, in the province of Nantagnet, 25 miles south-west of Königsberg.

Balgu, John, in Biography, an English divine, was born at Sheffield in Yorkshire, in the year 1686. Having received instruction first from his father, who was master of a free grammar school in that place, and after his death from his successor Mr. Dabuis, author of an elevated commentary on the revelations, he was admitted in 1702, of St. John's.
BAL

John's college, Cambridge. From the frivolous occupation of reading romances, in which he left two years of his academic education, a circumstance which he mentions with regret, he was diverted by reading Livy, and afterwards devoted himself with pleasure to serious studies. In 1711, he took orders, and diligently discharged the duties of his profession in the living of Lamlady and Tanfield in Durham, composing for several years a new discourse for the pulpivert week. Balguy was an early advocate for religious liberty in the Bangorian controversy; and in 1713, wrote a vindication of bishop Hoadly, intituled "An Examination of certain doctrines lately taught and defended by the Rev. Mr. Stukeby," and in the following year, "A Letter to the Rev. Dr. Sherlock," both under the fictitious name of Silvius. In 1720, he published a third tract, intitled "Silvius's defence of a dialogue between a Papist and a Protestant." In a controversy concerning the nature and foundation of virtue, occasioned about this time by lord Shaftesbury, who, in his "Characteristics" referred it to an inductive sentiment; and by Hutchison, who, in his "Inquiry into the Original of our Ideas of Beauty and Virtue," maintains the same notion; Mr. Balguy took a principal part. In 1726, he wrote, in reply to Shaftesbury, "A Letter to a Deist, concerning the beauty and excellence of moral virtue, and the support and improvement which it receives from the Christian revelation;" and in 1728, he published a tract, intitled, "The foundation of moral goodnes, or a farther inquiry into the original of these ideas of virtue," which in the next year was followed by a second part, illustrating the principles and reasonings of the former, and replying to certain remarks communicated by lord Darcy to the author. (See Virtue.) In 1730, he published a treatise, under the title of "Divine Retulitude; or a brief Inquiry concerning the moral perfections of the Deity, particularly in respect of Creation and Providence. (See Attributes.) This treatise was followed by a "Second Letter to a Deist," occasioned by Tindal's "Christianity as old as the Creation;" and by another tract, intitled, "The Law of Truth, or the Obligations of Reason essential to all Religion." In 1741, Mr. Balguy published an "Essay on Redemption," explaining the doctrine of atonement in a manner similar to that afterwards adopted by Dr. Taylor of Norwich. (See Atonement.) Of this treatise, bishop Hoadly expressed his opinion, that the author had been more successful in refuting Christianity from foreign absurdities, long considered as essential to it, than in subfittting others in their stead. The only additional publication of Mr. Balguy was a volume of Sermons, to which has been since added a posthumous volume; the subjects of both are chiefly practical, and the discourses have been justly admired as models of the plain and simple style of preaching. Towards the close of his life, his health declined, and he found it necessary to withdraw from company, except such as he selected at Harrowgate, which he frequented every season, and where he died in 1748, in the sixty-third year of his age. The only church preferments which Mr. Balguy enjoyed were the vicarage of North-Allerton in Yorkshire, worth about 27l. a year; and a prebend in the church of Salisbury, to which he was collated by bishop Hoadly in 1728. Mr. Balguy may justly be reckoned among the divines and writers who rank with Clarke and Hoadly, and who, associated with these illustrious men in maintaining the cause of rational religion and Christian liberty. Candid and liberal in his own sentiments and disposition, he cultivated friendship with worthy persons of all denominations; and his writings very much contributed to promote liberal discussion and rational inquiry. Biog. Brit.

BALHARY, in Geography, a town of Hindoostan, in the Mysore country, seventy miles north-east of Chittorgurh, and twenty miles north-east of Raidroor. N. lat. 15° 6'. E. long. 76° 54'.

BALLY, or BALLY, one of the isles of Sunda, situate in the Java sea, on the eft side of the Strait of Bally, which separates it from Java; 23 leagues long, and 15 wide, fertile and populous. It seems only remarkable for furnishing flaves, cotton-yarn, and pickled-pork. S. lat. 8° 30'. E. long. 117° 10'.

BALLY, or BALLY, Strait, lies on the west side of the island of this name, in the Indian ocean. Its north entrance is in S. lat. 7° 51', and the south entrance in S. lat. 8° 39', E. long. 112° 25'. It is sometimes called the Balamban channel. Through this strait the European East India merchant ships occasionally pass in their return from China. It is sometimes called Jawa strait.

BALLY, a province which once belonged to Abyssinia, and the first taken by the Galla. It lies to the north-east of Narea, and to the west of the kingdom of Adel, which separates it from the Sea, about N. lat. 10°, and E. long. 41°.

BALICASAE, balicafe of the Philippines, in Ornithology. Under this name, Bulfinch describes the corvus balicasae, Gmel. in his Nat. Hist. Birds; in the Planch. Enl. it is called chonessae des Philippines.

BALICASSUS, a species of Corvs, of a greenish black colour, with a forked tail. Gmelin. Corvs splendide nigro-violaceus. Briff. Av. The back, legs, and claws, are black.

BALIKESRI, in Geography, a town of European Turkey, in the province of Natolia, fifty-two miles north-east of Pergamo. N. lat. 39° 45'. E. long. 27° 50'.

BALINCAILACH, a cape on the west coast of Banbucula, one of the western islands of Scotland.

BALINE Head and Cove, lie between cape Broyle and the bay of Bulls, on the coast of Newfoundland. The cove is a small place behind a rock, called the Whale's back, and a stage for fishing, with two or three boats.

BALIOL, or BALIOL, JOHN, in Biography, king of Scotland, was defended from an illustrious family, which possessed large estates in Scotland and France, as well as England. He is supposed to have been born about the year 1260, or at some time earlier period; and was a competitor with Robert Bruce for the crown of Scotland; the right of succession to which belonged to the descendants of David earl of Huntingdon, third son of king David I. Bruce was the son of Isabel, the second daughter of earl David; and Baliol, the son of John Baliol, who founded Baliol college in Oxford, was the grandson of Margaret, the eldest daughter of earl David. According to the rules of succession which are now established, the right of Baliol was preferable; and notwithstanding Bruce's plea of being nearer in blood to earl David, Baliol's claim, as the representative of his brother and grandmother, would be deemed incontestible. But in that age, the order of succession was not ascertained with the same precision; and though the prejudices of the people, and perhaps the laws of the kingdom, favoured Bruce, each of the rivals was supported by a powerful faction. In order to avoid the miseries of a civil war, to which it was feared recourse would be had for deciding a dispute which the laws could not settle, king Edward of England was chosen umpire, and both parties agreed to acquiesce in his decree. Under pretence of examining the question with due solemnity, this prince summoned all the Scottish barons to Norham, May 10th, 1291; and having gained home, and intimidated others, he prevailed on all who were present, not excepting
excepting Bruce and Baliol, the competitors, to acknowledge Scotland as a fief of the English crown, and to swear fealty to him as their sovereign or liege lord. He also demanded possession of the kingdom, that he might be able to deliver it to him whose right should be preferable. This strange demand obtained assent; and Edward finding Baliol the most obsequious, and the least formidable of the two rivals, soon after gave judgment in his favour. Baliol once more professed himself the vassal of England, A.D. 1292, and submitted to every condition which the sovereign whom he had now acknowledged was pleased to prescribe. Edward having thus, as he conceived, established his dominion, began too soon to assume the mantle; but his new vassals, fierce and independent, bore with impatience a yoke to which they were not accustomed. The passive spirit even of Baliol began to mutiny, upon which Edward forced him to resign the crown, and openly attempted to feit it as fallen to himself by the rebellion of his vassals. At this critical period, Sir William Wallace, to whom his countrymen have ascribed so many fabulous acts of prowess, ventured to take up arms in defence of the kingdom, and by his boldness revived the spirit of the nation. At last Robert Bruce, the grandson of Baliol's competitor, appeared to assert his own rights, and to vindicate the honour of his country. The nobles, ashamed of their former baseness, and enraged at the many indignities offered to the nation, crowded to his standard. In order to crush them at once, the English monarch entered Scotland, at the head of a mighty army; many battles were fought, but the Scots, though often vanquished, were not baffled. The ardent zeal with which the nobles contended for the independence of the kingdom, the prudent valour of Bruce, and above all, a national enthusiasm inspired by such a cause, baffled the repeated efforts of Edward, and counterbalanced all the advantages which he derived from the number and wealth of his subjects. And though the war continued, with little intermission, upwards of 70 years, Bruce and his poverty kept possession of the throne of Scotland, and ruled with an authority not inferior to that of its former monarchs. During the contest in favour of Bruce, John Baliol lived quietly as a private man on his own estates, which were very considerable, in France, without interfering in the affairs of Scotland. Some writers say, that he lived till he was blind, which, if true, must have been the effect of some disease, since it is certain that he died A.D. 1314, when he could not, established his dominion, in his Annals of Scotland, "the short and disfated reign of John Baliol; an ill-fated prince, cursed for doing homage to Edward, never applauded for asserting the national independence. Yet, in his original offence, he had the example of Bruce; at his revolt, he saw the royal family combating under the banners of England. His attempt to shackle off a foreign yoke, speaks him of a high spirit, impatient of injuries. He erred in entrenching beyond his strength; in the caufe of liberty, it was a meritorious error. He confided in the valour and unanimity of his subjects, and in the affiduity of France. The efforts of his subjects were laudable and disinterested; and France beheld his ruin with the indifference of an unocenmerced spectator." Robertson's Hist. of Scotland, vol. I. p. 10, &c. Diog. Brit.

BALIS, a town of Africa, in Libya, and in the vicinity of Cyrene, which had its name from a temple dedicated to Baal. 

Balis, in Geography, a town of Asiatic Turkey, in Syria, on the frontiers of Diarbekir, on the west bank of the Euphrates, twenty leagues east of Aleppo. 

BALISBGIA, in Ancient Geography, a town of Asia, situated in the mountains north of the river Arvandis, placed by Ptolemey in Armenia Major. 

BALISSUS, a stream in the deserts which annually separated Assyria from Arabia, near the place where Cyrius was defeated by the Parthians. 

BALISTA, in Artillery. See BALLista. 

Balista, in Ancient Geography, a mountain of Italy, in Liguria. Liby. 

Balistes, in Ichthyology, the name of a genus of branchiostegous fishes, in the Lannanum system. The character of the genus is, to have the head compressed, continued close to the body; and sometimes a spine between the eyes; mouth narrow; teeth in each jaw eight in number, of which the two anterior ones are longest, and three interior ones against the intervals between those on the side; aperture of the gills narrow, above the pectoral fins; no operculum; rays of the membrane two; body compressed, and carinated on each side; scales joined together, coraceous, and rough, with minute prickles. Nearly all the fishes of this genus are remarkable for their splendid colours. The species mentioned by Linnaeus and Gmelin are the following: monoceros, scriptus, hilipidus, tomentofus, papiliforus, verrucosus, bicnematus, aculeatus, vetula, maculatus, riegenus, finenifs, affalii, capricornus, furcatus, punctatus, Kleini, curafavicus, and Americanus; which see. 

Lacepede has described twenty-four species of balistes, in his work on fishes, and which he divides into four families; le baliste mamelone, le baliste pralin, le baliste verdace, le baliste Munago-Park (Park); le baliste metalique, &c. are new or interesting species described by Lacepede, Boie, &c. as will be noticed hereafter. 

BALITO (Guizado Balito), in Ornithology, the name of emberiza tridactyla, or three-toed grozbeck, in Buffon's Hist. Birds. 

BALIVIS, a name given by the people of the Philippine islands to a kind of duck that is smaller than the common wild duck of this country. The species is unknown. 

BALIMO anormosus, in Linn. a wrat to remove a ballast from his office, for want of sufficient land in the bailiwick. 

BALIZE, in Geography, a fort at the mouth of the Misiphi river. 

BALK, in Agriculture, a ridge or bank between two furrows, or pieces of arable land. 

Balks, among Builders, denote large pieces of timber brought from abroad in floats; or a sort of beams imported from five to twelve inches square. The greater balks are accounted timber, if above eight inches square. 

Balk, or Bawak, is also used in some parts of England for thesummer-beam of a building, for the poles or rafters laid over outhouses or barns; and among bricklayers, for the pieces of timber that are used in making field oaks. 

Balk, in Geography, a province of Great Bucharia, in Independent Tartary, corresponding to the ancient Bactria or Bactriana. It lies to the north of the province of Samarcand, and east of Proper Bucharia, and has been estimated at 360 miles in length, and 250 in breadth. Botinck observes, that though this province is the smallest of the three into which Great Bucharia was formerly divided, the other two being Samarcand and Bucharia Proper; yet, being very fertile
ferile and well cultivated, the prince draws from it a considerable revenue. The country abounds with silk, which furnished the inhabitants with a valuable article of manufacture. The Ubecks, subject to the khan of Balk, are the most civilized of all the Tartars inhabiting Great Bucharia, which circumstance is attributed to their commerce with the Persians. This country has been divided into several provinces, of which the most remarkable are Khotian, Tokareftan, and Badakhshan. Its chief cities are Balk, Fariab, Talkan, Badakhshan, and Andarab. Mod. Un. Hist. vol. iv. p. 358.

Balk, a distinguished city of the above-mentioned province, leant towards the borders of Persia, on the river Dewaz, which flows into the Amu from the mountains of Gaur or Paropamisus. It was probably the ancient Bac-teria, which see. The historians of Persia say that it was founded by Kainnath, the first king of Persia, and that he gave it this name because he had found his brother, whom he had lost, on this spot: bakhidin, or bafidin, signifying, in their language, to receive and embrace a friend. The first kings of Persia, who inhabited the province of Aberdian in Media, considered this city of Bactrians as the frontier of their country. After severe contests between the oriental Turks and Persians, the kings of Persia of the second dynasty made this city the capital of their empire, as it served to prevent the people of Turquetian or Tokareftan from obtaining the passage of the river Oxus or Gihon. The kings of the succeeding dynasties established other principal cities, and Balk was merely the capital of Khordan, which preeminence belonged to it when it was taken by Ahmaz, the son of Alkaius, the Arabian commander, under the caliphate of Othman. Under the Abasid caliphs, and succeeding sultans, Balk was a city of peculiar distinction; it was called Cukat al E-zen, or the capital of Amu Khorasan, and extended its jurisdiction over the countries of Badakhshan, Khotian, and Tokareftan. It was taken by the Moguls or Tartars, under Jeoghis Khan, in the year of the Hegira 618, A. D. 1221, and by his orders its inhabitants were removed out of the walls of the city, and cruelly massacred. In the year of the Hegira 574, A. D. 1369, Tamerlane compelled sultan Hufiun, the last of the race of Jeoghis Khan, to surrender the city; and his successors retained possession of it till they were expelled by the Ubecks in the fifteenth century. Between the Ubeck Tartars and the Persians it has been the occasion of continual wars. The principal castle of this city is constructed upon the model of that at Mecca. Herbel, Bibl. Orient. p. 167.

In the beginning of the 16th century, Balk was the most considerable of all the towns possessed by the Mahometan Tartars, as Bentink informs us, being large, handsome, and well peopled. Most of its buildings are of brick or stone; and its fortifications confit of earthen bulwarks, lined on the outside with a strong wall. The khan's castle is a magnificent structure, after the eastern fashion, built wholly of marble, dug out of the neighbouring mountains. In 1739, Balk was obliged to submit to the arms of Nadir Shah, or Kuli Khan; but has since recovered its independency. As foreigners have free liberty to trade in this city, it is the chief seat of the commerce between Great Bucharia and Hindostan. N. lat. 36° 21'. E. long. 65° 31'. BALKAN, a bay on the eastern coast of the Caliasa sea, in which are islands inhabited chiefly by pirates of the race of Turcoman Tartars. These islands produce rice and cotton, and one of them, called Naphthonia, abounds in naphthen. The traffic, says Mr. Coke (Trav. in Ruflia, vol. iii. p. 332.) might be increased to the advantage of Ruflia; as it would be far more commodious to trade with the Tartars of Khiva and Bucharia from these parts than from Orenburg, through the country of the warlike and independent Kirghises.

BALKAN, a mountain of European Turkey, which divides Romania from Bulgaria.

BALKEE, a town of Hindostan, in the country of Dowalbad, 15 miles W.N.W. of Buder.

BALKERS, in the Flbury, person place on rocks and eminences at sea, to spay the hering-droves, and give notice to the fishermen by waving bougnes, what way they go, and where they may be found. 1 Stat. Jac. i. cap. 27.

BALL, John, in Biography, an English divine, was born at Collingdon, near Woodstock, in Oxbridge. Although educated at Oxford, he attached himself to the cause of the Puritans. Ordained by an Irish bishop without ordination, he served a curacy of 20l. a year at Whitmore in Staffordshire, and with this, together with the produce of a small school, he lived contentedly. In this obscurc and lowly condition, he distinguished himself by his writings. His chief work was "A short Treatise concerning all the principal grounds of the Christian religion," and so popular was this treatise that it passed through fourteen editions before the year 1632, and was translated into the Turkish language. He also wrote "A Treatise on Faith," 4to. 1641; "A Friendly Trial of the Grounds of Separation," 4to. 1649; and several devotional pieces. Although he disliked ceremonies, he wrote against those who thought them a sufficient ground of separation. He died in 1649, with the character of a laborious preacher, and an ingenious writer.


Ball, in a general sense, a round body, found naturally, or formed by art, of this figure.

Ball, in Antiquity, gives the denomination to a species of game or sport frequent among the ancients. The Romans had four kinds of pile, or balls: the first called trigon, or trigonellis, because the three gamesters at it were placed in a triangle; these alternately caught and tossed the ball, and towho first let it fall to the ground, was the lober. The second called foliis, or follicosus, was made of leather, blown up like our foot-balls; the largest sort of these were struck with the arm, the smaller with the fist; the former seem to have been distinguished by the appellation fascia, as being made use of in country villages: the fourth was the largus, a kind of small ball, so called, because the gamesters endeavored to match it from each other.

Galen has an entire treatise on the exercise of the slower ball.

Balls, in Architecture, are represented at C, in the figure of the balefe (see Ballyfe); and are used for supporting Attic pudecles.

Balls, in Brewing. They are either brown or pale, and used to mix, feed, preserve, and colour malt-drinks, wines, and cyders. See the composition of them described under Brewing.

Balls, Martial, in Conspicary, a preparation of iron now entirely diffused in this form, but retained in the Materu Medica as a powder. It is the ferrum tartarismatum, tartari of iron; or this metal united with, and partly dissolved by, cream of tartar.

To make martial balls, take one part of filings of iron, and two parts of powdered cream of tartar; mix them well together, and put them into an earthen or iron vessel with boile water; stir the mixture from time to time, till it becomes almost dry; add more water, and stir it as before, till it acquires, when nearly dry, somewhat of the consistence and
and tenacity of softened rosin; then it is rolled into the form of a ball, generally kept tied up in a rag, and when it is used, infused into water, till it gives some colour to that liquid. Mac. Chem. Dict. Eng. Ed.

Balls, Mercury, an amalgam of mercury and tin sufficiently solid to be moulded, and to preserve a solid form.

To make mercurial balls, add mercury to its weight of melted tin, and pour the fluid mass into a round and hollow mould.

These balls have been employed to purify water in which they are boiled, an opinion which is perhaps in some degree well-founded, since mercury even in imperceptible quantity is known to destroy animalcula. However, the boiling alone would probably produce nearly the same effect, and the mercurial balls are no longer in use. The tin is not an useless addition, since besides giving the mass a proper confluence, it assists melt materially in the oxidation, and therefore the solubility, of the mercury.

Balls, in Electricity, are two pieces of cork, or pitch of elder, nicely turned in a lathe, to the size of a small pea, and suspended by fine linen threads; invented by Mr. Canton as electrometers, and of excellent use to discover small degrees of electricity, to observe the changes of it from positive to negative, and vice versa; and to estimate the force of a shock before the discharge, so that the operator shall always be able to tell very nearly before the discharge, by knowing how high he has charged his jar, what the expiration will be.

Balls, Cryptalline, in Natural History. There are two sorts of tubular bodies mentioned in authors by this name, and differently into the echinated and concave. The thirtieth are roundish nodules of strong matter, covered with points of crytal; and the other, flints and other stones, having cavities in their middles, which are lined, or crutched over with these crytals.

Balls, Vegetable, a very particular kind of plant of a deep green colour, of an irregularly spherical shape, hollow within, and of different sizes, from an inch and a half to three inches in diameter. It probably belongs to the Converva genus, in the class of mosses; though Mr. Ray has ranged a similar plant under the genus of Alcyonium. (See Coral.) Phil. Trans. vol. xvii. art. 83. an 1752.

Balls, Puff. See Lycopodner.

Balls, Hero's, Pile Heronis, in Hydraulics, is a kind of artificial fountain, wherein the water is made to spout from a hollow ball or globe.

It takes the denomination from the inventor, Hero of Alexandria, who has left the description of it in his Spiri-tualia. See Fountain.

Balls of Fire in the air, in Meteorology, are meteors sometimes seen falling over countries, and computed by philosophers to be at a very considerable height in the atmosphere. They sometimes burn at that height; and though the air must exceed rare there, yet the explosion is heard at that distance, and for seventy miles round on the surface of the earth, &c. Does not this look as if a rare atmosphere, almost a vacuum, was no bad conductor of sound? Dr. Franklin's Works, p. 435.

Among the phenomena of the atmosphere, the large meteors called fire-balls, and bolides, have in modern times excited particular attention. Mr. C. F. Fulda has collected a variety of observations respecting these phenomena, in a paper read to the Physical Society of Göttingen, Dec. 7, 1796, and published in professor Gmelin's "Göttingisches Journal der Naturwissenschaften," vol. i. part 2. Thefe meteors, he observes, appear in every climate in southern and northern latitude, as well as under the equator. They are also seen at every season of the year, and at every period of the day, for the most part when the sky is serene, some of them proceeding from light clouds, which has given occasion for supposing that they originated at a greater height than thefse clouds; and they have been observed to move with different degrees of rapidity, some proceeding at about 1530 feet in a second or even with a slower motion, and others moving at the rate of thirty English miles in the same time, or with a velocity greater than the earth in its orbit. They proceed from, as well as towards, all points of the compass; however, most of them have appeared in the northern or southern parts of the horizon; and yet no general conclusion, in respect of their connection with the northern or southern lights, can be deduced from this circumstance, though some observations made in Sweden seem to favour such an hypothesis. They do not always move according to the direction of the winds nor is their velocity proportioned to that of the wind. When, indeed, they have appeared, it has generally been calm; but some of them have been succeeded by even a violent wind. They almost all descend towards the earth, and from a rarer to a denser atmosphere, as may be inferred from their soon becoming considerably enlarged.

Some, however, have proceeded in a horizontal direction over the surface of the earth, but none of them appear to move upwards. Their form is sometimes perfectly globular, and sometimes more spindle-shaped, so that their length has occupied seven or eight degrees of the heavens. When they move with a great velocity, they have been followed by a long tail, which has been ascribed to the continuance of the impression made on the eye. Others, that have moved slowly, have as if the tail, or part of it, belonged to the body itself; and it should seem that the longer train, which marks their course, ought often to be accounted for by traces left behind them rather than by mere impression. Their apparent magnitude has been very different; but frequently larger than that of the moon. Few of them have had an apparent motion round their axes. Most of them diffused a very lively dazzling light; but the smaller number have exhibited a faint light; their colour and splendor have been very different and variable, sometimes red, sometimes blue, sometimes violet, sometimes in part yellow or dazzling white, and sometimes exhibiting the prismatic colours. Some have been seen to burn with a bright flame, and others as if in a state of ignition. Their real diameter, ascertained by actual measurement or by conjecture, has been always very considerable. The diameter of that concerning which Mr. John Pringle made calculations from various observations which he collected (Phil. Trans. vol. li. pt. 1. p. 218.), and that of the meteor seen by Mr. Rittenhouse at Philadelphia, in October 1779 (Amer. Trans. vol. ii. p. 175.), were at most about half a German mile. These meteors seem to originate at a very different, but most of them at a very considerable, height above the surface of the earth. All of them, whose mean or greatest height has been the subject of calculation, were elevated above the highest clouds, as clouds are scarcely perceptible at the height of 15,500 toises; and Silberfeld found the greatest height of the fire-ball, which appeared in July 1762, to be 72,276 toises. On this account their origin, as Reimarus and Chladni have supposed, is not to be ascribed merely to electricity; but others have considered them as produced by the action of the electric fluid between the clouds and the northern lights; and this hypothesis sufficiently corresponds to their actual height, because by the measurement of
of Bergman, Kaufner, and Lambert, the northern lights have an altitude of more than 20 or 30 German miles, and according to every appearance, no fire balls have been seen higher. (See Aurora Borealis.) On the other hand, this general conclusion led Halley, Franklin, and Rittenhouse, to adopt the notion ingeniously defended by Chladni, that these phenomena, as well as shooting stars, are comi
cal meteors belonging to the atmosphere of the sun, which, meeting our earth in its course round that luminary, are inflamed, by some cause or other, when they enter the earth's atmosphere. The time of their duration has been very dif
diferent; some of them having continued half an hour, and others not longer than half a minute. Many of them in their course have thrown out sparks, and most of them have been seen to separate into several larger and smaller parts before they entirely disappeared. From this division it has been inferred, that these phenomena cannot be accounted for by the hypothesis of a tract of inflammable air set on fire; to which hypothesis Chladni has objected on other grounds. This separation has been accompanied with a rumbling noise like thunder, or a sudden report. Several, after bursting, seemed to diffuse itself into smoke; but most of them, after exploding, have left behind them no visible traces. In some cases, after their disappearance, a fulphu
reous smell has been perceived, which led Mulchenbroeck to form his hypothesis of an accumulation of fulphurous in
flammable vapours that arise from volcanoes and subterranean pits, which, being driven together by the winds, form clouds that are by some accident or other set on fire; but this hy
pothesis cannot be reconciled with their prodigious height any more than that of Silberchlag's oily and filmy vapours.
As for curious mists, they have frequently been either actually seen to fall at the time of the disappearance of these pheno
mena, or have been soon after found on the surface of the earth; and as it has been sufficiently proved by various ac
counts, that those have fallen from the atmosphere, Dr. Chladni concludes, that both these phenomena are con
nected; but this point can be determined only by future ac
curate observations.

This ingenious professor of Wittenberg, in his "Observations on a Mass of Iron found in Siberia by Professor Pall
las," has investigated the origin of fire-balls in general. This mass, described by Pallas in his "Travels," vol. iii.
p. 311, was found between Kraufnafs and Abekansn, in the high flat mountains, open and uncovered. It weighed 1500 pounds; refigured in a rough granite; was cov
ered externally with a ferruginous kind of crust; and with
in conffituted of mallable iron, brittle when heated, porous like a large sea sponge, and having its interfaces filled with a brittle hard vitrified substance of an amber yellow colour. This texture and the vitrified substance appeared uniformly throughout the whole mass, and without any traces of flag or
artificial fires. This mass, which the Tartars consider as a fa
cred relic dropped from heaven, Chladni refers to the same ori
gin, and supposes to be of the same nature with the bolides, or fire-balls. From a variety of observations relating to these phenomena, he endeavours to prove that they do not arise from an accumulation of the matter of the aurora borealis; a transition of electricity from one part of the atmosphere to
another; an accumulation of porous inflammable substances in the higher regions; or the catching fire of a long train of inflammable air; but that their component parts must be con
fiderably dense and heavy, as their course flew in so ap
parent a manner the effects of gravity; and because their ma
ths, though it diffuses to a monstrous size, retains suffi
cient consiency and weight to continue an exceedingly rapid movement through a very large space, without being decomposed or dissolved, notwithstanding the resistance of the atmosphere. It seems to him probable, that this sub
stance is by the effect of fire reduced to a tough fluid con
dition; because its form appears sometimes round and some
times elongated, and as its extending till it bursts, as well as the bursting itself, allows us to suppose a previous capa
bility of extension by elastic fluidity. At any rate, it ap
pears to be certain, that such dense matter at so great a
height is not collected from particles to be found in our at
mosphere, or can be thrown together into large mists by any power with which we are acquainted; that no power
with which we are acquainted is able to give to such bodies so rapid a projectile force in a direction almost parallel to the horizon; that the matter does not rise upwards from the earth, but exists previously in the celestial regions, and must have been conveyed thence to our earth. In the opinion of Dr. Chladni, the following is the only theory of this phe
nomenon that agrees with all the accounts hitherto given;
which is not contrary to nature in any other respect; and
which besides seems to be confirmed by various masses found on the spot where they fell.

As earthly, metallic and other particles form the principal component parts of our planets, among which iron is the prevailing part, other planetary bodies may therefore con
figur of similar, or perhaps the same component parts, though combined and modified in a very different manner. There may also be dense matters accumulated in smaller mists without being in immediate connection with the larger plan
etary bodies, dispersed through infinite space, and which, being impelled either by some projecting power or attraction, continue to move until they approach the earth or some other body; when being overcome by their attractive force, they immediately fall down. By their exceedingly great velocity, still increased by the attraction of the earth, and the violent friction in the atmosphere, a strong electricity and heat must necessarily be excited, by which means they are reduced to a flaming and melted condition, and great quantities of vapour and different kinds of gases are thus disengaged, which diffure the liquid mists to a monstrons size; till by a still farther expansion of these elatic fluids, they muat at length burst. Dr. Chladni thinks also, that the greater part of the shooting stars, as they are called, are nothing else than fire-balls, which differ from the latter only in this, that their peculiarly great velocity carries them past the earth at a greater distance, so that they are not so strongly attracted by it as to fall down, and therefore in their palling through the high regions of the atmosphere, occasion only a transient electric flash, or actually take fire for a moment, and are again speedily extinguished, when they get to such a distance from the earth that the air becom
t too much rarified for the existence of fire. The pro
fessor illustrates and vindicates this theory, romantic, as he allows, some may be disposed to denominate it, by a variety of reflections; and in some subsequent publications, he has endeavoured to confirm it by adding a great number of other phenomena of a similar kind. He concludes the whole elaborate detail with observing, that the accounts of forious mists, which contained iron, earth, sulphur, &c. having fallen from the heavens, with violent explosions, are not fictions, but true relations of real natural phenomena actually observed at various times; and that fire-balls, and the falling of such mists, are the same meteor. "Respec
ting the question," he says, "whene'er fire balls and such fallen mists proceed, opinions are very different. Most people believe that they are owing to accumulations in the atmo-
atmosphere. But even when it is allowed that a great many foreign substances are dissolved in the atmosphere, the quantity of them, especially in regions at the distance of eighty miles or more, from which such fire-balls are seen to fall in the form of a luminous point, is too small to admit of our supposing such large masses to be formed of it. Should the solid particles, which may perhaps be dissolved in the atmosphere, precipitate themselves, it would be rather in the form of a fine powder. I consider it, therefore, with Anaxagoras, Makelune, &c., as more probable that these masses come to our regions from the common expanse of the universe; and that, besides planetary bodies, there are smaller accumulations of matter, which when they approach too near our earth must fall down. That material bodies actually exist in the remotest regions, is shown both by the sngle and accumulated luminous sparks which Dr. Schröter saw pass over the field of his telescope; as also by the floating stars which pass by our earth, probably at a greater distance and with greater velocity than to allow their being attracted by it, and made to fall to its surface; and to which fire-balls, on their first appearance, when they seem to approach like a luminous point, have a perfect resemblance. There are many reasons for inducing us to believe that floating stars cannot be mere electric phenomena, without the presence of some coarser substances. The paradoxicalness of this mode of explanation, which is contrary to no known observations of nature, is rather apparent than real, and consisits only in this, that people have not been accustomed to it; or that, on account of the rarity of these phenomena, many facts of this kind have been denied, or have escaped notice. For this reason, after I had written the Treatise on the Mafs of Iron discovered by Professor Pallas, I hesitated whether I should publish it, because I expected that it would meet with considerable opposition. The more I endeavoured however to compare, without partiality for any systen, the observations already made, which correspond so much with each other, the more I found that these phenomena could not be properly explained in any other manner, without either contradicting observations already made, or well-known laws of nature; so that I see no grounds for retracting anything I have advanced on this subject. See Height of the Atmosphere, and Meteorology.

**Balls.** In the Military and Pyrotechnical Arts, is a composition of divers ingredients, generally of the combustible kinds, serving to burn and delugroy, give light, smoke, fanch, or the like.

In this senfe we read of fire-balls, light-balls, smoke-balls, fire-balls, sky-balls, water-balls, land-balls, &c.

Balls, Light, are likewise used for all sorts of fire-armes; thofe for cannon are made of iron, and are distinguished by their respective calibres; and thofe for muskets, &c., of lead. Balls, Fire, are bags of canvas filled with gunpowder, sulphur, sulphetpe, pitch, &c., to be thrown by the foldiers, or out of mortars, in order to fire houses, incommodate trenches, advanced posts, or the like.

The Greeks had divers kinds of fire-balls made of wood, sometimes a foot, or even a cubit long; their heads being armed with spikes of iron, beneath which were hemp, pitch, and other combustibles, which being set on fire, were cast among the enemy.

The preparations of fire-balls, among the moderns, consists of several operations, viz., making the bag, preparing the composition, tying, and, lastly, dipping the ball. The bags for this purpose are either oval or round.

The composition wherewith fire-balls are filled is various. To ten pounds of meal gunpowder, add two of sulphuer, one of fulphur, and one of colophony; or, to fix pounds of gunpowder, add four of sulphetpe, four of fulphur, one of powdered glass, half a pound of antimony, as much camphor, a quantity of nitre, and four of common salt, all pulverized. Sometimes they even fill fire-balls with hand granadoes. For tying the fire-balls, they prepare two iron rings, one fitted round the aperture, where the ball is to be lighted, the other near its base. A cord is tied to these rings in such manner as that the several turns represent semicircles, or meridians of the sphere, cutting the globe through the poles: over the cords, extended according to the length of the ball, others are tied, cutting the former at right angles, and parallel to each other, making a knot at each interfection. Lastly, putting in a leaden bullet, the ret of the space is filled with tow or paper. Thus completed, the fire-ball remains to be dipped in a composition of melted pitch, colophony, and linseed oil, or oil of turpentine; after dipping, they cover it round with tow, and dip again, till it be brought to the just diameter required.

**Balls, Land,** thofe which, being thrown out of a mortar, fall to the ground, burn, and burst there. The ingredients are much the same as in the water-balls, only the specific gravity is not attended to.

**Balls, Light,** are such as diffuse an extensive light around: or they are balls which, being cast out of a mortar, or the hand, burn for some time, and illuminate the adjacent parts.

These for the hand are made of ground powder, sulphetpe, brimstone, camphor, and borax, all sprinkled with oil, and moulded into a mass with fuel, common and Greek pitch, to the size of an ordinary granado: this is wrapped up in tow, with a sheet of strong paper over it. To fire it, a hole is made into it with a bodkin, into which is put some priming that will burn slowly. Its use is, to cast into any works that are to be discovered in the night time.

For the larger light-balls, or thofe to be thrown to a greater distance, they are prepared by melting equal quantities of sulphur, turpentine, and pitch; and by dipping in this composition an earthen or stone ball, of a diameter much less than that of the mortar out of which the fire-ball is to be cast; then rolling it in gun-powder, and covering it round with gauze, the dipping is repeated till it comes to fill the cavity of the mortar; lastly, it is sprinkled around with gun-powder. This being once kindled, will strongly illuminate all round the place where it is thrown, and give opportunity for examining the state and condition thereof.

**Balls, Sky,** thofe cast on high out of mortars, and which, when arrived at their height, burst like rockets, and afford a spectacle of decoration. Sky-balls are made of a wooden shell, filled with various compositions, particularly that of the stars of rockets.

These are sometimes intermixed with crackers and other combustibles, making rains of fire, &c.

**Balls, Smoke, or Dark,** thofe which fill the air with smoke, and thus darken a place, to prevent discoveries. To prepare a darkening ball, make a oval or spherical bag; melt rosin over the coals, and add an equal part of sulphetpe not purified, also of sulphur, and a fifth part of charcoal. The whole being well incorporated, put in tow sifted, and fill the bag with this composition, and dip it after the same manner as a fire-ball.

**Balls, Sink,** thofe which yield a great fink where fired to annoy the enemy.

Their preparation is thus: melt ten pounds of pitch, fix of
of rosin, twenty of saltpetre, eight of gun-powder, and four of colophony; to these add two of charcoal, fix of horse-hoofs cut small, three of asafoetida, one of stinking farracan, and any other offensive ingredients. Then proceed as in making smoke and fire-balls.

**Balls, Water**, those which swim and burn a considerable time in the water, and at length burst therein.

These are made in a wooden shell, the cavity of which is filled with a composition of refined saltpetre, sulphur, sawdust boiled in water of saltpetre, and dried; to which sometimes other ingredients are added, as iron-chips, Greek pitch, amber-dust, glafs powdered, and camphor. The ingredients are to be ground and mixt up, and moistened with linseed-oil, nut-oil, olive-oil, hemyseed-oil, or petrol. At the bottom is placed an iron coffin, filled with whole gunpowder that the ball may at last burst with a great noise; and lastly, the ball is, by the addition of lead, or otherwise, made of the same specific gravity with water.

**Balls, Anchor,** are made in the same manner as light balls, and filled with the same composition; and besides, they have an iron bar two-thirds of the ball's diameter in length, and three or four inches square. One half is fixed within the ball, and the other half remains without; and the exterior end is made to grapple with a hook. These are useful for rigging wooden bridges or buildings, the rigging of ships, &c.; as the pile end being the heaviest, flies foremost, and wherever it touches, falls, and sets fire to all about it.

**Balls, Chain.** See Chain-balls.

**Balls, Stagg.** See Stagg-balls.

**Balls, in Mineralogy,** is also used in Cornwall, &c. for tin-mines.

In this sense Godolphin's ball is said to be the most famous of all the balls or mines in Cornwall, for quantity of metal. Phil. Trans. No. 238. p. 951.

**Ball-Venin,** a name given by the miners in Suffolk to a sort of iron ore, common there, and wooded to considerable advantage. It yields not an extraordinary quantity of metal, but what it has runs freely in the fire; it is usually found in loose masses, not in form of strata, and is often covered with one or more crusts. It generally contains some sparkling particles, and is usually of a circular form in the perfect masses; thickest in the middle, and gradually thinner as it approaches the sides. The ores of Suffolk in general are poor, but they require very little trouble in the working, so that a considerable profit is annually made from them.

**Ball of a Pendulum,** the weight at the bottom. In shorter pendulums, this is called the bob.

**Ball, among Printers,** a kind of wooden tunnel stuffed with wood, contained in a cover of sheep's skin, which is nailed to the wood; with which the ink is applied on the forms, to be wrought off.

The pressman holding one of these balls in either hand, first dabs them on the ink-block, then working them on each other, he applies them afterwards on the forms, which retain the ink necessary to make an impression.

**Balls for Horses,** in Veterinary Science, masses made into this form which is the most useful and most convenient mode of administering medicine to these animals.

Being mixed with some volatile substance, the proposed medicine is formed into masses of an oblong or oval form, which are conveyed by the hand or otherwise to the root of the tongue, from whence they readily pass to the stomach.

This mode of administering medicines to horses is of great antiquity. These balls were termed by the Romans **cassia**; by the Greeks, **σταφυλία**. They, however, generally preferred giving their remedies as a potion or drink. The kinds of balls will necessarily be as various as the nature of the medicine which is administered; as purging balls, cordial balls, diuretic, diaphoretic, febrifuge, worm-balls, cough-balls, alternative balls, &c. Any tenacious substance not possessing active properties, will serve for the admixture of them, as paste made of boiled flour, or boiled linseed where they particularly serve for balls that are to be immediately given, and not kept for any length of time, as they are apt to grow hard and dry, and sometimes mouldy. To prevent this, they may be immersed in melted wax, which will effectually coat them over and preserve them, and this was a mode also well known to the ancients. Honey, treacle, turpentine, and tar, are not subject to the above objection, and are all used by different persouls for this purpose. The two last, however, cannot be suppos'd devoid of effect as a medicine; and therefore should not be employed, unless when they co-operate with, or do not destroy, the effect of the medicine preferred.

Soft soap is also an adhesive particularly useful in the admixture of diuretic and purging balls for horses, as not drying nor being particularly expensive. Aloes, almost the only purgative at present known for horses, operates better when united with this substance than in any other way that we have tried. Calomel also operates as a purgative on horses. For the particular method of preparing them, see **Pharmacopoeia Europae.**

These balls should not be made too large, or be suffered to get too hard; is either case, by lodging in the eosophagus, they may prove fatal.

It may not be unnecessary also to observe, that for the easy administration of them the following circumstances should be observed. The tongue should be drawn from the mouth with the left hand over the grinder teeth, the right hand holding the ball between the thumb and first finger, the ball should then suddenly and at once be thrust into the throat by gliding the hand along the roof of the mouth; when this is done slowly, the tongue rises, opposes the hand, and renders it difficult. An iron ring with a handle is sometimes used to defend their jaws; but in this country these balls are generally given without.

When the jaw is very narrow so as not conveniently to admit the hand, the ball is placed on the end of a pointed stick, or it might be placed loosely in a cup or socket at the end of a small cane or whalebone, and be thus very conveniently given.

**Balls, in Zoology,** various substances under this form found in the stomach and intestines of several animals, they occur most frequently in those quadrupeds which lick the surface of their bodies, in which case they are composed of the hair that has been removed by the tongue; the hair, partly by the operation of licking, and still more by the motion of the stomach, becomes mixt and interwoven in such a manner, that it resembles the texture of a hat, and when moulded into a round figure, receives a smooth, shining coat, or calculus incruration. These are the sort of balls usually met with in the cow, sheep, and goat kind, especially the chamois. Every indigible substance that is swallowed is liable, however, to give origin to these balls, or to form a nucleus for calculous concretion; hence we meet with them composed of the ready fibres of vegetables, banks of seeds, feathers, and different animal and vegetable excreta. When such substances as flones of fruit, nuts, or inorganic substances, as puehler, coins, &c. are long detained, and have been covered with a deep incruration, they constitute the bezoar-like flones.

See **BIZARS.** See also **ÆPhagopilas.**

Accord-
According to authors, the human subject is liable to the formation of balls in the intestines, in consequence of indigestible matters not being regularly expelled. Thus cuces have been visited of death ensuing from accumulations of gooseberry seeds, which had been rolled into a solid ball in the stomach; and Sir Hans Sloane gives the history of a ball found in the intestines of a man, much afflicted with the colic, six inches in circumference, of a pungy subflunce, and which, when viewed with a microscope, appeared made up of small transparent hairs or fibres, wrought together like the *tophus bovinus*; in the middle was a common plum-bone, which made, as it were, the core or nucleus upon which the fibrous matter had collected, the same being the length. Phil. Trans. N. 359. p. 2587. Sloane, in Phil. Trans. N. 272. p. 1282.

**BALLS of Silk-worms and Spiders.**—little cysts or cocoons woven of silk, wherein those insects deposit their eggs. See *Silk.*

Spiders are extremely tender of their balls, which they carry about with them, adhering to the papillæ about their anus. Grew speaks of balls as bags of a species of silk-worms in Virginia, as big as man’s eggs, and containing each four *auricles.* Phil. Trans. N. 352. p. 1037.

**Ball of the Foot of a Dog,** is the prominent part of the middle of the foot, called by Latin writers of the middle age, *pelta,* which is to be taken away in expeditation. Ducange Gloss. Lat.

**Balls, Billiard,** are ivory balls used in the game of billiards. Moxon describes the method of turning hollow ivory balls one within another. Mechan. Exerc. p. 219.

**Ball, Tennis,** is a little globe, made and covered with cloth or leather, used in playing at the game of tennis.

**Ball is also used,** in a well-known sense, for an assembly of both sexes, who dance to the sound of instruments.

**Balls, Glove.** See *Glass-Balls.*

**Balls, Soap.** See *Soap.*

**Ball and Socket,** a machine contrived to give an instrument full play and motion every way. It consists of a ball or sphere of brass, fitted within a concave semi-globe, so as to be moveable every way, horizontally, vertically, and obliquely. It is carried by an endless screw, and is principally used for the managing of surveying instruments; to which it is a very necessary appendage.

The ancient balls and sockets had two concaves, or holes, the one for the horizontal, the other for the vertical direction.

**Balls, Wool.** See *Wool.*

**Ball’s Pyramid,** in Geography, a rock in the great Southern Pacific ocean. S. lat. 31° 30’. E. long. 159° 8’.

**BALLABUAN,** Sirets of See *Ball.*

**BALLAD, or Ballet,** a popular song containing the recital of some action, adventure, or intrigue.

The French confine their ballads to shorter terms. A ballad, according to Richet, is a song confining three strophes, or stanzas, of eight verses each, besides a half strophe; the whole in rhyme, of two, three, or four verses, with a burden repeated at the end of each strophe, as well as of the half strophe.

In the old English version of the Bible, the book of Canticles is intitled the *ballad of ballads,* which has given scandal to some Romish writers as countenancing the opinion of those who hold that book a ballad of love, or a recital of the amours between Solomon and his concubine, as Callallo and some others have conceived it to be.

Some have suggested that a collection of ballads is necessary to a minstrel, in order to learn the temper and inclinations of a people, which are here frequently uttered with great simplicity. The great Cecil, chief minister to queen Elizabeth, is said to have made a most ample collection of ballads on this account.

A very ingenious political writer, Mr. Fletcher of Saltoun, says, that if he could but make the ballads of a nation, he would care very little who made the *religion of it.* There is a very curious collection of old English and Scotch ballads, published in 3 vols. 8vo. by Dr. Percy; in which, and in a dissertation prefixed to Aikin’s Collection of Songs, &c. the curious in this way may find abundance of entertainment and information concerning the old ballads, and ballad-makers.

**Ballad,** a mean and trifling song, generally, such as is sung in the streets. In the new French Encyclopedie we are told, that we dance and sing our ballads at the same time, as the French do their *mouvelleres.* We have often heard ballads sung, and seen country-dances danced; but never at the same time, if there was a fiddle to be had. The movement of our country-dances is too rapid for the utterance of words; though the term ballad, we have no doubt, was derived from the Italian *ballata,* a song to be sung and danced at the same time, as it is defined in the Cricula Dictionary: *cancione, che fi' conta ballando.* Ballatella, and Ballatetella, are diminutives of the same word: *piccola canzoni, una balla.* The English ballad has long been detached from dancing, and, since the old translation of the Bible, been confined to a lower order of song. In Shakespeare’s time this species of vulgar and popular poetry was wholly degraded and turned into the streets—

"Ah I have not ballads made on you all, and sung to filthy tunes, may a cup of sack be my poison."—Hen. IV.

**BALLADUK,** in Geography, a town of Arabia Deserta, 140 miles E. N. E. of Damascus.

**BALLAGAULT,** denoting the higher or upper Gaunts, an elevated tract of the peninsula of India, being the western part of the Carnatic, or of that part of the peninsula that lies south of the Gondekana and Toombuddha (or Tungabhadra) rivers, from the coast of Coromandel eastward to the Gaunt mountains westward, and containing the districts which lately composed the country of Tipoo. The other or eastern part, which is the Carnatic according to its present definition, is denominated *Payen-Gaut,* or the lower Gaunts. (See *Bala-gaut.*) The *Ballach-Gaut* mountains denote that elevated tract, across which goods were formerly conveyed from Tagara, or the modern Dowlatabad, to Baza, See Atlas Restrach, vol. 1 p. 369, &c. 8vo.

**BALLAGHAN POINT,** a cape on the east coast of Ireland, in the county of Louth, at the south-west entrance of Carrigford bay; eleven miles south-call of Newry. N. lat. 53° 57‘. W. long. 6° 42‘.

**BALANTIRKE,** or *Ballantrae,* a sea-port town or rather populous village of Scotland, on the west coast of the county of Ayr, in that subdivision called Carrick, on the frith of Clyde, containing about eighty houses, and 500 inhabitants. They have a good salmon fishery at the mouth of a small river called Ardlinchar which joins the frith near the town; but the principal fishery of this district is that of haddock, whiting, cod, ling, skate, &c.: twenty-eight miles S. S. W. of Ayr.

**BALLARD, Cape,** lies on the east coast of Newfoundland, four leagues N. N. E. from cape Race, and four miles from Fresh-water bay. N. lat. 46° 39’. W. long. 52° 46‘.

**Ballard’s Point,** a cape on the west coast of Ireland, in the county of Clare. N. lat. 52° 42‘. W. long. 6° 32‘._BALLA._
BALLARINA, in Ornithology, a name under which Oliva describes the white-wagtail, Motacilla alba.

BALLAS, a town of Egypt, ten miles south of Dendera.

BALLAST, in Navigation, any heavy matter used to sink a vessel to its proper depth in water, or to give it a just weight and counterpoise, and enable it to bear full upright, without overturning.

The word comes from the Flemish belaff, formed of bel, and laff or laft. The French call it simply laff. In the Mediterranean, quartalige. In Latin writers of the lower age it is denominated lâqueum.

The ordinary ballast is sand or shenes, flowed in the bottom, or hold, next the false keel of a vessel: sometimes, iron, lead, corn, or other heavy goods, serve for ballast. Ships are laid to be in ballast, when they have no other loading.

That ballast is belt which is heaviest, lies closest, and driest, both for the ship, bearing a fail, flowing of goods, health of the company, and saving of cales and other. If a ship has too much ballast, she will draw too much water; if too little, she will bear no fail. The ballast is sometimes one-half, sometimes a third, and sometimes a fourth part of the burden of a vessel. But there is often great difference in the proportion of ballast required to prepare ships of equal burden for a voyage; the quantity being always greater or lefs, according to the sharpness or flatness of the ship's bottom, which beam call the floor.

Although ships in general will not carry a sufficient quantity of fail till they are laden to deep that the surface of the water will nearly glance on the extreme breadth amidship, yet a great weight of heavy ballast, as iron, lead, &c. in the bottom, will place the centre of gravity too low in the hold; and in this case, though they may be able to carry a great fail, they will move heavily, and hazard being dismasted by their violent rolling. The art of properly ballasting a ship is that of disposing the materials of which it consists, &c. so that it may be duly poised, and maintain a just equilibrium on the water, and be neither too flat nor too cramp. In the first case, though the ship may be able to carry a great fail, yet its velocity will not be proportionately increased, whilst her masts are more endangered by her sudden jerks and excessive labouring; and in the last case, she will be incapable of carrying fail, without the danger of overfetting. Stiffness in ballasting is occasioned by laying a great quantity of heavy ballast, as lead, iron, &c. in the bottom, which of course will place the centre of gravity very near the keel; and cranks will be occasioned by having too little ballast, or by dispoising the ship's lading in such a manner as to raise the centre of gravity too high.

As the tendency of a ship to pitch or roll depends, not only on her form, but also in a greater degree upon the due distribution of the heaviest part of her cargo, the knowledge of properly ballasting a ship, as well as of flowing her cargo, is of great importance to the mariner. Particular attention should be paid to moderate her pitching, as this most fatigues a ship and her mails; and it is usually in one of these motions that masts break, particularly when the head rises after having pitched. Rolling, indeed, is a more considerable movement than pitching; but it is low, and seldom attended with any accident. However, it should be prevented as much as possible; and this may be easily done in general, without any detriment to the ship's full carrying of fail, by flowing up the ballast, when it is iron, to the floor-heads; because the ship will be restored by it with less violence after she has inclined, and it will act on a point at a little distance from the centre of gravity.

For the farther illustration of this important subject, let it be premised, that various methods have been recommended for finding the following points of a ship; viz. its centre of gravity, centre of cavity, centre of motion, and metacentre. (See these articles.) Some of these points are fixed; others are variable. When a ship is completely loaded, the centre of gravity is fixed, howsoever the vessel may alter her position. The centre of motion is always in a line with the water's edge, when the centre of gravity is even with or below the surface of the water; but, whenever the centre of gravity is above the water's surface, the centre of gravity is then the centre of motion. In circular motions the centre of motion will be the centre of the circle. The centre of gravity varies with every inclination of the ship, because that depends upon the shape of the body immersed. The metacentre, called the floating centre, depends upon the situation of the centre of gravity; for it is that point where a vertical line drawn from the centre of gravity cuts a line passing through the centre of gravity and perpendicular to the keel. The centre of gravity must not by any means be placed above this point; because, if that were the case, the vesse would overfet.

Let the segment of a circle 1 2 3 (fig. 14, Plate II. Mechanics), represent the transverse section of a vessel's bottom; W L the surface of the water; M the metacentre as well as the centre of motion, because this is a circle; C the centre of cavity; G the centre of gravity; and the line 2 4 the vertical axis of the vesse which may be turned round the point M, as on a fulcrum, supported by the centre of cavity. By thus simply considering the vesse as a lever in the direction of her vertical axis playing round her centre of motion, it is plain, that if the centre of gravity was placed above the point M, being the metacentre too, the vessel would upset; therefore that the ship may have stability, the centre of gravity must be below this point: and it may be observed, that the farther G is removed from the metacentre, the greater must be its force, as the gravity then acts with a greater length of lever, considering the fulcrum of that lever to be at the centre of motion; or, if the weight at G be augmented, it will likewise increase the force; therefore the force of G may be expressed, by multiplying the balance of weight beneath the centre of motion, by the distance of the centre of gravity from the centre of motion.

The centres of cavity and motion (in circular bodies) will ever be in a line perpendicular to the horizon, but the centre of gravity may be either on one side or the other of this line. When such a body is at rest, the centre of gravity will be in this line; but if in motion it will be diverted from it. Thus the points M and G, will always be perpendicular to W L; but the point G, by the body's rolling, may be on either side; for instance at g. While G is perpendicularly beneath the centre of motion, its action can only tend to preserve this circular body in its erect position; but if it is removed to either side as g, its action is to return it to the erect position; and this action increases as the distance G g, which is the sine of the angle of roll g M G, the distance M G being considered as the radius. Thus, to gain the force of gravity with any roll as g M G, let the balance of weight beneath the centre of motion be multiplied by the sine of the angle of roll G g.

But the tendency to roll may be also diminished by the shape of the hull; for, let us suppose that the transverse section be allowed more beam, and increased by the dotted lines. Now when this vessel is rolled over, it is plain that the cavity will be augmented towards the side L, of course its...
its centre must remove towards L, say to c; and, if from c be erected a perpendicular to the horizon, it will cut the vertical axis at n, which will, in this case, be the metacentre, above which, if the centre of gravity were placed, it would act in conjunction with the centre of cavity to overfall the vessel; but, as the centre of gravity is here below it at g, her liability will be increased by the increased distance of G from c, the metacentre; and the vessel will roll round the point M as her centre of motion.

When falling in smooth water, the greater the liability the better; but if a vessel with a heavy cargo, flowed low in her bottom, be set out into a rough tempestuous sea, where every wave will throw her from her equilibrium, she will return with such violence as to endanger her masts, and should she be dismasted, her roll will then be with greater force, possibly to the destruction of her hull. Was the cargo in this labourous vessel to be removed higher up towards the centre of motion, so as to lessen her liability, she would be found considerably easier; her roll would be by such deliberate motions, as to lessen the danger to her masts and hull.

The ballast is placed round and very near the centre of gravity of the ship, because it will prevent the motion of the pitching being so hard as it would be, if that weight were distributed either aforesaid or abaft that point. Whenever the sea runs a little high, the ship is never carried by a single wave; there are generally two or three always pailing under at the same time, unless when the sea is extremely long, the swells comes from a great distance, and in latitudes very remote from land; for then, it happens that the largest ships are sometimes carried by one single wave. But, in either circumstances, the ballast ought not to be stretched aforesaid or abaft the centre of gravity, as soon as the ship is in the parallel to her draught of water marked for the ballast, which is absolutely essential to pay attention to.

To prove this principle, suppose in either case a long or short surge, and that the water strikes the ship forward, that thereby she may be expected to the greatest and hardly pitchings; for when the wave takes a ship under the stern, her motions, if she has got a little head-way, are not dangerous; because, as the ships goes, and it goes through it, at the same instant that she is raised by the vertical impulse of that column of water, which opposes her a supporting power too considerable for her weight to displace the wave which follows produces the same effect in receiving the fall of the ship, because the first is already under the middle of the ship, whence it pails to the stern, which is supported by it, while the second takes its place in the middle, and the third is come to support the head; and this is an uninterrupted succession. This motion continuing thus long as the sea is agitated, it follows that the ship is never at rest; no sooner has she been raised by a wave, but she falls again when that wave is gone, which falling is proportionably less sharp as her head is less heavy; the shake is then less violent, since the shocks the water with a less mass, which prevents her pitching so deep as she would, if the wave more heavy; consequently, the making does not suffer, and the headway is less delayed, as the fullest part of the bow is not so much exposed to the shock of the water.

Secondly, when the ship is carried by one single wave, her fall is still less sharp, if little loaded a-head, than when she is carried only by the middle. She rises, therefore, more easily at the moment the other wave comes to strike her, and the shake is not so violent. Was she to plunge deeper into the fluid, it might happen that the column of water would become higher than her head, and, falling partly over it, would expose her to the danger of foundering.

In the flowing of the cargo, it is proper to place the heaviest part of the flowage as well as possible, taking care to provide that draught of the ship which is most advantageous for her, whether the ship be a ballast or when laden. Those points are marked both at the middle and stern; in a word, the great art of flowing lies, in endeavouring that each of the vertical parts, in which the extremities of a ship may be supposed to be evenly divided, be lighter, when her loading is complete, than the weight of the mass of water they are to displace; observing always, that the vertical parts of the middle admit of being headed more heavily than the weight of water they are able to displace.

In the royal navy, the iron ballast is first flowed fore and aft, from bulkhead to bulkhead in the main hold, next to be laid on the timber-stakes on each side the kelton, five or more inches clear of the timber-boards; and is winged up three or more pigs above the floor-heads in the middhips, or bearing part of the ship, and there are two tiers of pigs in the wake of the main hatchway and well-wings. Ships, built with a very clear run aft, seldom have any iron ballast flown abaft the pump-well or after-hold. Ships that have floor and forecastle riders, have the iron ballast flowed either lengthways or athwart ships, agreeably to the length of the chambers, which are the clear spaces between the riders.

The single ballast is next spread and levelled over the iron ballast; on which is flowed the ground tier of water, bung up and bilge free from the sides, either chine and chine, or boundary and chine, beginning at the coal-room bulkhead, that being the foremost, and making the breakage, if any, at the main hatch. The midhip tiers, fore and aft, are the first laid down, and the keels are tunned about one quarter of their diameter into the thistle; the fides are filled in with wingers of small casks, as half-hogheads, gang casks, or breakers; observing not to raise the wingers above the level of the tier, to cause a breakage in the next tier above, which is flowed in the continuance of the ground tier, bung up and bilge free; and so on, for as many tiers as can be flowed sufficiently clear of the beams.

In the after-hold, between the aft-side of the pump-well and forecastle bulkhead, are flowed the provisions above the ground tier; between the casks, billet, or other wood, and single ballast.

In the fish room are flowed some of the spirits, or wine, and sometimes coals; and in the spirit room, are flowed the wine and spirits for the ship's use.

In the merchant service, the flowage consists, beside the ballast, of casks, barrels, boxes, &c. which are all carefully wedged off from the bottom, fides, pump-well, &c. and great attention paid that the most weighty materials are flowed nearest to the centre of gravity, or bearing of the ship; and higher or lower in the hold agreeably to the form of the vessel. A full low-built vessel requires them to be flowed high up, that the centre of gravity may be raised, to keep her from rolling away her masts, and from being too fluff and labouroume; as, on the contrary, a narrow high-built vessel requires the most weighty materials to be flowed low down, nearest the kelton, that the centre of gravity may be kept low, to enable her to carry sail, and to prevent her oversteering.
BALL

Ballofs allowed to the following Ships.

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<th>Single Tons</th>
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By the 19th Geo. II. it is enacted, that if after June 1, 1746, any master or owner, or any person acting as master of any ship or other vessel whatsoever, shall cast, throw out, or unlade, or if there shall be thrown out, &c. of any vessel, being within any haven, port, road, channel, or navigable river within England, any baliff, rubbish, gravel, earth, stone, wreck, or filth, but only upon the land, where the tide or water never flows or runs; any one or more justices for the county or place where or near which the offence shall be committed, upon the information thereof, shall summon or issue his warrant for bringing the master or owner of the vessel, or other person acting as such, before him; and upon appearance or default, shall proceed to examine the matter of and upon proof made thereof, either by confession of the party, or on view of the justices, or upon the oath of one or more credible witnesses, he shall convict the said master, &c. and fine him at his discretion for every such offence any sum not exceeding 5l. nor under 5s. &c.; and for want of sufficient divers, the justice is to commit the master, or person acting as such, and convicted as aforesaid, to the common gaol or house of correction, for the space of two months, or until payment of the penalties.

Besides the above general act relating to ballast, there are the 6 Geo. II. c. 29. and the 32 Geo. II. which regulate the ballasting of merchant vessels in the river Thames, placing it under the direction of the corporation of Trinity-house. Elements and Practice of Rigging and Seamanship, vol. ii. p. 285, &c.

Ballast, to trench the, denotes, to divide the ballast into two several parts or more, in the ship's hold, commonly done to find a leak in the bottom of a ship, or to uniform her. Ballast, the, boats, that is, rams over from the one side to the other. Hence it is that corn, and all kinds of grain, is dangerous lodging, for that is apt to shoot. To prevent which, they make packets that is, bulk-heads of boards, to keep it up flat, that it may not run from side to side, as the ship heels upon a tack.

Ballastage. See Lastage.

Ballatoons, large, heavy baggage-boats, carrying goods by the river from Alfranci and the Caspan sea to Moscow. These will carry from a hundred to two hundred tons; and have from a hundred to a hundred and ten, or twenty, men employed to row, and tow them along.

Ballenden, or Bellenden, for John, in Biography, an elegant Scots writer of the sixteenth century, descended of an ancient and honourable family in Scotland, was probably born and educated in France. Having in his youth served in the court, and, as some writers suggest, having been employed in the education of James V., he was distinguished by the favour and patronage of that prince, and obtained extraordinary preeminence in the church, as well as the office of clerk of accounts, occupied by his father Mr. Thomas Ballenden of Auchinoul, in 1541. The work by which he gained the highest reputation, was his translation of Hector Boethius out of Latin into the Scots tongue, performed by the command of his royal master, intitled, "The History and Chronicles of Scotland, &c." and published in folio at Edinburgh, A.D. 1556. This version, in which the translator took the liberty of augmenting and amending the original as he thought proper, was well received both in Scotland and England, and soon became the standard of that history. In the succeeding reign, he was one of the lords of seccion; and being a zealous Romasist, he industriously laboured, in conjunction with Dr. Laing, to hinder the progress of the reformation. His zeal involved him in disputes, which obliged him to quit Scotland, and remove to Rome, where, it is said, he died A.D. 1550. He was a man of great parts, and one of the finest poets of which his country could boast. His works, that are still extant, are distinguished by that noble enthusiasm, which is the soul of poetry. His poem, intitled "Vertue and Vye," was addressed to the monarch of the Scots, James V.; and his other pieces, both printed and in MS. are now buried in oblivion. In Carmichael's collection of Scottish poems, there are some of this author on various subjects.

Ballenden Point, in Geography, a projecting point in the bottom of Donegal bay, on the north-west coast of Ireland, south-west by south 3° south. Eight miles from Eniforny island.

Ballennes Islands, are four small islands on the south of Tory island, off the N.W. point of Ireland, called Beg, Doway, Boin, and Maghere Wellez. Between Trey island and Balleness, there is a good road and safe anchorage from a foreshore or easterly wind.

Ballentay Port is about 24 leagues east from Skerries island, or port Rufe, upon the main, on the north coast of Ireland; south and somewhat west from Rathlin island, and Dummer's rocks.

Balleroi, a town of France, in the department of the Calvados, and chief place of a canton in the district of Bayaux, six leagues south of Caen, and 24 S. S. W. of Bayeux. The place contains 1176 and the canton 14,484 inhabitants: the territory includes 1975 kilometres and 29 communes.

Ballerus, in Icethy logy, the name under which the Greenland cryptus fatus is noticed by Jons. and other old authors.

Ballerus, a species of Cyprinus, with forty rays in the anal fin. Linnaeus Fn. Svec. This fish inhabits the lakes in some parts of Europe, and near the Caspian sea. The head is small, obtuse, and brown in the front; cheeks and gill-covers alternately blue, yellow, or red; eyes large; iris yellow, with two black spots; jaws equal, lower one curved; back carinated; lateral line straight, variegated with brown dots; edges of the fins blue; dorsal fin placed farther back from the head than the pectoral one; anal fin very broad; tail lunate. Weight in general about a pound; deposits an immense number of eggs in April; grows slowly, is thin, and covered with minute lax scales: the colour above is blackish-blue, yellowish on the sides, silver below, and red on the belly; fish not very good. Bloch observes that the number of rays in the anal fin amount to one more than Linnaeus mentions, and characters the species as having forty-one rays in the anal fin; cyprinus pinna ani radix 41. Bloch.

Balliet, or Balet, Baletto, a kind of dramatic poem, representing some fabulous action or subject, divided into.
Ballet is one of the longest and most elaborate articles of the new French Encyclopedist. When M. Framery seems to have exhausted the subject, it is resumed by his colleague in the musical department, M. Guignené, who has still found much to say on the subject. Ballet, he informs us, is a term that includes three different kinds of exhibition on the Lyric stage. In the first, the dance constitutes only a subordinate part of the action represented; in the second it is the principal part, poetry and vocal music then becoming accessories in their turn; and, thirdly, in the whole ballet is performed in dancing; and in representing an action in which the performers neither speak nor sing; they dance. The first kind is simply called a ballet; the second a ballet-opera, or opera ballet; an opera with dances analogous to the drama; the third is called a pantomime ballet.

"To treat this subject in its full extent (Era M. Guignené) would require a volume."—And an excellent volume has already been written on the subject, by the celebrated Noverre, intitled "Letters sur la Danse," 1760. In 1774, M. Cahusac had published a pleasing work in 3 vols. "Sur la Danse ancienne et moderne," an historical treatise. But father Menettier's treatise, "Des ballets anc. et mod. selon la rigle du Theatre," 1682, is perhaps the most curious of them all, in the historical part.

Music is so inseparable from the dance, that the word ballet may be regarded as a musical term. The music to opera dances is to be furnished by the composer of the airs and relatives. Half, Jonelli, and Gluck, distinguished themselves as much by the music of grand ballets, as by the opera itself; as did our countryman Dr. Arne, by the dances in Comus. Of late years, it has been generally allied to the principal second violin to compose the music and head the band, in the dances between the acts of an opera. Ayris, Nofèrè, and Le Brun the hangabout player, performed this office during many seasons; and their business was executed for a considerable time to the satisfaction of the public and the performers, by the late Sig. Boffi. The airs of many ballets were usually brought from France, particularly those of Rameau; but Teller, a German, about twenty years ago, acquired great reputation by the music of his chaconnes and ballets héroïques. See Dance, and Pantomime.

Ballet, in English Poetry, etc. See Ballad.

BAILEY, ROBERT, in English Literature, born at Geneva, in October 1726, became a distinguished practitioner of medicine in that city, where he lived much esteemed, to the year 1774; and published the following: "Dissertations sur l'Education Physique des Enfants," Paris, 1762, 8vo. "Dissertations sur les cas constitutifs de la mort d'un affai grand nombre d'Enfants," etc. Geneva, 1775, 8vo. Eloy, Dict. Histoire.

BALLEZE, BALLIZ, of WALLIS, in Geography, a river in the peninsula of Yucatan, New Spain, runs north-easterly above 200 miles, and discharges itself into the bay of Honduras, opposite to the north end of Turneff island. By the treaty of peace in 1783, it is agreed that British subjects shall have the right of cutting and carrying away logwood in the district lying between this river and that of Rio Hondo on the north, which falls into Hanover bay. The unalterable boundaries are the course of the rivers.

BALLEYACE, in Ancient Geography, a town of Illyria, in the vicinity of Apollonia. Strabo.

BALLAGE, a small duty paid to the city of London, by aliens, and even denizens, for certain commodities exported by them; which they claim by their charter, dated the 5th of September, in the sixteenth of Charles II. confirmed by the twentieth rule of the Book of Rates and by W. & M. cap. 8.
BALLIANI, John Baptist, in Biography, a senator of Geneva, was born in 1586, and distinguished himself among natural philosophers by a Latin treatise, "On the natural motion of heavy bodies," first printed in 1638, and republished in 1646, with many valuable additions. Having passed with honour through many public offices, he died in 1666.

BALLIBAY, in Geography, a market and port town of the county of Monaghan, province of Ulster, Ireland, situated 52 miles north by west of Dublin. This town was in an wretched state; but of late years, since the establishment of its linen market, it is greatly improved, and several new houses have been built. There is a market-house, and a market on Saturdays, at which webs are purchased to the amount of 1500l. weekly. In the neighbourhood of the town are the extensive bleach greens and mills of Crieve, at which 50,000 webs are bleached. Turf is so abundant, that it is sold in the town of Ballibay at 6d. for a horseload. A district called the Calibils, in this neighbourhood, is remarkable for producing a heavy crop of flax, equal to twenty-eight stone of scutched flax to the quarter of an acre, and from one baleth of feed town; this is an immense produce, but the quality is proportionately coarse. Sir Charles Coote's Statistical Account of Monaghan.

BALLIBOY, a small port and fair town of the King's county, province of Leinster, Ireland, situated on the Silver river, and giving name to one of the baronies in that county, which from the average rent, rated by Mr. Young, and compared with that of the other baronies, seems to contain the world ground in it. Distance from Dublin 56 Irish miles. N. lat. 53° 8'. W. long. 7° 39'. Young's Tour.

BALLIELLA, or Ballieala Point, the south-east point of Galway bay, on the west coast of Ireland, eleven leagues north-east by east from Loup's head.

BALLIMONY, a port and market-town of the county of Antrim in Ireland, not far from Coleraine, and 1075 Irish miles from Dublin. It is a pretty large town, and has a good market, especially for linens, £40,000, wide, called Coleraines. Between it and Ballymena is much grazing land, from which Belfast is in great measure supplied with provisions for exportation. N. lat. 54° 1'. W. longitude 6° 22'.

BALLIMORE, a small port town, or rather village, of the county of Wefmeath, in Ireland, seated on the well side of Lough Seudy. It was a strong garrison of the English forces towards the latter end of the war of 1641, being conveniently situated between Mullingar and Athlone, and deriving great advantage from the lake. The name of this place implies the great town, and it may probably have declined considerably in importance; but the idea of a great town, when this name was given, must have been very different from that now entertained. Distance from Dublin 50 Irish miles. N. lat. 53° 26'. W. long. 7° 33'. Collect. Hibern. Beaufort's Map &c.

BALLINMORE EAGHEER, a small town, in a detached part of the county of Dublin, in Ireland, pleasantly situated on the Liffey, over which it has an handsome bridge; it has decayed on account of the great southern road from Dublin having been turned so as to pass through Kilcullen. Near this town is Ruffborough, the seat of Lord Milltown, universally esteemed one of the most superb in Ireland, and containing a valuable collection of paintings by several eminent masters. There is also a great natural curiosity in the neighbourhood, the water-fall of Polla-pluca, or the daxon's hole, formed by a river which rises in the county of Wicklow, and here falls into the Liffey. Lord Milltown, the proprietor, has spared no pains to adorn the natural beauties of the spot, having planted its fine hanging banks, and built several cottages and grottoes for the reception and accommodation of the numerous parties that resort to it. Distance from Dublin 17½ miles. N. lat. 53° 7'. W. long. 6° 73'. Wilson's Book of Roads. Dodd's Traveller's Dictionary, 1801.

BALLINMOT, a village in the county of Sligo, Ireland, which deserves to be mentioned, on account of the flourishing aspect which the linen bleachers wear in its neighbourhood. The great exertions of the late Mr. Fitzmaurice, brother to the present marquis of Lansdowne, first established this manufacture, which is spread throughout all the adjoining county. Beaufort, Young.

BALLINA, a town of the county of Mayo, in Ireland, situated on the river Moy, and connected by a bridge over that river with Ardnaboe, in the county of Sligo, forming together one town, which is neat and thriving, and has a brisk market for linen every week. Mr. Arthur Young describes its situation as uncommonly pleasing. It has a salmon fishery, which is one of the most considerable in the island, supplying seventy or eighty tons of salted fish, besides the fresh. It was let for 520l. a year in 1776. This town being near Killala, was soon taken possession of by the French under general Humbert in the late invasion, and many depredations were committed there by the rebels. Its distance from Dublin 159 Irish miles. N. lat. 54° 6' 30'. W. long. 8° 59'. Beaufort, Young.

BALLINACOURTY POINT, a cape on the south coast of Ireland, in the county of Waterford, and north side of Dungarvon bay, four miles east of Dungarvon.

BALLINAHINCH, a barony in the western part of the county of Galway, and province of Connaught, Ireland, better known by its ancient name of Connamara, or Connachinemara, which implies the chief tribe on the great sea. This large district is very rude and mountainous, and might be expected, very thinly inhabited. Some of the hills are very high; especially the vall ridge called Benmaubola, or the twelve pins, which is a well-known landmark, consisting of almost perpendicular rocks. At the foot of this ridge, close to the little village of Ballinahinch, a charming lake spreads itself for some miles; and on the river which runs from it into Roundstone bay, there is a great salmon fishery. On the fides of the lake, and in the vallies, which are watered by rivers and small lakes, and sheltered in some places by the venerable remains of ancient woods, the soil is mostly inclined to a black bog; but gravel, sand, or rock lie at no greater depth than from one to three feet below the surface. Great quantities of kelp are made all along the coast, and by manuring with sea weed, the land is rendered very productive to the scattered families that inhabit it, who are all little farmers and hardy fishermen. Besides the herring fishery, which employs a great many persons, there is a fishery of mullet on the coast from the 10th of April to the 10th of May, which is carried on by the herring boats. Mr. Young says, that one fish is valued at five pounds, and that if a boat takes three fish in the month, it is reckoned good luck. The number of boats employed is from 40 to 50. The induced shores of this barony abound in well sheltered havens, of which no use is made except by smugglers, who carry on business very extensively, and almost without interruption. The bays of Kilkerran, Birterbuy, Roundstone, and Ballinakill, are the largest, and the fine harbour of Killery, on which is a fishing town, is at the northern extremity of this district. On the promontory of Slymehead, forming the north extremity of Birterbuy bay, is a light house. In this barony are made those woolen rockings, known throughout Ireland by the

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nans of Connemara, and very good buckles; and the en-
couragement given by the present proprietor (Col. Martin, M.P., for the county) to settlers from Ulster, will probably contribute much to the improvement of what is now one of the most rude and uncivilized districts in Ireland. A late traveller observes, that even in Galway, within 15 miles of it, Connemara was less known than the island of the Paci-
fic ocean; and that he was advised not to venture into it.
Such a dread had the inhabitants of this town of the clan of O’Flaherty, which polished it, that death was threat-
ened, by an inscription over the gate, to every peron of that name found within the walls. Yet notwithstanding
their ancient character, the above-mentioned travellers, in
his ramble through the country, found the people docile and friendly, and left savage in their appearance than the peasantry near the capitals. They are in general much better
clothed, and are more industrious. The women, like those of Wales, knit as they go from one place to another.
Smuggling is very general; and it is considered such an af-
firm for delinquents, that it is not uncommon for poor peasants
to go across Lough Corrib, and calli; and when they are
paid and clothed, take the first opportunity of returning,
after which they are never heard of. There are many traces
throughout the country of its having been cultivated in an-
cient times by some intelligent people. Dr. Beaufort’s Me-
moirs. Mr. Young’s Tour. Latocnaye’s Rambles through Ireland.

BALLINASLOE, a small but neat and well-built town of
the county of Galway, in the province of Connacht, Ireland.
It is situated on the west side of the river Stake (though in many maps it is placed on the east side, in the
county of Roscommon), which river from the nature of the
country might be easily made navigable to the Shannon.
It is one of the most thriving towns in the country, having
a great wool fair on the 13th of July, and several cattle fairs,
at which 10,000 oxen and 100,000 sheep were sold annually
from the parishes of Galway, Clare, and Mayo. From the
increase of tillage, however, and other causes, the num-
ber of sheep is said to have decreased. At one of these
fairs, a flow of cattle and premiums have lately been intro-
duced, under the auspices of the farming society of Ireland,
for the laudable purpose of improving the breeds. The
wool fair was established in 1757, by Mr. Treacy, father of
the present lord viscount Dunker, to whom the town belongs;
and on account of the more convenient situation of Ball-
inloe in the heart of the wool country, and the great at-
tention paid to the accommodation of those who frequent
it, it has taken the lead of Mullingor fair, and is now per-
haps the greatest for wool in the united kingdom.
Several days generally elapse before the buyers and sellers can agree
respecting the price; during which period, the news of the
day is as eagerly sought as on the Stock Exchange, and
often produces a considerable effect. The number of bags,
usually brought to the fair for some years past was about
1500, each containing about eight hundred weight; but
this is feared a fourth part of what is engaged from the
country gentlemen at the same time, at a somewhat higher
price. Mr. A. Young has made a comparison between the
price of wool in the fleece in Ireland, and in Lincolnshire;
from which it appears, that for 16 years ending in 1779,
the average price in Ireland was 13s. 8d. per stone of sixteen
pounds; and in Lincolnshire during the same years, it
was 9s. 3d. for the same quantity. The height of price
in Ireland, he attributes to a decrease in the quantity pro-
duced, from flattering up great tracts of sheep-walks, and
an increase in the consumption. The same causes have con-
tinued to operate in a still greater degree, so that the aver-
age price for four years ending in 1801, was 18s. as
the writer of this article was informed by an eminent manufac-
turer. A good deal of large combing wool was bought
indeed at a lower price, but not fit for the English market.
In comparing the price of English and Irish wool, it should
be mentioned that in Leicetser and Connacht, the bags are
always paid for as wool, which makes an addition of four-
ence per stone to the price. Yet though the price of wool
is so much higher, such is the difference in the price of
labour, that there is in time of peace a considerable export
of worsted yarn to Norwich and Manchester. The dis-
tance of Ballinleee from Dublin is 72 Irish miles. N.
lat. 53° 15'. W. long. 8° 8'. Mr. A. Young. Dr. Beau-
fort.

BAILINROBE, a market, poll, and occasionally an
affixe town of the county of Mayo, in Ireland, which is
small, but flourishing, situated on the River Rube, which
runs into Lough Mask. Here are the ruins of an abbey ;
and in the neighbourhood is a charter school for forty
boys. Within a few miles of it, on the road to Castlebar,
are the ruins of Ballintobee abbey. The part that yet
remains entire of this venerable structure, exhibits a fine speci-
men of Gothic architecture; the rafters, if they may be fo
termied.
term, being formed of heav'n stone joined in a very singular manner. A view and description of this abbey may be found in Ledwich's edition of Grose's Antiquities of Ireland. The distance of Ballintruthe from Dublin is 120 miles. N. lat. 59° 34' 50". W. long. 6° 6'.

BALLINTOY, a small town on the northern coast of the county of Antrim, formerly called Belletrix, which has a tolerably good bay. A vein of coal was discovered here in 1756, which is wrought with such effect, as not only to supply a want hereafter, but others also at Portruith and Colerain. A grant of 2000 pounds was made by parliament in 1758 for improving the harbour. The distance from Dublin is 150 miles. N. lat. 55° 14'. W. long. 6° 12'.

A little to the eastward of Ballintoy, on an abrupt and romantic shore, is a small rocky island called Carrick-a-red. This rock is separated from the adjacent land by a channel full sixty feet in breadth, and of a depth frightful to look at; at the bottom of which the sea usually breaks with an uninterrupted roar among the rocks. This island is particularly well situated for the salmon fishery; but being inaccessible from the water except at one spot, and the turbidness of the sea making it difficult to land even here unless the weather be extremely calm, the fishermen have contrived a finger bridge over the abyss. Two strong cables are extended across the gap by an expert climber, and fastened firmly into iron rings mortised into the rock on each side. Between these ropes, a number of boards about a foot in breadth are laid in succession, supported at intervals by crofs cords; and thus the pathway is formed, which, though broad enough to bear a man's feet with tolerable convenience, does by no means hide from view, "the rocks and raging sea beneath," which in this situation exhibit the fatal effects of a fall in very strong colours, while the swinging and undulations of the bridge itself, and of a single hand rope, which scarcely any degree of tension can prevent in so great a length, suggest no very comfortable feelings to persons of weak nerves. Upon the whole, it is a beautiful bridge in the scenery of a landscape, but a frightful one in real life. Hamilton's Letters on the Coast of Antrim.

BALLISTA, or Balista, in Antiquity, a military engine in use among the ancients, somewhat like our cros-bow, though much larger, more formidable, and more complicated in its construction. It was used in the besieging of cities, to throw stones and sometimes darts and javelins; and received its name from the Greek, παλίστρα, to throw. But in later times it describes the ballista thus: a round iron cylinder is fastened between two planks, from which reaches a hollow square beam placed cross-wise, fastened with cords, to which are added screws; at one end of this stands the engineer, who puts a wooden shaft with a big head into the cavity of the beam; this done, two men bend the engine, by drawing some wheels; when the top of the head is drawn to the utmost end of the cords, the shaft is driven out of the ballista, &c. According to Vitruvius, the ballista was made after divers manners, though all used to the same purpose: one fort was framed with levers and bars; another with pulleys; another with a crane; and others with a toothed-wheel. The ballista was ranked by the ancients in the fling-kind; and its structure and effect reduced to the principles of the fling: whence some writers called it funda and fundibulus. Gæntherus calls it Ballarica machina, as a fling peculiar to the Balearic islands. M. Rolfin joined the account of the catapulta and ballista together (Arts and Sciences, vol. ii. p. 52.), observing that though authors distinguish them, they also often confound them. The ballista was at first chiefly used for throwing stones, and the catapulta for lancing darts and arrows; but by degrees they were confounded and indifferently appropriated to both. (Grose Hist. Eng. Army, vol. i. p. 366.)

The ballista, however, must have been the heaviest and most difficult to carry; because there were always a greater number of the catapulte in the army. Livy, in his description of the siege of Carthage, says there were an hundred and twenty great, and two hundred small catapulte taken; with thirty-three great ballista, and fifty-two small ones. Josephus mentions the fame difference among the Romans, who had three hundred catapulte and forty ballista at the siege of Jerusalem.

Vegetius says, that the ballista discharged darts with such rapidity and violence, that nothing could resist their force. Athenaeus tells us, that Ageantarius made one of little more than two feet in length, which shot darts almost five hundred paces. There were others of much greater force which threw stones of three hundred weight upwards of twenty-five paces. The surpafsing effects of these machines are particularly recorded by Josephus (Bell. Jud. v. 6.); at Jerusalem, they projected stones which beat down the battlements, and broke the angles of the towers; there was in Phialas so deep, but one of them would swamp a whole fle of it from one end to the other; and a man who stood by the breach had his head broken by a stone at the distance of three hundred and seventy-five paces. (Rot-}

Lins Arts & Sc. ii. 52, 53.)Tacitus too has recorded more than one instance of their force. (Annal. xv. 9. Hist. iv. 23.)

Among the Saxons, as we have already mentioned, (see Artillery,) great military engines of almost every kind seem to have been unknown; it is to the middle ages we look for the introduction of any thing like field artillery. William of Poictou (p. 201.) says, that machines for throwing darts and stones were used with great success at the battle of Hastings. The darts that were shot from these machines, as well as from the cros-bows, were called quarrels; and were pointed with heavy pieces of steel like pyramids, which made them very sharp and very destructive. The ballista were more frequently used in sea fights than in battles on shore; nor was this particularly the case in the middle ages; Livy (xii. 21.) says, that both scorpions and ballista were used in the battles by the Tarentines so long ago as 281. Nor was it in the ancient times alone that the names and properties and even the use of the capita- 

a and ballista were confounded. In the Latin of the middle ages, ballista, in lieu of arbalêt, was frequently the term for the crofs-bow; and catapulta for the fling.

Perrault, in his notes on Vitruvius, gives a contrivance similar to that of the ballista, for throwing bombs without gunpowder.

When the ballista is painted in Armor, it is represented as charged with a stone. Gallim and other heraldic writers call it a sweep.

BALLISTA, in Practical Geometry, the geometrical crofs, called also Jacob's staff. See Cross Staff.

BALLISTA, or Os Ballista, is a denomination given by some anatomists to the first bone of the tarsus, otherwise called talus and astragalus.

BALLISTARI1, or Balistarii, in Antiquity, fingers in the ancient armies, or soldiers who fought with the ballista. There were two kinds of ballistarii milites; the former call dotes and other missive weapons with the hand, and were called manuballistarii, or sometimes simply manuballista; the latter, called caroballista, made use of a machine. Some writers speak of a third kind called arcuballista, but these are better reduced to the second. The ballistarii were scarce heard of before the age of Constantine.
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Balillarius in our ancient history is to be differently explained. Sometimes it refers to the men who shot stones and darts out of crosbbows; at others to the officers of the foot-bow-men, or directors of the great brakes or engines, with which the walls of any place were battered; and occasionally even to the flingers. (See Kelham on Doomsday Book, p. 161.) Our kings, so early as the Conquest, had an officer filled Architectural or Balillarius Regis, and lands were held in capite of the king, by the service of presenting annually a crosbbow-string as often as he passed through a certain district. (See Blount's Ten. p. 57. 70. 81.) Walter de Mofely in the thirty-second year of king Hen. III. held lands in Surrey by the fejurne of being the king's balillarius (or crosb-bow-man) in his army for forty days in the year. (Pat. rot. in turrib. Lond.) And it is not perhaps improbable, that the inspector of the works relating to the balistite might occasionally bear the name title. Such an officer occurs in the patent rolls of the same king two years before. (Ibid. 37 Hen. 3. m. 8.)

B A L L I S T I S T E S, in Ethnology. See Ballistes. Ballisteum, or Balistata, in Aniquity, a military fong or dance used on occasions of victory. The ballistai were a kind of popular ballads composed by poets of the lower class, without much regard to the laws of metre.

B A L L I S T I C P e n d u l u m. See Pendulum.

B A L L I S T I C A, Ballistics, is used for the art of throwing heavy bodies. F. Merfenius has published a treatise on the projection of bodies, under this title.

B A L L I T O R E, in Geography, a small poft town in the county of Kildare, in the province of Leinster, in Ireland, pleasantly situated in a well planted valley on the banks of the river Greens, a little on the right of the great road from Dublin to the south. It was chiefly a settlement of Quakers, but the number of these has considerably decreased; and the active part taken by many of the inhabitants in the late rebellion, caused it to be in a great measure destroyed. The celebrated Edmund Burke received his early education in this town at the school of Mr. Abraham Shakleton, one of the respectable claves above-mentioned; which school was then held in high estimation, and has been continued by his descendants of the same name to the present day. Distance from Dublin 28 miles. N. lat. 53°. W. lang. 6° 51'.

B A L L I U M, or Bailey, in our ancient Military Tactics, was used to signify a certain plot of ground within a fortified place. The outer baillium was that which presented itself immediately on entering the outer gate of the castle, where we usually see a mount of earth to command some distant work of the besiegers. It was separated by a strong embattled wall and towered gate from the inner baillium, where were commonly the houses and barracks for the garrison, the chapel, stables, and hospital, and within which, or at one corner of it, in the early castles, surrounded by a ditch, stood the keep or dungeon, generally a large square tower, sometimes flanked at its angles with small turrets; this keep was to our old forts, what the citadel is to modern ones, the last retreat or redit of the garrison. (See Gore Hill, of the Eng. Army, ii. 3.) And here may be noticed, that the small remains of Oxford castle exhibit a remarkable instance of the double baillium; in the outer space stands the mound, and at no great distance from it (though without the castle precincts), the church of St. Peter in the Bailey; behind it a considerable distance flanks the ancient Norman keep, in the upper part of which, on the different sides, are round-head arches filled up with masonry, whence, as from the left retreat of the garrison, the besiegers, though in possession of the mound, might be annoyed. The Old Bailey, or outer space near Ludgate in the ancient fortification of London, has perhaps a similar etymology with St. Peter in the Bailey at Oxford.

B A L L O C K, in Geography, the name of rocks on the N. W. coast of the island of Hla.

B A L L O G I S T A N, a district of Hindostan, in the country of Delhi, bordering on the north of Mewat, and approaching by its eastern limit within twenty-four miles of Delhi. It is eighty or ninety miles long, and from thirty to forty broad. Within the present century, and more probably since the rapid decline of the Mughul empire, this territory was seized by the Balloges or Balochees, whose proper country adjoins to the western bank of the Indus, opposite to Multan. Some tribes of them are also found in Makran. They are represented as a most savage race, and appear to be very proper neighbours for the Mewatti. This territory is full of ravines, and difficult of access to invaders. It has, however, undergone the fate of its neighbours, and been successively tributary to the Rohilla chief, Nadib Dowlah; to the Iats; and Nudjaff Cawn. Westward, it borders on the Sikhs. Ren. Mem. Introd. p. 120.

B A L L O O N, in Geography, a town of France in the department of the Sarthe, and chief place of a canton, in the district of Le Mans; the place contains 3561 and the canton 15,598 inhabitants; the territory includes 162½ square kilometres and 16 communes.

B A L L O O N, in Architecture, is used for a round ball, or globe, placed at the top of a pillar, or the like, by way of acroter or crowning. That on the top of St. Peter's at Rome is of brass furnished by an iron arm within; and being at the height of sixty-seven fathoms, is above eight feet in diameter.

B A L L O O N, in Chemistry, Ballon Fr. is a large globular vessel, generally of glass, with a short neck, which is employed in a variety of chemical operations, particularly in receiving the products of distillation; in containing gasses for experiments in which heat or combustion is used; and for several other purposes. Frequently, it is made with more than one orifice. It is larger than the mattrais, has a shorter neck, and if heated on a sand bath, great care must be taken to do it gradually on account of the greater thickness of the glass. In making the glass-balloons, it is simply blown, without a burr at the bottom like the mattrais, whereas the receiver is generally fashioned at the neck, and therefore must have the same perfection at the bottom, unless it is afterwards ground off.

B A L L O O N, in French Commerce, denotes a quantity of paper, containing twenty-four reams.

B A L L O O N, Ballon, or Balle, signifies a certain quantity of glass-plates, greater or less according to their quality. The balloon of white glass contains twenty-five bundles, of six plates per bundle; but the balloon of coloured glass contains only of 12½ bundles, each bundle including three plates.

B A L L O O N also denotes a kind of game something resembling tennis.

The balloon is played in the open field, with a great round ball of double leather blown up with wind, and thus driven to and fro with the strength of a man's arm, fortified with a brace of wood.

B A L L O N, or Balloon, is more particularly used among Voyagers, for the late barges of Siam.

The balloons are a kind of brigantine, managed with oars, of very odd figures, as serpents, sea-horses, &c. but by their harpins and number of oars, of incredible swiftness. The balloons are said to be made of a single piece of timber, of uncommon length; they are raised high, and much decorated with carving at head and stern: some are gilt over, and carry 120, or even 150 rowers on each side. The oars are...
BALLS, in *Pneumatics*, a name lately given to an aeronautic machine, employed for the purpose of aerial navigation. See *Aerostation*.

BALLOON, in *Pyrotechny*. See *Balls, Fire-Works, and Pyrotechny*.

BALLOTA, in *Botany*, herbarium. Lin. g. 720. Schreb. p. 95. *Chamaedrys gymnocarpa*. Nat. Ord. *scarceae*, or *labiatae*. Gen. Char. *Cal*. perianth one-leaved, tubular, flaver-shaped, five-cornered, oblong, ten-squared, erect, permanent, equal; mouth acute, patent, plaited, five-toothed; involucre of linear leaflets under the whorls. *Cor*. monocarpous, ringent; tube cylindric, the length of the calyx; upper lip erect, ovate, entire, crenate, concave; lower trifid, obtuse; the middle segment emarginate, larger. *Stam.* filaments four, the two shorter subulate, bending towards the upper lip, and shorter than it; anthers oblong, lateral. *P. globosus*; fileiform; ligula slender, bushy. *P. albo-roseus*. Calyx unchallenged, foliaging the seeds in its bosom. *Seds* four, ovate.

Eff. Gen. Char. *Cal*. flaver-shaped, five-toothed, ten-squared. *Cor*. upper lip crenate, concave. It is observed that this genus has the involucrum of *Echinopodium*; the calyx of *marrubium*; and the corolla of *halesia*.

Species. 1. *B. nigra*, flaking or black herbarium. Smith. *Brit. Flora*. 625. Hudson 260. With 537. Eng. Bot. 46. "Leaves ovate, undivided, serrate, calyces dilated upwards, somewhat reticulated." A hairy plant with an acrid pungent smell; from two or three feet high, erect, bracted, covered with rounded hairs; leaves petioled, ovate, or subcordate, serrate; flowers numerous, in axillary whorls, pedunculated, leafy, braacted; bracts bristle-shaped, ciliate, half the length of the calyx; calyx tubular, hispid, ten-ribbed, plaited, or furrowed at the margin, obtusely five-lobed, reticulated with veins, teeth awned, spreading; corolla purple, the upper lip of which is emarginate, hairy, on the outside; the under three-lobed, beset with white veins. It is a perennial plant, common in waste places, and hedges, flowering in July. 2. *B. alba*, white flowered black herbarium. "Leaves cordate, undivided, serrate, calyces subtruncate." This Swedish plant has not yet been satisfactorily determined.


*Propagation and Culture.* The European sorts are never introduced into gardens. The third species is hardly, but the three last require the protection of a flove. They may all be increased by seeds. See Martyn's *Miller's Diet*.

BALLOTADE, or BALLOTADE, in the *Meany*, is a leap in which the horse seems as if he intended to kick out without doing it; he only offers or makes a half kick, sending only the shoes of his hind feet. Berenger farther observes, that the horses defined to these airs (croupades and balotades), ought to have a light and steady mouth, and an active and lively disposition, with clean nervous strength; for all the art and knowledge of the horseman cannot confer these qualities, which yet are essentially necessary to the perfection of this manege.

The croupades and balotades are different from curvetts, inasmuch as they are much higher behind, and consequently their time and measure not so quick and close, but flower and more extended; therefore, the rider should keep his horse's croup in air, by linking it from time to time with the foot, supporting him not quite so high before, and observing to sit with his legs, flower, and not so forward as in curvetts.

To manage the strength and vigour of the horse you intend to work upon the volts, in croupades and balotades, let the line of the volt be larger than for curvetts, and let the action of the shoulders be not quite so high; thus you will not only check and confine his activity and lightsfoot, but by raising his shoulders in a leg's degree, give liberty to his croup, and he will be enabled to furnish his air altogether, that is, before and behind better and with more ease; there is still another reason for this, when the shoulders come to the ground from too great a height, the fock alarms and disorders the mouth, and thus the horse losing the readines of his appay, he never will raise his croupe so high as he ought to make perfect balotades.

BALLOVING, a method of voting at elections, i.e., by means of little balls, which are usually of different colours, by the French called *ballotes*; which are put into a box privately.

BALITOWN, in Geography, a township of America, in Saratoga county, New York, formerly in Albany county, contained in the year 1790, 7333 inhabitants, including sixty-nine slaves. By the last census in 1796, there appear to be 266 electors in this township. It lies 36 miles N. from Albany, has a Presbyterian meeting-houfe, and is in a thriving state. The medicinal waters called "Baltown Springs," from their being situated within the limits of this town, have acquired celebrity on account of their salutary virtue, and the accommodations adjoining to them for consummaturians. The springs are found in the bottom of a valley, or excavation, forming a kind of basin, and comprehending in their extent about fifty acres. In the vicinity of the springs are several neat bathing-houses, and shower baths, for the convenience
which mentioned the building, has remarkable circumstance, must and as gives large features and particular. The Hamilton's pendant of PalTeri, another, as supplied from Fairhead, the opposite, and overhangs the sea; as observed, that it is plainly the Teutonic balustrade, an inclosure.

BALLCASTLE, a sea-port town, in the northern part of the county of Antrim, province of Ulster, Ireland, situated on the west of Fairhead, near the mouth of the little river Glenhella, and opposite to the island of Ragherly. Between this town and Fairhead are valuable collieries, in an abrupt bank which overhangs the sea; a circumstance, however, from which little advantage can be derived, as the unsheltered situation of the place, and the prevailing weary winds make a delay on the coast extremely dangerous, and render it difficult to embark the coals. As the want of capital has always been an impediment to such undertakings in Ireland, application was made to the legislature, on the discovery of the mine in 1721, for aid to work it; and 6000 pounds were granted for this purpose, as well as the large sum of 23,000L at different times for making a harbour there, and building a pier to protect it; which expense was incurred in the hope that Dublin would be a great market supplied from this colliery, and thus be rendered less dependent on the proprietors of the Cumberland mines. The pier, however, has been washed away, and the harbour so choked up with sand, that like many other publick grants in Ireland, it has been productive of little or no national benefit. By the exertions of an individual, some years ago, much coal was procured, and several manufactories were established in the town, but since his death the latter have been neglected. The collieries, however, continue to be worked, and from the last account seem to be productive, though not to the degree that was expected. The coal is laid to resemble the Scotch coal, but does not burn so well. The different foils commonly situated above it are iron-foil, black shiverly slate, grey, brown, or yellowish sand-foil, and whin-foil. The accidental discovery of an old mine in 1770, which was very extensive, and was found to be a complete gallery, branching into numerous chambers, which were drenched in a workmanlike manner, and must have been wrought by persons at least as expert in the business as the present generation, has furnished Mr. Hamilton with an argument in favour of the ancient civilization of Ireland. As no coal mine at this place is mentioned either by Boate, or by his William Petty, the latter of whom visited Ballycastle between 1660 and 1670, and is particular in his account of it; as for many centuries previous to the reign of James I., a work of this nature was not likely to have been carried on; as the cinders of fossil-coal are visible in the cement with which a caisle of great antiquity in the adjoining isle of Raggery was built; and as the tradition of the natives refers it to a very early period, he concludes that it must have been worked previously to the eighth century. This opinion seems to be strengthened by Mr. Whitaker's reasons for supposing fossil-coal to have been known to the ancient Britons. Mr. Ledwich, on the other hand, affirms, on the authority of Lombard, that coal was not discovered and used in Ireland long before A D. 1632. Near Ballycastle are two mineral springs, one of them vitriolic, and the other chalybeate. Distance from Dublin 113 Irish miles. N. Lat. 55° 17'. W. long. 6°. Hamilton's Letters on Antrim. Statutes of Ireland. Latoncave's Rambles. Ledwich's Antiquities. Beaufort's Memoirs. Rutty on Mineral Waters.

BALLYCLARE, a poll and fair town in the county of Antrim, province of Ulster, Ireland, ninety-five miles north of Dublin.

BALLYCONNEOLL, a small market and poll town of the county of Cavan, Ireland, situate sixty-seven Irish miles north-west from Dublin, on the borders of a wild and mountainous district. The peatlands are hardy and industrious, yet bitters to much depravation for want of encouragement. The women spin a good deal of wool as well as flax, and frizes are made for home use; but every thing is very narrow and contracted scale. Agriculture has lately improved, and the culture of wheat has been increased by the establishment of a good flour-mill; and there is also an excellent bleach-green near the town. The mineral treasures of this neighbourhood are, however, the most valuable. Coal is found in the adjoining mountain of Slieve-Russell, and generally dug up the side of the hill, in blocks, near the surface. No attention to this valuable concern has yet actuated the proprietors on whose estates this mineral is found in such abundance, and so easily raised. In the mountain of Ormeadillagh, both silver and lead ore are carried down the stream which flows from it. Besides these, pure sulphur is frequently found; and fuller's earth is in abundance. There is much pipe-clay also, which is found very soft, and when baked in the sun acquires a proper consistence.

BALLYCOTTON, a village on the sea-coast of the county of Cork, province of Munster, Ireland, inhabited by fishermen, and frequented for sea-bathing. It is four miles from Cloyne, and has some ruins in the neighbourhood. It gives name to a large but dangerous bay, nearly semi-circular, which is remarkable for abundance of
B A L

fine flat fish and lobsters, which are chiefly sent to Cork. There is a small island of the same name, which forms one extremity of the bay, and is almost covered, in the season, with the nets and eggs of various sea-fowl, especially puffins.

N. lat. 51° 56'. W. long. 7° 59'.

BALLYDONEGAN, a bay on the south coast of Ireland, in the county of Cork, on the south side of the entrance into Kenmare river. It has an open entrance, with a good depth of water and anchorage.

BALLYFUL, a bay in the Atlantic ocean, on the west coast of Ireland, twelve miles south-east of South Arran islands. N. lat. 52° 53'. W. long. 9° 20'. See Ballyfe.

BALLYGELLY HEAD, a cape on the east coast of Ireland, in the Irish sea. N. lat. 5° 34'. W. long. 5° 44'.

BALLYHAVEN, in Geography, lies within the entrance of Strangford haven, on the east coast of Ireland, beyond Port Ferry on the east side.

BALLYHAUNIS, a post-town, or rather village, in the county of Mayo, province of Connaught, Ireland, where are the ruins of a monastery; 100 Irish miles north-west of Dublin.

BALLYHAYES, a small town of the county of Cavan in Ireland, which has an improving market, and mills for flour and oatmeal. The market-day and the ring of the old town are arched, and built of brick. These antique and fantastical buildings shew it to have been once a place of considerable note, being remarkably furnished with all the old-fashioned ornaments to which the lords of this county were particularly attached. This town and the adjoining demesne have suffered much from a long dispute respecting the possession. Distance from Dublin 57 Irish miles north-west.

BALLYKAIA, an island on the north-west side of the sea of Azof, and near the northern extremity of it. N. lat. 46° 38'. E. long. 56° 18'.

BALLYLANY, a small island in the Atlantic ocean, near the west coast of Ireland. N. lat. 53° 23'. W. long. 10° 16'.

BALLYEIGHHEAD, or Kerry-head, the fourth point of the entrance of Shannon river.

BALLYNESS BAY, a small harbour on the north-west coast of Ireland, towards the western point, having Dunfine head for its carfia limit, and directly west from Shigo bay, and east from Broad haven.

BALLYMACHUS POINT, the western point of the entrance into Oyler-haven, without the carfia point of the entrance into Kinlafie harbour, on the south-east coast of Ireland.

BALLYMEHON, a market and post-town in the county of Longford, province of Leinster, Ireland, 53 Irish miles north-west of Dublin.

BALLYMENAI, a town of Ireland, in the county of Antrim; ten miles north of Antrim.

BALLYNAMORE, a post-town in the county of Galway, province of Connaught, Ireland, eighty-five Irish miles west of Dublin.

BALLYQUINTON POINT, a cape on the south of the county of Down in Ireland, in the Irish sea, at the eait of the entrance into Strangford lough; seven miles east of Downpatrick. N. lat. 54° 15'. W. long. 5° 20'.

BALLYNERAY CAPE, lies north-east of Ballykais island in the sea of Azof, on a peninsula. N. lat. 46° 50'. E. long. 56° 48'. It is also called Kofia Birda Sarai Kaim.

BALLYSHANNON, a town of the county of Donegal, in the province of Ulter, Ireland, situated on the river Erne, which discharges the waters of Lough Erne into the bay of Donegal, at the distance of about three miles from the sea. It is the principal town in the county, and was formerly of some consequence as a fortified place, though it presents its importance chiefly from its salmon fishery. The harbour is a barred one, but at high water is navigable for vessels of 40 or 50 tons burden up to the waterfall, where is safe anchorage for a great deal of shipping; but the bar is for some hundreds of yards so exposed to southerly storms, as to render it quite inaccessible during high winds. The salmon leap, which is near the town, has a very beautiful appearance; the fall is down a ridge of rocks about twelve feet high, and at low water forms a very picturesque object. It is one of the principal salmon leaps in Ireland, and when last rented was let for near 1100£. It has during the two last years (1802) been much more productive. There is also an eel fishery, which fails at 325l. 10s. 6d. yearly. Before the fall, in the middle of the river, is a rocky island, on which is a curving-house, instead of the turret of a ruined castle for which it seems formed. The coast of the river is very bold, consisting of perpendicular rocks with gulls of a beautiful white colour to the very edge; it projects in little promontories which grow longer as they approach the sea, and open to give a fine view of the ocean. The town is prettily situated on the rising ground on each side of the river, over which there is a bridge of fourteen arches. It has improved much within a few years, and is acquiring some degree of importance in trade, which would increase much more if a strong wall was built to shelter the entrance of the harbour. The completion of the canal which has been undertaken to join Lough Erne to the sea at Ballyhannon, would also be of material service to it. Near the town, the Rt. Hon. Thomas Conolly has established a linen manufactury, viz. twenty houses with two looms in each house, and a certain portion of land annexed to it. The Tyrhugh Farmers Society has also offered premiums for establishing a linen market at Ballyhannon. A little north of the town of Ballyhannon, on Mr. Conolly's estate, is a large bank of yellow pyrites. This town was made a corporation in 1611, and lent two members to parliament; but this privilege has been discontinued since the union. Its distance from Dublin is 101 Irish miles. Longitude 8° 2' west of Greenwich, latitude 54° 31' N. Young's Tour. Boate, Dr. Beaufort. McFarlane's Stat. Account of Donegal.

BALLYTHEIGH BAY lies round the east point of the entrance into Bannoe or Bannow bay. (See Bannow.) At the fourth end is a small island called Inch island.

BALLYVAGHAN, a bay on the westem coast of Ireland, and north part of the county of Clare, in the south part of Galway bay.

BALLYVAR, a poft and fair town in the county of Mayo, province of Connaught, Ireland, 135 Irish miles north-west of Dublin.

BALLYWATER, the mouth of the entrance into Carrickfergus bay, on the north-east coast of Ireland, and the opening of Belfast river. The name is sometimes given to the sea southward along the east coast of the peninsula, of which Stangford lough, or lake, is the west side.

BALM, in Botany. See Melissa.

Balm of Gilead. See Dragonfolium.

Balm of Balsam. See Balsam.

Balm, in Geography, a town of Germany, in the circle of Upper Saxony, and Hinder Pomerania, 17 miles S.W. of Stargard, and 17 south of Old Stettin. N. lat. 53° 8'. E. long. 14° 48'.

BALMAHA,
BALMALA, a town of Africa, in the desert of Bar-
des.

BALMAMAT, a town of Asiatic Turkey, twelve
miles west of Kavadar.

BALKMARINO, in the county of Fife, in Scotland, is
the name of a parish within whose limits is a small ham-
bou, and the remains of an abbey which bears the name of
the parish. From the former a considerable quantity of
grain is annually exported, and a salmon fishery is esta-
blished near this place in the firth of Tay. The abbey of
Balkmarino, which was founded in 1299, for monks of the
Cistercian order, has been a magnificent and extensive pile
of building; but its grandeur is nearly annihilated, and only
a few fragments remain to mark its site and character.
It is about two miles to the east of Perth.

BALMING. See Embalming.

BALMUCCA, a town of Piedmont, in the valley of
Sestia, seven miles west of Varallo.

BALTAVES, Henry, in Biography, a Scots Protestant
divine, was born in the shire of Fife in the reign of James
V., and educated in the university of St. Andrews. He fi-
milies his studies in France; and on his return to Scotland,
was admitted to the family of the earl of Arran, but dis-
mused in 1544, for embracing the Protestant religion.
Having joined in the murderers of cardinal Baxton in 1544,
he was condemned to exile, and excommunicated. During the siege
of St. Andrews, he was sent by his party to England, and
returned with a considerable supply of provisions and money;
but being compelled to surrender to the French, he was
sent with the rest of the garrison to France. After his re-
turn to Scotland, about the year 1559, he was appointed
one of the commissioners to treat with the duke of Norfolk
on the part of queen Elizabeth. In 1565, he was made
one of the lords of session; and appointed, with other
learned men, to revise the book of discipline. Knox, who
who was his fellow-labourer, gives him the character of a very
learned and pious divine. He died at Edinburgh in 1579.
His writings are "A Treatise concerning Justification," and

BALNEARIUS FAVI, in Antiquity, servants or attend-
ants belonging to the baths.

Some were appointed to heat them, called fornicatori;
others were denominated caparisi, who kept the clothes of
those that went in them; others aliptes, whose care it was
to pull off the hair; others anticlaris, who anointed and perfumed
the body.

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who was his fellow-labourer, gives him the character of a very
learned and pious divine. He died at Edinburgh in 1579.
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BALNEARIUS FAVI, a kind of thief who practiced
stealing the clothes of perfons in the baths; sometimes also
called fur balcanum.

The crime of those thieves was a kind of sacrilege; for
the hot baths were sacred: hence they were more severly
punished than common thieves, who fled out of private
houses. The latter were acquitted with paying double the
value of the thing stolen; whereas the former were pun-
mished with death.

BALNEUM, in Chemistry. See Bath.

BALNIA, Caio, in Geography, Balnez, or White
Cape, a small white cliff, about five leagues from cape Paf-
fado, nearly under the equator, on the coast of Peru, in
South America.

BALOG, a town of Hungary, twenty miles east of
Arad.

BALOHA, a town of Africa, on the river Grand, in-
habited by the descendants of a mixture of Portuguese and
Africans.

BALONGO, three islands in the bay of Bengal, near
the coast of Assam. N. lat. 19 50' 20' 5'; E. long.
93° 10' 93° 20'.

BALKONICH, in the Materia Medica of the ancients, a
name given by Avicenna, Acrabesh, and others, to a kind
of camphor, which they describe as coarse, brown, and of
a less value than the other sorts. This is probably the same
with our rough camphor, as brought over to us from the
East Indies.

BALONTE, in Geography, a people of Africa, who in-
habit the banks of the river Gaves, the channel of which di-
vides Bifo from the main land. Their territory is about
twelve leagues in length, and about as much in breadth.
The Balontes maintain no intercourse with the neighbouring
natives; either on the continent or islands; and though
they sometimes travel beyond their own limits, they will
not permit any foreign negroes to pass their frontiers. Their
religion is idolatrous, and their form of government an arbi-
tracy. They allow of no slavery; they are bold, intrepid,
and warlike; but crafty, treacherous, and fraudulent.
Their arms are affagayes, arrows, and sabres. The Bal-
ontes are suppos'd to have gold mines in their country; and
under this idea the Portugueze assembled a large body of
troops at Bifo in 1695, and invaded the country. But
the rain of the season rendered their arms and ammunition
useless; and the Balontes attacked them with this disad-
antage so vigorously, with their affagayes and sabers, as
soon to rout them and force them to retire with a con-
derable loss of men, and of all their ammunition and florins.

BALOU, a town of Asia, in Armenia, twenty-five miles
northwest of Cars.

BALQUHIDDER is a parish in Perthshire, in the
highlands of Scotland, and is noted for its mountainous
scenery. Some of the mountains are very high and steep;
and among them, those of Benmore and Beauford are the
most lofty and conspicuous; the fir trees rising to the height of
3003 feet above the level of the sea, and the latter to
that of 3300 feet. In this parish is a considerable extent of
the ancient Caledonian forest; but it is annually abridged
by the inclining system, which has at length found its way
into these northern regions. Here are also several lakes
or lochs, of which the principal are those of Lochdine,
Lochvole, part of Lochlubuaig, and part of Lochearn.
The military road from Stirling to Fort William passes
through this parish. The great inequality of ground pre-
vents the farmers from appropriating any of their lands
to arable; and the pastures on the sides of the hills is
chiefly fed by sheep.

BALS, a river of Greenland, which runs into the sea.
N. lat. 64° 30'; W. long. 50° 10'.

BALS, in Ancient Geography, Tavira, a town of His-
pania, in Lucania; belonging, according to Ptolemy, to
the Turdetani. It was in the part called Cuneus, near the
sea, and not far from Anus to the west.—Alfo, a burgh
of the interior of Africa, reckoned by Pliny among the
conquests of Cornelius Balbus.

BALSAM, in Chemistry and Medicine, βαλσαμος. Gr.;
baljum, baljaum. Lat.; besam, Fr. Various meanings
have been affixed to this term, which it is of some impor-
tance to dilinegual, as the chief of natural baljsms have been
described from the earliest ages as sort of the most valuable
productions of the vegetable kingdom, have formed the
most precious articles of commerce in the East; and have
been used for medicinal purposes, and about the human
body, as long as the art of medicine and the practice of adorning
the person have been cultivated.

The term baljs appears to have been originally confined
3 X 2
to a certain fragrant viscid juice exuding from a tree in Arabia and Egypt, and now denominated the balm of Mecca, or Opobalsamum. Hence it was extended to other productions of the same nature; and we may define the true meaning of a balm to be a fragrant, oily, viscid, inflammable juice, exuding from various trees and plants, not soluble in water, incapable of putrefaction, and possessed of the power of preventing animal nature from spontaneous change for a considerable length of time. This latter property has given rise to the term embalming or balsamization of bodies, so universally practiced among the Egyptians.

Balsams are generally more or less acid to the taste, particularly after having been for some time chewed in the mouth. They have the strongest affinity to Resins, from which they seem to differ only in containing a larger proportion of essential oil, so that if any of the liquid balsams (turpentine for example) be distilled per se with a gentle heat, an oil rises in considerable quantity, and the residuum is a substance now dry and brittle, scarcely in any respect different from a resin.

Of late years a distinction has been made, and admitted into the French nomenclature, between balsams and resins, in the circumstances of the former containing a portion of the Benzol acid, which considerably adds to the penetrating fragrance of these substances, especially when warmed, and may be expelled from them by a gentle heat. This distinction was proposed by Bucquet, and has since been very generally adopted. We cannot however allow of its propriety, since it would confine the term to a very small number of substances, even to the exclusion of the original balm of Mecca and many others to which the term has long been appropriated; and it would extend to the solid and brittle gum benzoin contrary to the quality of unitaediae or vifidity which has always been considered as essential to a balm, so much that even the solution of sulphur in oil has on this account been termed a balm.

Balsams are natural or artificial. The latter are compositions exclusively belonging to pharmacy, and generally composed of essential oils, resins, and aromatics brought to the confidence of a balm, sometimes by oil, sometimes by ardent spirit. These preparations are so numerous and complex, that we shall only mention a few of the most celebrated; but first we shall notice the natural.

§ 1. Natural Balsams.

Balsamum Mecca.—B. Opobalsamum.—B. Gilandafe.—B. Judasim.—B. Syriacum.—The genuine opbalsam or balm of Mecca.

This celebrated balm has preferred almost from time immemorial the high value in which it has been invariably held by the civilized nations. This indeed is partly owing to the exclusive spirit of oriental depohtism, which prevents this precious drug from entering the common markets; so that all our knowledge of its properties is derived either from report, or from the rare opportunities which individuals have enjoyed of possessing a specimen of it.

The tree that yields it is the Amris, of which there appear to be several species, all of them fragrant and balsamic. It is commonly obtained by incisions; the opbalsamum being prepared from the wood, and the carpobalsamum from the fruit. It is chiefly cultivated in Arabia, in the interior of the country, between Mecca and Medina. According to Bruce, when fresh from the tree, the balm is of a light yellow colour, a little turbid. It presently grows clear and yellow like honey, which deepens by age. Its smell is exquisitely fragrant and very pungent, giving a sensation like that of volatile fumes. This remains for years if the balm is kept carefully corked. The taste is bitter, acid, aromatic, and astringent.

The quantity yielded by one tree is very small, seldom more than about a dram daily, which alone must render it an expensive article; but in all probability it might be obtained without much difficulty by European planters, if it was likely to repay the expense. On pouring a drop of this balm on a glass of cold water, it spreads itself over the surface in a thin pellicle, which may afterwards be taken off by a pin, whilst the water becomes strongly impregnated with the scent and flavour of the balm. This is generally mentioned as a test of the genuineness of this article, but it is entirely fallacious, for when long kept the true balm will not exhibit this appearance, and many of the other thin balsams will show it with as much ease as the opobalsamum. When rubbed with water it becomes milky, and is resolved into a mass resembling hard in appearance. On adding more water it separates altogether, and floats at the top. Spirit of wine highly rectified divolves this balm without much difficulty; on adding water, the whole becomes milky. It is also soluble in the expressed and the essential oils. If a solution in olive oil is mixed with water very gradually, it forms a kind of pomade.

This costly balm is in the highest esteem among the Turks and other Eastern nations both as a medicine and a cosmetic. The Turks take it in the dose of a few drops to fortify the blood and excite the animal powers; externally it is used as a vulnerary. It may readily be imagined that the oriental spirit of exaggeration should have extolled the superior virtues of this admired balm; but fair experiments on its medicinal properties are still wanting; nor is it probable that it would be found to exceed the other balsams in this respect, so much as it does in fragrance and scent. The Mecca balm is also employed at Constantinople as a cosmetic in the fergalbo, according to the testimony of lady Wortley Montague. Under what form it is used does not appear, but its acrimony is such as to irritate the skin very considerably when rubbed on the face unmixed, as the fame eminent lady experienced on her own person. It is scarcely necessary to add that the substance sometimes foil in the shops for balm of Mecca, and at no great price, must be a mixed and adulterated compound in no degree to be depended on as the true opobalsamum.

The dried berries of this tree were formerly kept in the floors, and sold, as well as the balm, carbonbalsamum; and the dried twigs, xylobalsamum.

Balsamum Coparnum.—B. Copalize.—B. Brasilense.—Copalum or Coprini Balmum.

This balm, one of the most active and valuable for medicine, is obtained from the Copalifera officinalis, Linnaeus a tall and elegant tree growing in Brazil and several other parts of South America. To procure it, several incisions or sometimes a groove is made near the ground penetrating through the bark into the fulness of the wood, when the balm flows out in such abundance, that sometimes in three hours twelve pounds have been obtained.

This balm is colourless when flowing from the tree; after a while it becomes an amber yellow, and considerably viscid, but retains its transparency; it is never known to become perfectly solid. The smell of copri balm is fragrant and powerful; to the taste it is bitterish, heating, aromatic, and permanent on the tongue; it rhymes paper as oil does. It is nearly insoluble in water; but on being long rubbed with it, a kind of milky emulsion is produced, from which however the balm soon separates and rises to the top. It is readily soluble in fixed and volatile oils, and in
The spirit of wine: the latter makes a very strong penetrating tincture. Dilution readily separates the balsam into an oil which has all the volatile properties of the capivi, and into an aqueous part. If carefully distilled with water, from a fifth to half the weight of oil is obtained, which is slightly fragrant and nearly colorless. The residue is a resin, at first green, afterwards growing yellow, and brittle, soluble in alcohol, but not in water. The water with which the balsam has been distilled becomes slightly impregnated with the odour and flavour of the capivi. Diluted per 5, or mixed with water and subjected to a strong heat, the oil which rises at first fragrant and clear, afterwards bluish, thick, empyreumatic, but not unpleasant to the smell.

The capivi balsam is unquestionably an active substance when taken into the stomach; and its medicinal virtues, though perhaps over-rated, are however very considerable. Like turpentine, it determines powerfully to the kidneys, and impregnates the urine with its qualities, and has therefore been supposed to cure diseases of these organs. As its effluvia, however, are heating and rectifying, it is capable of producing much mischief as well as good, and its use is now chiefly confined to the cure of gleet and gonorrhoea. It is also serviceable in certain states of hemorrhois and diseases of the rectum, a fact which may well be credited, when it is considered of what acrid materials the celebrated Ward's paste is composed. In pulmonary affections it has been used fricte as a vulnerary or balsam, but it is too apt to produce or increase the general fever, and can seldom be employed with safety in these cases. The usual dose of this balsam is about twenty drops, but it is so viscid that this method of division cannot be adopted till it is warmed. The best form of exhibition is triturated with yolk of egg, almonds or mushilage, and thus united with water into an emulsion. This balsam is easily diffused with the thinner turpentine or with oils, and the detection of this fraud is often difficult on account of the potency of the smell and taste of the capivi, which covers almost every other.

Balfam Peruvianum exudes from a large tree growing in Peru, Mexico, Brasil, and other parts of America. See Druoxylon Peruvianum.

There are two species of the Peruvian balsam, the white and the brown: the white balsam is very rarely met with in the shops. It is procured by incision of the bark, but very sparingly, and it soon concretifies into a fragment brittle resin, which is brought over in gourd shells. It is also called the white syrop. It is less hot and more fragrant than the black balsam, and more approaches to the properties of syrop.

The common Peruvian balsam is of a dark colour approaching to black; the smell highly fragrant; the taste aromatic, rather bitter, and considererably acid; the confidence always thick and viscid. Dropt into water, it sinks to the bottom, and refines to mix with it: but by agitation gives it a fragrant smell and somewhat of the sensible properties of the balsam. It dissolves readily in spirit of wine. When mixed with the fixed oils and heated, it is decomposed; its essential oily ingredient, which gave it fluidity, is absorbed by the expressed oil, and a thick tenacious resin remains, which gradually becomes solid in the air. In this insolubility in fixed oils it remarkably differs from the other balsams, nor does it readily mingle with the other balsams. Diluted with water, it gives about a sixteenth of an essential fragrant reddish oil, very sparingly soluble in alcohol. Dilution per 5 gives a similar oil, but empyreumatic, by regulated heat a small quantity of benzoic acid may be sublimed out of this balsam.

Peruvian balsam is one of the most stimulant of all this species of substancess, and is therefore applied with advantage in several diseases. It is also particularly recommended as an external application, where a warm stimulant is required. A tincture is made by distilling the Toluiferia (Tinctura balsami Peruvian, Ph. Linn.), and it enters into several of the artificial or compound balsamic preparations. The dose of this balsam is from two to twelve grains, and it may be given in the form of an emulsion mixed with water through the medium of yolks of egg. Aloeic and warm cordial pills are conveniently made up with this balsam, and their virtue is somewhat increased by it.

Beauv. asserts that it is sometimes purified by the second oil that rises from gum benzoic in distillation, cajetted upon poplar boughs, which have a light terebinthous odour, and afterwards mixed with a little of the true balsam. The comparatively low price of the genuine balsam, however, would seem to render this fabrication scarcely worth the trouble. "Balfam Peruvianum Tolutani," a tree which grows in the province of Tolui, in Spanish America, behind Carthagena. The balsam is obtained by making incisions on the bark of the tree, and is brought over in small gourd shells. This balsam is of a reddish yellow colour, and pellucid; its confidence when fresh is extremely tenacious, but by age it becomes brittle; but in hot weather, pieces of this balsam generally coalesce and adhere to the bottom of any vessel in which it is kept. The smell of this balsam is extremely fragrant and grateful: it has but little taste; when chewed, it sticks to the teeth, and appears almost insoluble in the saliva, but gives a gentle aromatic warmth to the tongue. The Tolui balsam is one of those that contain a notable proportion of the benzoic acid, and is therefore fricte a balsam according to the modern acceptation, and probably owing to the presence of this acid, it readily imparts its flavour to watery liquids, though it appears to be scarcely at all soluble in this fluid. Eight ounces of this balsam boiled for two hours in a close vessel in three pints of water make a very fragrant decoction, which, when mixed with the requisite quantity of sugar, forms the perfura Tolutuni, Ph. Linn. In the Edin-burgh Pharmacopoea, the syrup is formed by the admixture of two pounds of simple syrup recently prepared and not yet cold, with one ounce of the tincture of Tolui.

This balsam is perfectly soluble in spirit of wine. The tinctura Tolutani, Ph. Ed. and tinctura balsami Tolutani Ph. Linn. are prepared by distilling an ounce and a half of Tolui balsam in a pint of rectified spirit of wine. It is easily soluble in the essential oils, but with difficulty in the fixed. By distillation per 5, the sublimed benzoic acid is first given out in a very gentle heat, together with a fragrant empyreumatic oil. On account of the benzoic acid, this balsam burns with a remarkably aromatic penetrating smoke; and was often an ingredient in those fumigations which were formerly so much employed either with a view of purifying an infected atmosphere, or for diffusing a grateful scent. When taken medicinally, either the tincture is employed, or the balsam is united with water by egg or mucilage. Its powers are gently stimulating; but it appears altogether a trailing article of the Materi Medica, except on account of its odour. It is given with more security in pulmonary complaints than the other balsams; and it appears to have some effect in checking or diminishing the excessively offensive fumes of the breath of persons suffering under ulceration of the lungs.

Balfamum
Balfumum Ratiafa is a balm described by Murray (App. Med.), which Spielman relates to be brought from India. In confidence, and other flable properties, it much resembles the Tolu balm, but appears to be weaker. Its origin is unknown, and it is supposed to be fictitious. It is seldom seen, and never used.

Balfumum Carpathicurn, Carpathian or Hungarian balm, Krumbhobenzum, Ger.; called also balfumum Libani. This fine balm is procured from the pineus Mugho and the pineus Ambra, which grow abundantly on the Carpathian mountains, the Tyrol, and many parts of Hungary, Germany, and Switzerland. The balm is esteemed by the common people as a foreign remedy for almost every disorder, external and internal. The Olicum Tempurium, or Krumbhobenzum, is an oil of turpentine prepared by distilling this balm, and is in equal repute. For a further description of this and all of the turpentines, which are truly and properly balms in the usual meaning of the term, see the articles Pinus, and Turpentum, particularly the latter, under which we mean to include most of the resins products of the different species of fir.

Balfumum Canadiane, a very fine fragrant and powerful Turpentine, procured from the Pinus balfumum, the Virginian or Canada fir.

Balfumum Styax, Roxor, or liquid amber. See StyraX.

§ 2. Artificial Balmum.

These are preparations of the Materia Medica formerly in much repute, and compounded of a vast variety of resiny and aromatic drugs, the whole brought to a strong confidence, so as to resemble the natural balms. They are but little employed at present. Any preparation in which oil was so thickened as to be brought to a treacle confidence, was termed, in the older Pharmacopoeias, a balm, and many of these species were equally used as external and internal applications. We shall only mention a few of these preparations.

Balfumum Loretalli.—Of the former London and Edin-

burgh Pharmacopoeias. In the former, it was prepared by melting half a pound of yellow wax with about half a pint of oil, the remainder another half pint of oil, with half a pound of Strauburg turpentine, and when nearly cold, stirring in six drams of red saunders wood to colour the whole. In the latter, instead of the red saunders, balmum of Peru and powdered dragon's blood were added to the melted wax, oil, and turpentine. Another variety of this preparation used in the Paris Pharmacopoeia, is to employ wax, olive oil, white wine (which was evaporated off the wax and oil), turpentine, saunders wood, and Peruvian balmum.

Balfumum Commendat in, Baume de Commandeur.—Balm

of Roxor.—Watt's Balmum.—Jeftine Drops, or Friar's Balmum. Under all these appellations, and with some variation in the ingredients, was this celebrated balmum known and prepared. In the Paris receipt, a tincture is first made of angelica root and the flowers of hypericum in Spirit of wine; in this are diffolved myrrh, aloes, cinnabaumaloe, horax, benzoia, Peruvian balmum, and ambergis. The whole makes a thick, fragrant, and highly stimulating liquid; which is used either internally as a cordial and supported vulnerary, or externally to promote the evacuation of wounds. A judicious reform of this balm is retained by the London and Edinburgh colleges, under the name of—

Balfumum Traumaticum, or Inflata Ruscum Composita. This is prepared by diffusing three ounces of benzoin, two ounces of Roxor, one ounce of balmum of Tolu, and half an ounce of aloes, in two pints of rectified spirit of wine. The Edinburgh college omits the florax.

Balfumum Vio, Bebeun de Vio. This powerful medicine was prepared by Hoffman, under which name it went. It consists of a solution of several effential oils, and a small portion of Peruvian balmum, highly rectified spirit of wine. It is extremely fragrant and stimulating, and is employed almost entirely as an internal medicine in languages, fits, violent colic, and other cases that require a sudden and powerful stimulant. The ingredients in the Brandenburg pharmacopeia, adopted as an improvement of Hoffman's balmum of life, are the effential oils of lavender, nutmegs, cloves, rhodium, wild thyme, cinnamon, lemon, bergamot, and balmum of Peru, dissolved in spirit of lavender. The present laudable custom of simplifying the pharmaceutical preparations, would probably diminish the number of these effential oils which appears to be quite arbitrary.

A mixture of eight ounces of vitriolic acid and two ounces of olive oil forms the—

Balfumum Arsuriicurn, a very powerful external application, in which the volatile power of the vitriolic is moderated, but it requires to be used with great caution. In preparing it, the acid must be added very gradually to the oil with constant agitation, otherwise part of the oil will be charred and reduced to a hard black mass. When well prepared, it is of a very dark brown colour, and an uniform balmsic confidence.

The list of the artificial balms of which we shall mention, are the combinations of sulphur with oil.

Balfumum Sulpharius, or Olicum Sulphatum; Ph. Lond., and Edin. prepared by melting in an iron pot flowers of sulphur, with four, or with eight times the weight of olive oil.

The result is a thick, fetid, tenacious balmum.

Petroleum Sulphuratum is prepared the same way, only with the use of petroleum, instead of oil.

Balfumum Sulpharum Terchinhianum, B.S. Aritosum, which are now nearly diffused, were prepared by digelling the sulphur in oil of turpentine, in glasses sealed on a fixed heat, and in the latter cafe, also adding oil of anise feed. Oil of turpentine readily dissolves the sulphur, and with vehement force when in quantities, so that this preparation should be made in a very large manner. All the sulphur balms differ from the other balms, in having a very offensive smell and taste. They are hot and irritating, and their internal use is very limited. Externally, the thick sulphur balm is used in farriery.

Balsam Append, Male, in Botany. See Momordica.

Balsam Brev, in Geography, lies on the west side of Old Cape Frances, and on the north side of the island of Hfipam, or St. Domingo, in the West Indies. N. lat. 19° 42'. W. long. 66° 35'. See Baume.

Balsamation. See Embalming.

Balsamalcum, in the Materia Medica, a name given by some authors to the balm of Gilead, or true balmsic Judicium.

Balsamics, in Medicine. Before we conclude the article of balms, it may be proper to make a few observations on their use in medicine. Of the properties which have been attributed to the internal use of all balms, none is more ancient, and commonly prevalent than that of heating or vulnerary. This idea appears to have arisen from the observations of their use, when externally applied to a recent wound. If a gash is made in the hand with a clean cutting knife, and the parts are brought together and bound up with a rag dipped in any balmum, and left undisturbed for some days,
it is a matter of common remark, that the wound will generally heal without any suppuration, by simple union of the divided parts. However, it is highly probable that the balsam acts, in this case, principally as a cement to keep the divided lips in more complete re-union, and to exclude the external air; for the same application to the surface of an open lacerated wound, is known by every surgeon frequently to bring about complete and perfect union, and never in the danger of any extensive suppuration or gangrene. The natural balsams are more mild than others, but all have a certain degree of acrimony, which renders their indiscriminate use in injuries of the body extremely hazardous; though under due management they may be of essential service. But scarcely a single circumstance which recommends their external use, can apply to internal ulceration or rupture of vessels. The healing power depends chiefly on the mode of application, the degree of topical stimuli, and probably the exclusion of external air; and hence, the value which has been set on balsams as internal vulneraries is entirely lost. A languid indolent ulcer in the kidney might perhaps be assisted by local fumulating remedies, but when the remedy must act on the humor or humour itself, the vessels must be made to take with and diluted by the common circulating fluid, the remedy is no longer local, and the irritation which it produces, is either counteracted during the circulation, or is equally diffused over the whole system. Balsams, therefore, though they be by no means to be despised, are no longer viewed with that degree of partiality which the older physicians entertained for them, and repeated experience has shown them to be sometimes absolutely useless, and often positively detrimental in internal ulceration of the kidneys, kidney, or other discharges for which they have been long celebrated.

BALSAMINA, or Balsam, in Botany. See Impatiens.

BALSAMITA. See Achilles, Chrysanthemum, and Tanacetum.

Balsamita, in Materia Medica. See Tanacetum.

Balsamita, in Entomology, a species of Aphis, that feeds on the tanacetum balsam. Müll. Zool. Dan.—The general colour is black; abdomen green; eyes red.

Balsamon, Theodore, in Biography, an eminent master of the canon law, flourished in the Greek church towards the close of the twelfth century. He was appointed guardian of the laws and records, i.e. Nomophylax and Charetophylax, of the church of Constantinople; and he was nominated by the Greek church to the patriarchate of Antioch; but this see being feigned by the Latin, never came into his possession. By the emperor Isaac Angelus Comnenus he was flattered, for serving his own purposes in favour of Dositheus, with the hope of being advanced to the patriarchate of Constantinople; and thus seduced, he maintained, in the assembly of the prelates, that the translation of the patriarch of Jerusalem to this elevated station, was agreeable to the canon law, and the prelates acquiesced in his opinion. But after this exercise of ingenuity and violation of consciences, he was deceived and disappointed; for Dositheus was preferred, upon the authority of his decision. Balsamon wrote several learned works on canon law; particularly 'Commentaries on the Apostoical Canons, the General and Particular Councils, and the Canonical Letters of the Greek Fathers.' Printed in folio, in Greek and Latin, at Paris, in 1620; and in two volumes folio, in 'Beverege's Pandects of Canons,' printed at Oxford in 1672. He also wrote a 'Collection of Ecclesiastical Constitutions, which may be found in Greek and Latin in 'Juxta Bibliae Canonica,' and other learned works. Fabr. Bibl. Greec. t. v. p. 33. t. ix. p. 184. t. x. p. 47. t. xii. p. 403, &c.

BALSANO, in Geography, a town of Italy, in the kingdom of Naples, and province of Dari; seven miles south of Dari.

BALSAS, a town of South America, in Peru, in the jurisdiction of Catamarc near the river Maragnon.

BALSAS, in Navigation. See Catamaran.

Balsey Cliff, in Geography. See Bawdsey.

Balsham, Hugh de, in Biography, an English divine, bishop of Ely, and founder of St. Peter's College, or Peterhouse, in Cambridge, was born, probably, at Balsam in Cambridgeshire, towards the beginning of the thirteenth century. In 1247, he was nominated by the monks of the Benedictine monastery of Ely, of which he was sub-prior, to the see of Ely; but Henry III. refused to confirm the nomination. Balsam appealed to the pope, and the business remained for ten years undecided. At last, however, the pope and monks prevailed. When the prelate was seated in his see, he projected the laudable design of providing education for poor scholars, and instituted a college, since known by the name of Peterhouse. He died at Dodington, in 1286, and was buried in the cathedral church of Ely. By his will he left many books to his scholars, and 300 marks for erecting new buildings. By an instrument, dated in 1291, his foundation was annually celebrated in his college. The distinction of jurisdiction between the chancellor of the university of Cambridge, and the archdeacon of Ely, was settled in 1276 by this prelate. B. Brit.

Balsio, in Ancient Geography, a town of Spain, twenty miles from Tarifia, near the Iberus, and south-east of Calagurris.

Balsora, in Geography. See Bassora.

Baltagi, among the Turks, porters, and vendors of wood, in the court of the grand signior; who also mounted on horsethback, when the emperor rides out. Part of them also, who for that purpose must be castrated, keep watch at the gates of the first and second courts of the seraglio. These last are called capigi, and their commander capigi prisci.

Baltas, in Geography, a town of Courland, 20 miles east of Seeburg.

Baltazarini, in Biography, an Italian performer on the violin, who seems first to have brought that instrument into favour at the court of France, before any honourable mention is made of it elsewhere in that kingdom. He was sent, 1577, at the head of a band of violin players from Piedmont, by marshal Brilhac, to Catharine de Medicis, and appointed by that princess her first valet de chambre, and superintendent of her music. The violin, however, seems to have been well known and in general use in Italy at this time, as Montagne, who was at Verona in 1560, says that there were organs and violins to accompany the mass in the great church. Journ. du Voyage. Baltazarini having contributed greatly to the amelioration of the royal family and nobility, by his ingenuity in suggesting magnificent plans, machinery and decorations, for ballets, divertisments, and other dramatic representations, received the quaint title of de Beaubourg. See Balet de la Royne.

Baltichatsko, a town of Siberia, 48 miles east of Kazanokirk.

Balteatus, in Entomology, a species of Cime (Spingius) that inhabits South America. It is oblong, ter-ribulous, with a transverse yellow line, and many teeth on the hinder thighs. Fabricius. Meielin.
BAL

BALTEATUS, a species of Elater, of a black colour; anterior half of the wing-cases rufous. Linn. Fl. Suec. A native of Europe.

BALTELUK, in Geography, a town of European Turkey, in the province of Bulgaria, twelve miles north-east of Varna.

BALTEUS, in Entomology, a species of Cerambyx, that inhabits Lusitania. The thorax is spiny; body ferruginous; abdomen ovate; wing-cases with a blackish band. Linnæus.

BALTHAZAR, Anthony, in Biography, surgeon at Leyden, published in 1722, "Pathologia Chirurgica," &c. 8vo. in which are some judicious observations on hernia congenites, and on wounds of the cerebellum, which he does not consider as mortal. He mentions a hernia of the brain, reaching from the occiput to the shoulder, and perforating living to an adult age, who were born with spina bifida. True schizura are not curable, he maintains, by internal medicines. The work has considerable merit; of the author, however, we have no particular account. Haller Bib. Chirurg.

BALTHAZAR, Christopher, a learned French Protestant, was born about the year 1588, at Villeneuve-lez-Paris, and though educated in the Roman church, induced by the study of ecclesiastical history to embrace the reformed religion, in order to account of this change in his religious profession, he was obliged to abandon the lucrative post of advocate to the prelate of Auxerre, and to remove to Charenton, at a distance from his relations and friends, where he was publicly received among the Protestants. He was afterwards patronized by a wealthy young councillor of Caîres, who, as an acknowledgment for the benefit of his instructions, allowed him a liberal pension. But attached to the Protestant cause, and desirous of promoting it, he left the house of his patron, and devoted himself to writing. His talents and zeal attracted the notice of the reformed party, and in 1659, the national synod of London granted him a pension of 750 livres. In his dissertations on the subjects in dispute between the Catholics and Protestants, he particularly opposed cardinal Baronius, and his papers having been read and approved by M. Daille, moderator of the synod of London, were ordered for publication. But being returned to their author, who soon after died, they were probably suppressed by him on account of the defect of their style, as they could not be found. In his animadversions on the animal Baronius, he is said to have been offensive to his style, that he was not able to finish a single page of his work in a day. Of his Latinity, a favourable specimen may be seen in his "Panegyric on M. Fouquet," printed in 1610. He also wrote in French "A Treatise on the Usurpation of the Kings of Spain upon the Crown of France," 8vo. Paris, 1626, and another tract upon the same subject, published in 1657. Gen. Dict.

BALTHEIS, Orinis, belt of Orion, in Astronomy, a part of the constellation of Orion, consisting of three bright stars of the second magnitude, placed nearly in a right line in Orion's girdle.

BALTHICA, in Genethalogy, a species of Tellins that inhabits the Baltic sea. This shell is roundish, smooth, white, or white tinged, Linn. Fl. Suec. It is found along the shore of a horbe-bean, and very rarely larger; extremely thin, pellucid, brittle, and white within. Chemitz, &c.

BALTHICA, a species of Helix found on the shores of the Baltic sea. The shell is imperforated, ovate, and pointed; with elevated wrinkle; aperture ovate, and very ample. Linn. Fl. Suec. This animal is black, with two tentacles; shell pellucid, and with four whorls.

BALTHICUS, a species of Nautilus, of the smaller kind, that is found adhering to the rocks of ice. This shell is sometimes opaque, sometimes opalescent, brightly pellucid; and the wreaths either smooth, twisted, ribbed, or tuberculated. It is specifically distinguished by being white, convex, aperture linear, and the first wreath much larger than the others. Schröck.

BALTIC, or EAST-SEA, anciently called Variaiffco mori, or the sea of the Varags or Varagians, in Geography, lies westward of Ruflia. Ptolemy calls it Venedicus sinus; Tacitus, mare Suevicum; and Phīs speaks of it under the name of Codanus sinus. The Russians denominate it Bätiskoi morę; the Germans the Oder-see; and the Swedes Oder-loon. That part of it which washes the coasts of the governments of St. Petersburg, Reval, and Vyborg, is called the gulf of Finland, which is above four hundred versts in length, and from a hundred to three hundred and twenty broad; the part extending between the governments of Riga and the island Efel, is called the gulf of Riga. The chief harbours in the Baltic are, Riga or Dinamoarte, Reval, Pernau, Habfoll, Rogervy, now called Baltic-port, Peterburg or Cronstadt, Vyborg, Frederickshamm, and Arenberg in the isle of Efel. The principal islands in this sea are, Ruigen, Bornholm, Oland, Gotland, Efel, Dago, Fälßter, Môn, Seylars, Penifari, Lanzarid, Peterstam, Hochland, Cronstadt. There are great fisheries in these parts, and numbers of seals are taken; but more considerable is the navigation; as it may be computed that every year upwards of two thousand ships of burden pass to and from the Russian ports alone. Much skill and caution are requisite for navigating this sea, and especially the gulf of Finland, both on account of the heavy squalls and gales of wind frequent here, and the multitude of rocks and shelves with which these seas abound. The water is only brackish, and has a very perceptible current, so that in northerly winds it is almost fresh to the tale. It is afforted, on very good foundation, that the water of the Baltic is every year decreasing; indeed, by repeated observations made in Sweden, it is found to subside at the rate of forty-five inches every hundred years. Mr. Otto (ubi infra) is of opinion, that nothing certain can be determined upon this point. Since the time when the Baltic was confined within its present boundaries, the decrease and increase of its water are, as he conceives, merely apparent; and it may have happened from various causes, that kind may have been gained in one quarter and lost in another. Large rivers, which flow with great rapidity, may, for example, have carried with them into the sea a great deal of earth and sand, by which the beds at their mouths may have been raised, and the banks extended towards the sea. The Baltic has Denmark on the south, Sweden to the west, Lapland to the north, and to the east Bothnia, Finland, Livonia, Ingría, Courland, and a part of Poland. It communicates with the Cattegatte to the south by the Sound, the great and the lesser Belt. At Pillau and Memel it communicates with two large lakes, the Frich Haff and Curich Haff, both of which contain fresh water. The waves of the Baltic are less high than in the ocean, but they succeed one another in greater number and with more impetuosity, and thus are more harassing to the ships. In its agitation it deposits amber on the shores of Courland and Prussia. It appears from Tacitus (De Moribus German, c. 44. 55) that the knowledge which the Romans acquired of the maritime powers of the Baltic was obtained by their land journies in search of amber. The Baltic is liable to be frozen for about three months in the year, which may probably be in part owing to the freethes
of its water, which again may be occasioned by the numerous rivers that flow into it. The number of these which directly or indirectly empty themselves into this sea, amount, according to Buffon, to 421, and among these the Oxer, the Vistula, &c., are the most considerable. We are afforded by history, that this sea has been sometimes totally frozen during severe cold. This was the case in 1533, at which time people could travel on the ice from Lubec to Prussia and Denmark; and on this occasion tents were erected in different places for the accommodation of travellers. A similar phenomenon occurred in 1559, and in 1523; and in 1423, people could walk and ride over the sea in a straight line from Helgoland to Lubec. Journeys of this kind were undertaken, six years after, not only from Prussia to Helgoland, but also from Mecklenburg to Denmark; and this was done likewise in 1559. The fisheries of the year 1709, and also of 1715, were also very remarkable. The depth of the Baltic, in most places, never exceeds 30 fathoms. In some few places of the gulf of Bothnia no bottom is to be found; but in others, quite near, the depth is not more than 50 fathoms.

It has been observed, that the water in the Baltic is colder even in the hottest summers than that of the other seas. The Baltic has no tides, or is not subject to a regular ebbing and flowing, as it is surrounded by land, and is united with the North sea only by the Sound and the two Belts; which circumstance has given occasion to its being called the inactive sea, or "Mare pigmentum." During a long continuance of the west wind its natural efflux is prevented, and a considerable quantity of water is forced into it from the North sea; so that it then rises on the coasts a little above its usual level. This connection, however, with the German ocean is sometimes the cause that the ebbing and flowing of the latter, though weak, co-operates with the Baltic; to those traces of their effects may be perceived. See Physical Observations on the East or Baltic Sea, by F. W. Otto, from "Abh. einer Naturgeschichte des Meeres, Berlin, 1792 and 1794, 2 vols. 8vo."

**Baltic Port, formerly called Rogervyk, was raised to a circle town in 1783, and one of the five districts of the government of Reval, or Estonia, according to the geographical division of the Russian empire in 1782 and 1783. Situate in a bay on the Baltic, in the government of Reval, lat. 59° 22'. long. 41° 51' 3". It has 110 timber houses, 211 inhabitants, and a brick church. This harbour has been greatly improved of late by art. Its trade arises from the fisheries, &c. but it has few or no manufactories.**

**Baltic Fishery and Commerce.** A considerable fishery is carried on along the coasts of the Baltic. The gulf of Riga and of Finland contain generally the same species of fish, and the employment which the produce of both occasion is nearly equal. The naturalist of Livonia (Fischer) enumerates in the waters belonging to that province forty-nine different species of fish, among which the salmon, herrings, pike, and lampreys, if not for home consumption, yet for exportation, are the most important. The salmon is caught in almost all the rivers, but those in the Dvina and the Narova are the best, though they come far behind those of Archangel in delicacy and plumpness; they are exported smoked and salted. The herrings, a degenerate species of herring, are everywhere found on the shores of the Baltic, but especially about Pernau, where they are in such quantities, that 300 of these small fish are bought for three or five kopecks; a ton of them when salted costs from three to five rubles. Formerly they were exported; but the northern herrings have annihilated this branch of commerce, which are at present even bought by Livonia, the herrings being not sufficient for the home and the foreign consumption. Yet influences are not wanting of 500,000 of them having been taken at one successful draught. One species of fish quite peculiar to these waters is the kylio, or smaller and more delicate variety of the true salmon, caught in great numbers in autumn near Reval and Rorevik. They are picked, and form a good substitute for anchovies and sardelles, and are accordingly, thus prepared, sent abroad to various parts. Not least exquisite are the potted lampreys that come particularly from Narva. The greatest part of the gulf of Finland consists of islands, salmon, and carp; even Tartars are found in the gulf of Cronstadt, and likewise at times in the Neva. Of the smaller sorts of fish with which the government of Vyborg is provided to a great extent, an exceedingly great quantity is brought alive in pierced vessels to St. Petersburg, and there sold cheap at the water-side in the barks which form a sort of fish market, and others that lie in various parts of the canals. In winter the transport of frozen fish from the remotest parts of the empire is also very considerable. The Russian commerce, in all the ports, which may be generally termed the Baltic trade, as it is stated by Mr. Tooke, from Hermann and Taube, amounted in 1790 to a sum of 35,570,000 rubles, of which the exports make 21,200,000, and the imports 14,350,000 rubles. Tooke's View of the Russian Empire, vol. ii. p. 73. 436.**


**Species 1. B. reliis. Gartn. Frat. 2. 444. An annual upright plant about two feet high. Stem four-cornered, channelled, green, rugged at the angles. Branches short, lateral; leaves opposite, dissected, ovate, acuminate, serrate, three-nerved, somewhat tomentose; flowers yellow, in terminal panicules; corollae of the disc tomentose, with black anthers. This is a distinct genus from Milikius, although the plant much resembles it. A native of Maryland, near Baltimore. Introduced in 1784 by Monf. Thouin. It flowers in June and July.**

**BALTIMORE, in Geography, a county of Maryland, in North America, lies between PatapSCO and Gunpowder rivers; the former separating it from Ann Arundel county on the south and south-west, and Gunpowder and Little Gunpowder dividing it from Harford county on the east and north-east. It has Frederick county on the west and north-west, Pennsylvania on the north, and Chesapeake bay on the south-east. Besides the rivers which bound it, and their branches, this county has Back and Middle rivers, between the two former, but they are rather arms of Chesapeake bay than rivers. In this county there are numerous iron works; and it contains 25,434 inhabitants, including 5,977 slaves.**
Baltimore, the chief town in the above county, and the largest in the state of Maryland; ranks in size the fourth, and in commerce the fifth, in the United States. It is seated on the north side of Patapco river, at a small distance from its junction with the Chesapeake, and surrounds what is called the Basin, in which the water rises at common tides to the height of five or six feet, and which is reckoned one of the finest harbours in America. This basin, says Weld, affords about nine feet of water, and is large enough to contain 2000 sail of merchant vessels. Along this basin are wharfs and stores through the whole length of the town. Baltimore is divided into the part called the town, and that called Fell's point, by a creek, over which are two bridges; but the houses are irregularly clustered from the one to the other. At Fell's point the water is deep enough for ships of burden, but only small vessels go up to the town. Wharfs have been built at this point, by the side of which vessels of 600 tons burden may lie with perfect safety. Here many persons have been induced to settle, on account of its contiguity to the shipping. Upwards of 700 houses have been already erected there, and regular streets laid out, with a large market place. These houses, generally speaking, are considered as a part of Baltimore, though they apparently form a separate town, being more than a mile distant from the other part of the town. Fell's point is chiefly the residence of seafaring people, and of the younger partners of merchant houses, who are stationed there to attend the shipping. The situation of Baltimore is low, and it was formerly thought injurious; but by its rapid increase, and the improvements attending it, the air is less loaded with vapours, and the town is become more healthy. The fea breezes, when the more open salt inhabitants retire to their country seats, delightfully situate in the neighbourhood. The principal street, called Market street, is nearly a mile long, and about eighty feet wide, and runs nearly from east to west, parallel with the water; it is crooked at right angles, much after the manner of those in Philadelphia, by other streets, several houses of which are well built, leading from the water. North and east of the town the land rises, and affords a fine prospect of the town and bay; the town, the point, the shipping both in the basin and at Fell's point, the bay as far as the eye can reach, rising ground on the right and left of the harbour, a grove of trees on the declivity at the right, and a stream of water breaking over the rocks at the foot of the hill on the left, all conspire to complete the beauty and grandeur of the prospect.

In 1787, Baltimore contained 1555 dwelling-houses, 1200 being in the town, and the rest at Fell's point. It then contained 152 stores. The number of the inhabitants of the town and precincts amounted, in 1791, to 13,559, including 1,255 slaves. But the number of houses and inhabitants have since that time very much increased. Mr. Weld, who visited this place in 1795, says that it contains about 16,000 inhabitants; among whom are to be found English, Irish, Scots, and French; but the Irish, of whom many are the principal merchants of the town, are the most numerous. Since the war it has received a great accession of French, both from France and from the West Indies.

Most of the inhabitants are engaged in trade. They are mostly plain people, sociable, however, among themselves, says Weld, and very friendly and hospitable towards strangers.

"There are many respectable families in Baltimore," says Morfe, "who live genteelly, are hospitable to strangers, and maintain a friendly and improving intercourse with each other; but the bulk of the inhabitants, recently collected from almost all quarters of the world, bent on the pursuit of wealth, varying in their habits, their manners, and their religion, if they have any, are unfocial, unimproved, and inhospitable." The churches and places for public worship are ten in number; one respectively for Episcopalians, Presbyterians, German Lutherans, German Calvinists, Reformed Germans, Niculists or new Quakers, Baptists, Roman Catholics, and two for Methodists. The built building, and the hand-mills in the town, is the Presbyterian church, lately erected. At Baltimore there are two theatres, that are used occasionally; cards and dancing are favourite amusements, both in private and public assemblies, which are held every fortnight. They have three incorporated banks in this town, and the number of notes issued from them, some of which are for so small a sum as a single dollar, is so great as almost to preclude the circulation of specie. Gold is extremely scarce. As for the rate of the trade of this town, Morfe informs us, that, in 1793, it owned 27 ships, one sloop, 31 bignautes, 34 schooners, and 9 spouts; in all 102, whose total tonnage was 13,574. The exports in the same year amounted to 2,327,770, and the imports to 1,049,829 dollars. In July, August, and September of this year, they amounted only to 343,584 dollars; but in the same months in 1795, they were advanced to 1,075,748 dollars. The police of the town is conducted by a board of town commissioners, a board of special commissioners, and a board of wardens; the first board supplies its own vacancies, and is perpetual; the two last are appointed by electors, chosen every fifth year by the citizens. Baltimore is distant 53 miles S.W. from Elkton, 176 N.E. from Richmond in Virginia, 50 N.E. from the city of Washington, and 163 S.W. from Philadelphia. N.lat. 39° 21', W.long. 77° 48'. Morfe's Geog. p. 353. Weld's Travels through N. America, in 1795, 1796, and 1797, vol. i. p. 43.

Baltimore Bay, lies near the extremity of the southern coast of Ireland, between two headlands, and runs a conﬁderable way into the land towards the north-east. The town, or village, from which its name, was formerly a place of trade, but being plundered by the Algerines, in 1631, it never recovered itself. It was one of the Irish boroughs, and sent two members to parliament. It stands on the south point of the eastern headland, in N. lat. 51° 15', and W. long. 9° 10'; and has a good harbour. The bay extends from Baltimore point on the east to Mizen head on the west, which are eight leagues aounder. It has several coves or harbours besides that of Baltimore, and contains many small islands.

Baltimore, in Ornitholog. a species of Oriolus, of a blackish colour, with a fulvous breast and belly, and a band on the wing of the same colour. Gr. othlos. Linn. Syll. Nat. This is le Baltimore of Briffon, Buffon, &c.; Baltimore bird of Catslyf; and Baltimore eorial of Latham.

"Baltimore birds are found in many parts of North America, the northern parts of which they occupy in summer, being seen sometime as far as Montreal in Canada, where they come in May; returning southward in the winter, which accounts for their being seen in Maryland and Virginia at that time. They make the nest of soft downy matter, in the shape of a purse, tying it with threads to the very extreme forked twigs of the tulip, plane, and larchey trees; in which they lay their eggs, and rear their young, free from depredators of all kinds.

"They are called fire-birds by the country people; and indeed, when in high plumage, their motions from branch to branch not inaply resemble a flash of fire." Latham Gen. Syn. 1738.

This kind is about seven inches in length. The male bird has the head, neck, and upper parts black; rest of the body, head,
hand of the wing, and lesser wing-coverts orange; greater
covers and quills black; the first tipped with white, which
forms a white bar on the wing; two middle tail feathers
black; four outer ones orange from the middle to the tips;
and the two next orange at the tip; legs and claws black.
The female, according to Buffon, has all the foreparts of a
fine black, like the male; tail the same; wing-coverts and
quills blackish; and those parts of a dull red, which are of a
dull orange in the male.

Baltimore, Bailiard. This is rather shorter than the
true Baltimore. The bill is lead colour; forehead and
cheeks black and yellowish mixed; hind head and nape:
olive-grey, marked with a few spots of black; upper part of
the back dull black; lower part of the back, the rump, fore-
part of the neck, breast, belly, sides, thighs, upper tail co-
verts, and under the wings, orange-yellow, brightened on
the breast and tail-coverts; lesser wing-coverts deep brown;
the greater the same, tipped with dirty yellowish white; quills
brown, bordered on both edges with whitish; the two
middle tail feathers are olive and black confusedly mixed;
and the four outer ones of a yellowish olive; legs and claws
blueish.

This latter bird is described by Linnæus under the specific
name of _spurius_. Dr. Latham, to whom we are indebted
for the preceding minute description, observes, that there
seems to be much confusion and uncertainty between the
tru and bailiard Baltimores and their females; and that at
last they may prove to be mere varieties of one single
species; all perhaps referable to one or other sex of the true
Baltimore, in different stages of life. See _Spurius
Orbis._

BALTINGlass, in Geography, a town of Ireland, in
the county of Wicklow, twenty-five miles west from Wick-
low.

BALTISTAN. See Little Thibet.

BALTURM, an island in the German sea, near the
coast of East Friesland, about 4 miles long, and about 1½
broad. N. lat. 53° 47'. E. long. 6° 56'.

BALTSHIK, a town of European Turkey, in the pro-
vince of Bulgaria, eighteen miles north-east from Varna.

BALTURTA, a salt lake of Afiatic Russia, in the go-
vernment of Orenburg; 144 miles S.W. from Ufa.

BALTZAR, Thomas, in Biography, the first great
performer on the violin who visited this country from the
continent, whose name appears in our musical annals; and
the account, which Anthony Wood gives of this extraor-
dinary musician, in his life written by himself, is so character-
istically quaint, minute, and amusing, that we shall tran-
scribe it in his own words; as it will at once convey an idea
to the musical reader of the superiority of Baltzar's execu-
tion, and of the taste of music at Oxford during the latter
end of the interregnum.

"Thomas Baltzar," says A. Wood, "a Lubecker
born, and the most famous artist for the violin that the world
had yet produced, was now (1658) in Oxford, and this day,
July 24, A. W., was with him and Mr. Ed. Low, lately or-
gamit of Ch. Ch. at the house of Will. Ellis. A. W. did
then and there, to his very great astonishment, hear him
play on the violin. He then faw him run up his fingers to
the end of the finger-board of the violin, and run them
back infenibly, and all with alacrity and in very good tune,
which he nor any in England saw the like before. A. W.
entertained him and Mr. Low with what the house could
then afford, and afterwards he invited them to the tavern;
but they being engaged to go to other company, he could
no more hear him play or fee him play at that time.
Afterwards he came to one of the weekly meetings at Mr.
El-

lis's house, and he played to the wonder of all the auditor,
and exercing his finger and instrument several ways to the
untoil of his power. Wilton (Doctor) thereupon, the pub-
lic professor, the greatest judge of musick that ever was, did,
after his humourome way, steepdown to Baltzar's feet, to
see whether he had a stuff on, that is to say, to see whether he
was a devil or not, because he acted beyond the parts of man.

"About this time it was that Dr. John Wilkins, after-
wards bishop of Chester, and called the flying Iffhop, warden
of Wadlam, the greatf curiofe of his time, invited him and
some of the musicians to his lodgings in that cell, pur-
pofely to have a concert, and to fee and heare him play.
The instruments and books were carried thither, but none
could be persuaded there to play against him in concert on
the violin. At length the company perceiving A. W. stand-
ing behind in a corner ware the dorre, they bailed him in
among them, and play, furthermore, he must against him.
Whereupon, he being not able to avoid it, he took up a vi-
olin, as poor Troylus did against Achilles. He abashed at
it, yet honour he got by playing with and against such a
grand master as Baltzar was. Mr. Davis Moll was accounted
litherto the best for the violin in England; but after Balt-
zar came into England, and shewed his most wonderful
parts on that instrument, Moll was not so admired, yet he
played sweeter, was a well-bred gentleman, and not given
to excessive drinking as Baltzar was." At the restoration of
king Charles II. Baltzar was placed at the head of his majesty's new band of violins. His com-
positions have more force and variety in them, and con-
sequently required more hand to execute them, than any mu-

sic then known for his instrument; as appears by a MS.
collection of his pieces, with which we were presented by the
late Rev. Dr. Montagu North.

Ant. Wood tells us, that this celebrated violinist died in
July 1663, and was buried in the cloister belonging to St.
Peter's church, at Westminster, and adds, that "this per-
son being much beloved by all lovers of musick, his com-
pany was therefore defired; and company, especially musi-
cal company, delighting in drinking, made him drunk more
than ordinary, which brought him to his grave." A. Wood's
Life, p. 190.

BALU, or Balou. See Bala.

BALUCAVO, or Jambol, a sea-port town of Crimea,
on the Black sea, with a fine harbour; the only one on this
sea capable of accommodating a large fleet.

BALVE, in Geography, a town of Germany, in the circle
of the Lower Rhine, a seat of a bailiwick in the duchy of
Weltphalia, seated on the Hohn, 10 miles S.W. from Aren-
berg, and 38 N.E. from Cologm.

BALUMA-Point, lies on the west coast of Africa, to
the south-east from Cape Rocko. N. lat. 12°.

BALSUS HEAN, the north-west point of the entrance
into Ballingkellings bay, on the south-west coast of Irel-
land.

BALUZE, Stephen, in Biography, was born at Tullas
in 1631, and as he advanced in years, directed his particular
attention to manuscripts, and to new editions of books, upon
which he bestowed much critical skill and erudition. His
principal object, however, was ecclesiastical history; and in
this department, such works as the lives and letters of popes,
and other eminent ecclesiastics, histories of councils, and
hymnies. In 1656 he was taken under the patronage of the
archbishop of Toulouë, and he was, after his death, libra-
rian to the famous Colbert. The king created in his favour
a chair of canon law in the royal college, appointed him ins-
fpector of the college, and granted him a pension. His
"Genealogical History of the House of Auvergne," writ-

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ten at the instigation of cardinal Bouillon, gave such offence to the court, that the work was suppressed by order of the parliament of Paris, and the author deprived of his place and pension, and sent into exile; nor was he recalled to Paris till after the peace of Utrecht. In old age, he amused himself in writing the history of his native place, under the title of "Historia Tutellensis," printed in 1717, at Paris, in 4to. He died in 1718, much regretted by his friends on account of his amiable, obliging, and communicative disposition; and honoured amongst the learned for his extensive acquaintance with books and manuscripts. Gen. Dict.

BALZAC. John Lewis Guez de, was the son of a gentleman, whole name was William Guez, of Languedoc, and born at Angoulême in 1595, or 1596. In his youth, he attached himself to Cardinal de La Valette, who for two years employed him as his agent at Rome. On his return, he was introduced to court, and much admired. By the favour of cardinal Richelon he obtained a pension, together with the brevets of counsellor of state, and royal historiographer. His "Letters," 6 vols. published in 1624, clarified his reputation in early life, and were long regarded as perfect models in that kind of composition. "With much fine sentiment and beauty of language, they are, however, fluided, pompous, and inflated." With regard to style and manner, they form a contrast to the coarse and sprightliness of Voiture, though Balzac excells in respect to weight of matter. Such was this epitaphian writer's reputation, that those who were defiers of being thought "bel esprits" in France, wished to engage Balzac in a correspondence, that they might he in possession of one of his letters. His style became the subject of criticism; and even the morality of his writings was abused, without sufficient reason. Disgraced by this treatment, he retired to his estate at Balzac, on the borders of the Charente, near Angoulême; and there employed his time in study and composition, and in correspondence with his friends, among whom were some of the most learned and eminent of his countrymen. He was deemed a good classical scholar; and he wrote Latin with ease and elegance; and his conversation was unaffected and agreeable. His general character was that of a good man, and a devout charitable citizen. He fret apart, even in his lifetime, eight thousand crowns of his estate, to be distributed to pious uses. He built two chambers in the convent of capuchins at Angoulême, where he often resided; and at his death he bequeathed 12,000 livres to this hospital, and he left an estate of 100 francs per annum, to be appropriated every two years as a prize to him who, in the judgment of the French academy, of which he was a member, should write the best discourse upon a subject of religion. He died in 1654, and was buried, according to his own order, "at the feet of the poor interred" in the hospital at Angoulême. "The French language (fays Voltaire, age of Louis XIV.) is under very great obligations to Balzac. He first gave number and harmony to its prose." In early life he seems to have been unduly admired, and afterwards he sunk into unmerited degradation and neglect. His principal works are his "Letters," printed at different times; "Le Prince;" "Le Secret de Christ;" "L'Abbe, or Entretiens;" "Latin verses," in three books, of which his "Amours," and "Christ victorious," are most esteemed. All these have been collected in two volumes, folio, and were published at Paris in 1669. Gen. Dict. Nouv. Dict. Hist.

BAMBA, in Geography, the largest and richest province or duky of the kingdom of Congo, in Africa, situated between the rivers Ambrifi and Looze; the laff of which parts it from the marquisate of Pemba on the east, and the Ambrifi from the county of Sangi on the north. Along the sea-coasts it extends still farther northward to the river Lelunda, and on the south to that of Danda, which separates it from the kingdom of Angola. The governors of this province bear the title of dukes, and are always princes of the royal family, being as despotic and arbitrary as if they were really kings. The soil is fertile, and capable of producing all the necessaries of life in great abundance, if it were only cultivated. The sea-coasts produce a large quantity of salt, which forms a considerable article of exportation. The fisheries of the Zimbib, whose shell is the current coin in this and the two neighbouring kingdoms, furnishes also a valuable source of revenue. Several authors have added a third kind of treasure in this province, viz. the mines of gold, silver, quicksilver, copper, tin, and iron, which are found in the mountainous parts; but the richlues, and even the reality of these mines, have been questioned; and it is certain, that the iron mines are only allowed to be used, and that there are severe laws against meddling with any of the vein. The interior of the country furnishes elephants, buffaloes, tigers, civets, and parrots; and here is a considerable traffic of slaves. The people are numerous, strong, and warlike. In this province is a town of the same name, which is large and populous, distant about seventy leagues from the sea, and in the poffilion of the Portugese.

BAMBA, a collection of villages in the kingdom of Demba, in Abyssinia, near the western bank of the lake Tzana, or Demeba. N. lat. 12° 11'. E. long. 37°.

AMBALA, in Ancient Geography, a maritime town of India, on this side of the Ganges. It is.

AMBARACA, in Geography, a town of South America, in Peru, and jurisdiction of Patas, or Casamamarquina.

BAMBAN, a town of Upper Egypt, seated on the Nile, about forty-two miles S.S.E. of Einch. N. lat. 24° 26'.

BAMBARA, an extensive kingdom of Western Africa, bounded by the Moorish kingdom of Beero to the north, and Moos, a French state south of Beero, by the districts of Gotoo, Baad, and Mariana, and Soudan, to the east, by Korg to the south, and by Lucamar and Kaarta to the west. The course of the river Jolohib, or Niger, lies through this country; and its capital is Segu, seated on this river, in N. lat. 14° 10' 20', and W. long. 2° 1'. The language of Bambara was found by Mr. Park, in his travels through this country, to be a sort of corruptions Mandingo; and from Mumbo, the king, who resided in this city, he received tokens of favour, though from motives of prudence he was not admitted into the royal presence, and he was ordered to leave Segu. This beneloct prince, in spite of the jealous machinations of the Moorish inhabitants, thought a stranger in distress a proper object of compassion and relief; and probably dissuaded him under an apprehension that he might not be able to afford him effectual protection against their blind and invertebrate malevolence. This country is beautiful and highly cultivated; and at Kali, which Mr. Park visited, and which is situated at a small distance from Segu, it bore, according to this traveller, a greater resemblance to the centre of England, than to what he should have supposed to have been the middle of America. The fish-trees (see Sphen), from which the inhabitants prepare their vegetable butter, constituting a main article of their inland commerce, abound in this part of Bambara. Whiff Mr. Park travelled through this country, he was much incommoded by the tropical rains; and he was chiefly indebted for his daily support to the Dootty or chief man in the several towns through which he passed. This officer seems to posses the authority of mayor in the corporate towns
towns of England; and it reflects great honour on the police of the African kingdoms, or on the benevolent manners of the natives, that it is considered as one part of the duty of a prince to relieve them in the indigent traveller. "To suffer the king's vassals to depart hungry," as they express themselves, is an effusion of a very heinous nature. See Africa, and Sigo.

**BAMBERG**, in Geography, a principality and bishopric of Germany, in the circle of Franconia, is bounded on the north by the principality of Coburg and the Vogtland, on the east by Brandenburg-Bayenthal and the states of Nuremberg, on the south by the states of Nuremberg and the principality of Schwarzengerg, and on the west by the bishopric of Wurtzburg. It is about sixty miles long, and forty broad; the soil is good, and produces all sorts of grain, fruit, and wine; and in the vicinity of the capital are such numbers of larch, fig, lemon, and orange trees, that this spot is generally called the garden of Italy. The inhabitants alight on a considerable number of cattle. The principal rivers are the Mayn, the Rotach, the Itz, and the Regnitz. It contains eighteen cities and fifteen market-towns. At the diet of the empire, the bishop, whose revenue is about 750,000 florins, takes the fourth place in the council of spiritual princes. The inhabitants are Roman Catholics. The military consists of one company of 100 men, and 50 horses.

BAMBERG, the capital of the above bishopric, is said to have derived its name from Baba, sister to the emperor Henry I. and is pleasantly situated on the river Regnitz, in the midst of a fruitful country. It was formerly an imperial city, but is now subject to its bishop. The town is large and populous; and being situated in the centre of Germany, contiguous to seven or eight different states, it is a very great thoroughfare. The streets are wide, and the buildings neat and regular. It has no fortifications, but lies open, and has the appearance of a large village. The cathedral is one of the most magnificent in the empire. The chapter is composed of twenty capuchin canons, and fifteen canonized. The bishopric was founded by the emperor Henry II. in 1106. Among other curiosities deposited in the treasury of this church, are the imperial crown of Henry II., consisting of six plates of gold adorned with precious stones, and another of his emblems, composed of two circles of gold richly set with pearls and jewels; and also a folio MS. of the four gospels in Latin, upon fine vellum, in a neat Roman character, with Gothic letters interlined, and very beautiful miniatures; the binding is adorned with pearls and precious stones. There is another Latin MS. in folio, of the four gospels, with a commentary by St. Jerome, and fine miniatures; and a third in Gothic letters, with a binding of very great value; all of which were presented to this church by Henry II. In this city there are several convents of monks and nuns, two palaces, and an university, founded in 1317. The bishop is absolute sovereign of this town and district, and has several castles and royalties in Carinthia and other parts of Germany. He holds immediately under the see of Rome; and he is joint director of the circle of Franconia with the marquis of Culembach. The benefits in this bishopric and that of Wurtzburg are reckoned the best in Germany. Within nine miles of Bamberg, at a place called Pommersfelden, there is a beautiful palace belonging to the house of Schonborn, which may be considered as one of the best in Germany. N. lat. 49° 51'. E. long. 10° 50'.

**BAMBERG** is a town of Germany, in the circle of the Lower Rhine, twenty miles south-west of Mentz, and eight north of Bingen.

**BAMBIINI**, in Biography, a spirited Italian composer, who arrived at Paris during infancy, with the company of burletta singers who first performed in that capital the *Serba Patrana* of Pergolesi, which gave birth to Rouffian's admirable "Lettre sur la Musique Française," and raised a party for Italian music, which has never yet been forgiven, even by those who pretend to admire no vocal music but Italian, or German on that model. See Accom-paniment.

**BANDELA**, in Ornithology, a species of Turdus, that inhabits Cayenne, and is about the size of the common or domestic sparrow. It is spotted; above Rufous brown; beneath emerald; wings black, with a transverse white band. This is the black-winged thrush of Latham, and *lamba* of Buffon.

**BAMBOO**, in Commerce, an East India measure, containing five English pints.

**BAMBOCCIO**, in Biography, an eminent painter of conversations, landscapes, cattle, &c. was born at Laer, near Norden, in 1613; and for his real name of Peter Van Lacer, they substituted in Italy that of Bambocco from his uncommon figure, the lower part of his body being one-third part larger than the upper, and his neck so short that it was buried between his shoulders. His genius, however, was very great; and his talent extended to every part of painting. He resided at Rome for 16 years, and availed himself of the opportunities for improvement which that city afforded him. His style of painting is sweet and true, and his touch delicate, with great transparency of colouring. His figures are well proportioned and correctly designed; and though his subjects are deduced from the lower kind of nature, such as plunderings, playing at bowls, inns, farriers' shops, cattle, or conversations, his designs and execution were so excellent, that his manner was adopted by many of the Italian painters of his time; and he has been justly ranked in the first class of eminent masters. His hand was as quick as his imagination, so that he seldom made sketches or designs; but having marked the subject with a crayon on the canvas, he immediately finished it. He possessed an astonishing memory, and the idea of any objects which he saw was so strongly impressed on his mind, that he could present them with as much truth as if they were placed before his eyes. The close of his life was embittered by an ambitious complaint; and it is said, that in order to terminate his misery, he threw himself into a canal, and was drowned. A.D. 1673. Pilkington.

**BAMBOO**, in Botany. See *Arundo*, and *Nastes*.

**Bamboo Habit**, a Chinse invention, by which a person, who cannot swim, may easily keep himself above water. Four bamboos, two before and two behind their bodies, are placed horizontally, and project about twenty-eight inches. They are crossed on each side by two others, and the whole properly secured, leaving a space for their body; it is put over their heads, and tied securely in two minutes.

**BAMBOURGH**, in Geography, a village of England, in the county of Northumberland, near the coast of the German ocean, with a castle said to be built by Ira, king of the Northumbrians, in the year 548. This castle with the clafe was purchased by Crew, bishop of Durham, and
left to charitable uses. One of the trustees, Dr. Sharp, prebendary of Durham, refixed in this castle, and appropriated a part of it to the accommodation of shipwrecked mariners, and to the purposes of a granary, which served for the supply of the poor with corn, in dear feasons, at a low price. A patrole was kept every stormy night through the whole extent of the manor, which was eight miles, for the succour of the distressed; and by the mode of firing a cannon from the castle, the place where any disaffected accident occurred was pointed out, and directions given for the neighbouring people to afford subsistence. This village is four miles south of Belford, and 2 3/4 north of London.

BAMBOOTHUM, in Ancient Geography, a river of Africa, in Lower Libya, from which extended a chain of mountains as far as Mount Ticon Ocherna. Plliny.

BAMBOUK, in Geography, a kingdom of western Africa, situated between the rivers Bafing and Faleme, which, by their junction with the Kolero and other streams, form the river Senegal; and bounded on the north by Kajagga and Kaffiion, on the east by the rivers Bafing and Brooko, on the south by Konkoodeo or Concoudou, and Satadoo, and on the west by the river Falame and Bondou. The town of Bambouk is seated on a stream which joins the river Falame, and lies, according to Rennell's map, in about N. lat. 15° 24'. W. long. 9° 16'. This country, according to the account of the proceedings of the African Association, is inhabited by a nation whose woolly hair and fable complexion denote them to be of the negro race; but their character seems to vary in proportion as the country rises from the plains of its western division to the highlands of the east. The inhabitants are distinguished into sects or parties like the people of Woolli and Bondou, by the different tenets of Malnomants and Desilts; they are equally at peace with one another, and mutually tolerate the opinions they respectively condemn. Their chief occupations are agriculture and pastoralage; but they have made such progres in the arts and manufactures, that they are able to fress iron, and to furnish themselves with the several instruments of husbandry and war. Their processes for weaving cotton cloth, the habit of this part of Africa, is difficult and laborious. Their common vegetable food appears to consist of rice, and their animal diet of beef or mutton; a liquor prepared from fermented honey supplies the want of wine, and furnishes the means of those festive entertainments that contribute the luxury of the country of Bambouk. The king of Bambouk gave to a merchant a friendly reception at Ferkany, where he refixed; but the major did not long survive this visit. The mountains of Konkoodeo, characteristically so called because it is the "country of mountains," extend through Bambouk and Kaffiion, and are productive in gold. Proceedings of the African Association, by major Rennell, 1758.

BAMBRIDGE, or BAMBRIAGE, Christopher, in Biography, an English divine, was a native of Hilborne, near Appleby, in Westmorland, and a student in Queen's college, Oxford. By a rapid progress he was advanced, in 1597, to the see of Durham; and in the next year, to the archbishopric of York. Under Henry VII. he regained that royal favour, which had been interrupted in the reign of Richard III.; was made almoner to that prince, and employed by him in several foreign embassies. In the reign of Henry VIII. he was engaged in a negotiation with pope Julius II. under a pretence of restoring peace to Europe, but in reality to extort the pope's enmity against the king of France. Bambridge, attentive to his own interest, contrived so to ingratiate himself with the pope, as to obtain a cardinal's hat and an informal prelency in the conclave. He was also appointed legate of the ecclesiastical army, which was then besieging Basilia. Upon his return home, he manifested his gratitude to the pope by inducing his royal master to enter into an unnecessary war in his defence. Ambition seems to have been the ruling principle of Bambridge; of his learning no evidence remains; and as to his temper, no favourable opinion can be entertained of it if we advert to the tragical incident that closed his life. Inflamed with resentment against Renaud of Modena, his major-domo, he fell upon him with fury and beat him; and the enraged domestic revenged himself for the insult and abuse, by administering to his master a dose of poison. This happened at Rome, on the 14th of July 1514. Brog. Brit.

BAMBUKALAISI, in Geography, a town of Afiatic Turkey, in the province of Notilia, twelve miles north of Degniizu.

BAMBUSA, in Botany, Lin. gen. Schreb. 607. Clas. hexandra mongonius. Gen. Char. Cal. none, except glume-like bracts fattereed, often three under each spikelet, oblong, pointed, concave, keeled, unequal, shorter than the floccules, two opposite, the third leaning on the flat side of the spikelet; spikelets lanceolate, dillicious, compressed, sharp, nearly five-flowered. Cor. glume two-valved; valve inferior, oblong, ventricose, acuminate, towards the tip keeled and streaked; interior lanceolate, flat, with complicated margins, ciliate, a little longer than the inferior, and projecting from it; ciliate two-leaved, flat at the anterior side of the germ; leaflets ovate, acuminate, bearded at the tip, membranous. Stam. filaments free, capillary, almost the length of the corolla; anthers paratached, two cleft at the base. Ptil. germ oblong, six-angled capillary, two cleft; filigree featherly. Per. none; corolla cornishes the seed, gates? Iets it fall? feed single, oblong. Obs. The superior floccules in several spikelets examined by Schreber were merely male; he therefore says, "ought not this genus to be transferred to polygonia?" For the refl see ABOUS BAMBOS, and NAStUS. Gmelin has made two genera of this, under Bambus, and Natalus.

BAMBYCE, in Ancient Geography, a town of Asia, in Lydia, beyond the Euphrates; called also, according to Strabo, Edessa, and Hierapolis.

BAMIFF, or BANIFF, in Geography, the capital of Banffshire, in Scotland, stands on a gentle declivity at the mouth of the Deveron, a considerable stream which has its source among the mountains of Aberdeenshire, and after winding through narrow valleys and well cultivated plains, falls into the Moray firth, a little below this ancient burgh. The earliest authentic document we meet with relating to this town dates, that Robert II. by virtue of charter, dated October 7, 1372, conferred on it all the immunities and privileges of a royal burgh; which were afterwards confirmed by James VI. and further by his grandson Charles II. Soon after the union of South and North Britain, this burgh, in common with many others, lost much of its political importance; as by that event it was united with Inverary, Cullen, Elgin, and Kintore, which return but one representative to parliament. Agreeable to the Scot. or municipal government of Banff, two thirds of its magistrates are elected annually. Duff-Houfe, the family residence of the earl of Fife, together with the pleasures grounds and plantations around that truly magnificent mansion; the harbour which is defended by a battery, and the shipping; the plain unsubstantial bridge of seven arches over the smooth winding Deveron; the castle of Banff belonging to the earl of Finlade; the town house and prison, including its hand- some spire; the parish church, an elegant and newly built structure; are striking and interesting objects, with respect to
BAM

BAM

to the general appearance and commercial consequence of this flourishing sea-port town. The industry of its inhabitants is sufficiently manifested in their various employments; and those of condition for a laudable example in the improvements carried on in the immediate vicinity; so that in all likelihood Banff bids fair to accumulate wealth under circumstances favourable to the spirited exertions of those engaged in commerce and trade. The salmon-fishery extends about four miles on the Deveron. It belongs to the earl of Fife; and it yields him a yearly rent of 1250l. The sight of this property, together with some land, was, in A.D. 1470, by reason of the poverty of theburghers of Banff, alienated to perpetuity for a small annual fee duty or fine for the purpose of keeping the parish church and prison in proper repair. Before the reformation, there was a convent dedicated to the Virgin Mary, which belonged to the order of Carmelites, or white friars; its house and lands were annexed to the old college of Aberdeen, in A.D. 1617; and in the year 1751, they were purchased by the present earl of Fife. The ecclesiastics, both episcopal and prelatory, are on the belt terms with each other. The former are under the jurisdiction of the bishop of Aberdeen; and the latter is under the presbytery of Fordeyce. The unfortunate James Sharp, archbishop of St. Andrews, the arch-episcopal see of Scotland, was born in the castle of Banff, in May 1613.

The parish of Banff is about six miles in length and two in breadth; its surface is beautifully diversified, and the soil is generally good, though of different qualities. The greater part is kept in ploughland, on which a number of black cattle are annually reared. Population of the town in 1800, 3571. Banff is about 165 miles north of Edinburgh. In the vicinity of this town is Duft-houfe, the magnificent mansion of the earl of Fife. This was built after the designs of the late Mr. Adam. It is enriched with fluted columns, sculptured cornices, and statues, vases, &c. which give peculiar elegance to its external appearance. The internal is splendidly furnished, contains a large, well-featured library, and many valuable paintings, &c. Cordiner's Antiquities and Scenery of Scotland.

BAMFORTHSHIRE gives name to one of the counties in Scotland; it is bounded on the north by the Moray frith, on the west by the counties of Moray and Inverness, and on the south and east by Aberdeenshire. It extends about 35 miles in its longest diameter north and south; and its average breadth is about 16 miles. Within its boundaries are included twenty-four parishes, and two royal boroughs. The surface of the country is agreeably diversified with hill and dale, well-watered with rivers, and ornamented with several seats and their annexed plantations. The principal of these belong to the duke of Gordon, earl of Findlater, earl of Fife, and lord Banff. Part of the county is mountainous; but the lower lands, and those in the vicinity of towns are in high cultivation. Its principal rivers are the Spey, which partly divides this county from Morayshire; the Deveron, which separates it from Aberdeenshire; the Tna, Coniglas, Avon, and Fiddich. Some valuable minerals are found in this county; and great quantities of bones and whetstones are obtained from a hill in the district of Balvenie. Several mountains are noted for their elevated summits. Of these Cairngorm, about 4050 feet in height, is the chief, and is reckoned among the highest of the Grampian hills. That of Beinnies runs to the height of 2690 feet above the level of the sea, and Knock-hill is estimated at 2500 feet. At Portlo, near the north coast, is a stratum of serpentine, called Portlo marble, also a species of granite, which when polished exhibits various figures and characters, some of them resembling those of the Arabic and Hebrew alphabet. A great number of tumuli are scattered over the hills near the coast; and some Druidical antiquities are in this district. The population of this county, according to the parliamentary report in 1800, was 35,807.

BAMIAN, or Bamiyan, a city which some have referred to Khomran, in Persia; and others, with greater propriety, to that part of independent Tartary, called great Bucharia, near its southern limit, at the foot of mount Casafar, or near that part of this range of mountains called Paropamisus, and Hindoo Khuo, and not far from the ancient Alexandria. Bamiyan belongs to the same portion of Bucharia which includes Gaur, and lies between this province and Cabul. It is eighty-eight geographical miles from Ghizni, N. lat. 34° 50'. "E. long. 67°. It gives name to a district that extends from Bafk towards the east, or the kingdom of Cabul. This famous city, denominated the Thebes of the east, is situated on the road between Bafk, or Bahl, and Cabul; and they reckon eight mazails, or days' journey, from Cabul to Bamiyan. Like Thebes in Egypt, it is entirely cut out of an inflated mountain, and the valley it is called, in the language of the country, the Tagavi of Bamiyan; Tagavi being synonymous with Purganah or district. Nearly to the south are the ruins of several buildings of masonry round a small conical hill; on the summit of which are the remains of the palace of its ancient kings. A rivulet, rising in the adjacent hills, goes through the ruins of Ghulghul and theTagavi of Bamiyan, and falls into a small lake, from which issue four rivers, the Himend, the Landhi-Sindh, the rivers of Bahlac, and of Conduz. The city of Bamiyan consists of a great number of apartments and recesses, cut out of the rock; some of which, on account of their extraordinary dimensions, are supposed to have been temples. Some of them are adorned with niches and carved work; and there are some remains of figures, in relief, which have been delineated or disfigured by the Moslems. Some remains of paintings on the walls are still to be seen; but the smoke has almost obliterated them. In the Ayeen-Akberry it is said, that there are about 12,000 of these recesses in the Tagavi of Bamiyan; and this account is confirmed by the general report of travellers. The country of the Afghans, as far as Bahlac and Badahan, abounds with these recesses, called Samakches in the language of the country, or Samages in Persian. The most perfect are at a place called Mobi, on the road between Bamiyan and Bahl; but as they are situated among precipices, the Musulmans have not thought of using them as habitations; the paintings with which they are adorned appear quite fresh. The attention of travellers is particularly attracted by two colossal statues, which are seen at a great distance. They are erect, and adhere to the mountain from which they were cut out. They are in a sort of niches, the depth of which is equal to their thickness; and in the Ayeen-Akberry, the largest is said to be eighty feet high, and the other only fifty. But these dimensions are exaggerated; and the truth seems to be, that they are only fifty cubits high. At some distance from these, there is another about fifteen cubits high. Authors are disadvised both as to their sex and their names. A late traveller says, that the drapery is covered with embroidery and figured work, which was formerly painted of different colours; one seeming to have been red, and the other retaining the original colour of the flax, or having been painted grey. According to Dr. Hyde, one of these statues is called Surkk-but, or the red idol, and the other Khink-but, or the grey idol. Between the legs of the male figure is a door leading into a spacious temple, at the entrance of which are flattened a few wretched Banyans, who fell provisos to travellers. According to Persian authors, Bamiyan must have existed before
BAM

before the flood; but the followers of Buddha insist, that it was built by a religious man called Shama, supposed to be the same with the patriarch Shen, and that his polity lived there for several generations. Hence Balk-Bamian is said to have been originally the place of abode of Abraham, who, according to scripture, and the Hindoos sacred books, removed with his father to different countries to the westward. According to Diodorus Siculus, Bamian existed before Ninus; for this historian, as well as the Parthian authors, has mistaken Bahlae for Bamian, which he describes as situated among steep hills; whilst Bahlae is situated in a low, flat country, at a great distance from the mountain. The natives look upon Bamian, and the adjacent countries, as the place of abode of the progenitors of mankind, both before and after the flood; meaning by Bamian and the adjacent countries all the country from Sistan to Samarcand, reaching towards the east as far as the Ganges. This tradition is very ancient, and is contemporaneous equally by Parthian authors and the sacred books of the Hindoos.

Bamian, as well as Cabul and Balk, were at an early period in the hands of the Mussulmans. There were even kings of Bamian; but this dynasty lasted but a few years, and ended in 1215. The kings and governors resided at Ghulghuleh, called at that time the fort or palace of Bamian. It was destroyed by Genghiz Khan, in the year 1210; and because the inhabitants had presumed to refit him, he ordered them to be butchered, without distinction either of age or sex; and in his brutal rage, he spared neither animals nor even trees. He ordered it to be called in his own language Mau-balig, or the city of grief and sorrow; but the inhabitants of the country called it, in their own dialect, Gulguleh, which word used also in Parthian signifies "the cries of woe." To have rebuilt it would have been ominous; and, therefore, they erected a fort on a hill to the north of Bamian, which is called to this day the imperial fort. This fort was also destroyed by Zingis theTuebek, in 1228, and has not been rebuilt since. The city of Bamian is represented in the ancient legends of the country as the fountain of purity and holiness; and was called Para-Bamian, or Bamian the pure and holy, and the district of Bamian might also be called Para-defa, the pure and holy country. It is now barren, and without a single tree; but, according to the sacred books of the Hindoos and of the Buddhists, it was otherwise formerly. Tradition also informs us, that the number of inhabitants was at one period so prodigious, that the trees, underwood, grass, and plants were destroyed.

The vegetable soil being no longer protected, was in the course of ages washed away by the rains; and it is certain, that the soil in the valleys is very fertile, and the whole district, in its present state, is a most enchanting and delightful spot. The country to the eastward of Bamian, as far as the Indus, is the native country of the vine, and of almost all the fruit-trees we have in Europe; there they grow spontaneously, and to a great degree of perfection. When the natives find a vine, an apple-tree, &c. in the forest, they clear all the wood about it, dig the ground, and thus the fruit comes to perfect maturity. "When we are told in scripture of Noah cultivating the vine, we may be sure (says captain Wilford, ubi infra), that it was in its native country, or at least very near it." Bamian, though not mentioned by name in Nonnus's Dionysius, is well described by him as the abode of the benevolent Brongus, who lived in Samachnes, or recedes artfully excavated in the mountains. Brongus was the Ebranga of the Parans; and had several children, who ascended the throne of Calunga, after their father had forsaken the world. Bamian appears also to be the town called Drahloca by Poleni; which is derived from the Sanscrit Drahotaca, and implies the lone-city; towns before being merely an assemblage of huts. Its distance and bearing, says captain Wilford, from Cabula, or Orthopiana, the present city of Cabul, puts it beyond doubt. See captain Francis Wilford's "Observations on Mount Caucasus," in Asiatic Researches, vol. vi. p 495.

BAMMAGURA, in Ancient Geography, a town of India, on this side of the Ganges. Poleni.

BAMMAKOO, in Geography, a town of the Mandingo country, in Western Africa, seated on the river Niger, where it scales to be navigable, about 150 miles below its source. Here the river descends of the high land of Manding to Bambara, on the eastward, with a rapid and furious course; after which it plies so suddenly along, and affords an interrupted navigation to Honfia, and probably by Kallia to Warmara. It lies about fifty miles short of Kamliah; and it is reckoned by the natives ten journeys only from Segu. By Mr. Parke's bearings corrected, it lies from Segu W. 29° S. distant 178 geographical miles. N. lat. 12° 54'. W. long. 7° 26'.

BAMMONITIS, in Ancient Geography, a country of Asia Minor, which Strabo places in the vicinity of the river Hals.

BAMTH-Baal, a city of Palestine, beyond Jordan, belonging to the tribe of Ruben, situated in the plain through which lay the course of the Arnon. John xiii. 17. In this city was a high place consecrated to Baal, the idol of the Moabites.

BAMPTON, in Geography, is an ancient market town in the county of Devon, in England. Polwhele affirms that it was a Roman station; but this is not proved by his description of the parish, nor by any discoveries that have been made relating to that people. It is leated on a branch of the river Exe, and is also watered by the river Batheam, over which is a strong stone bridge. The town is nearly encompassed with hills which confine chiefly of lime-dune rocks. There are burnt on the spot, and the lime used by the neighbouring farmers in fertilizing the soil of their lands. Bampton is governed by two portreves, two confables, and other inferior officers, who are annually elected at the lord's court. The principal manufacture of the place is serges. This was formerly a borough, and sent two members to parliament, whose expences were defrayed by the inhabitants; but this privilege has long been lost. It gives mow to the hundred, and includes within the parish two small villages, whose chaps have only monthly service. The town is irregularly built, and extends about half a mile in length; containing 502 houses, with 1564 inhabitants. There is a large church with a lofty tower, and the church-yard, which is extensive, contains two yew trees, distinguished for their age and magnitude. The market is held every Saturday, and here are two annual fairs. Bampton is 167 miles west of London, and about twenty-two N. W. from Exeter. Polwhele's History of Devonshire, vol. ii.

BAN, a fort of smooth fine muflin, which the English import from the East Indies. The piece is a yard broad, and runs about twenty yards and a half.

BAN and Dute. See Bann and Banes.

BAN [land], in Geography, is the most southerly of the Ladrones, north of New Guinea, in N. lat. 11°, and E. long. of the east end 142°. Between this and Bato island, on the north, is a rocky island.

BAN, Arriva. See Arriffe.

BANA, in Ancient Geography, a town of Arabia Felix. Poleni.

BANAUSI, a town of India, on this side of the Ganges. Poleni.

BANABA, a town of Asia, in Melopotamia. Poleni.

BANAGHIER, in Geography, a market and port town of
of the King's county, in the province of Leinster, in Ireland, which, before the union, returned two members to the house of commons. Here are an excellent endowment for a school, and an ancient bridge over the Shannon, on which river it is situated, but it is a very inconvenient town. Its distance well from Dublin is 65½ Irish miles.

BANAMATAPA, a town of Africa, in the country of Monomotapa, provinc of Mozambique.

BANANA, in Botany. See MUSA.

BANANA. From the Latin banana, the name of a small tree, in which the entire structure of the flower is very remarkable. The flower of a banana tree is a large handsome structure, built by the above bishop Alexander, who is supposed to have been buried in the church, on which is a conjectural mutilated figure. The outer walls of the church are ornamented with a number of carved heads of men and animals. Banbury has been particularly noted for the number of Puritan inhabitants, who have been signalized by Ben Jonson, and other dramatic writers. Camden speaks of it as famous for cakes and ale; and when Holland translated his Britannia, he changed the latter word, and printed it cakes and ale. Here are a free-school, two charity schools, and a workhouse.

BANABURG. A little town, and a borough of Lincolnshire, in England, lies about 10 miles from the sea. It was founded in the reign of Edward VI., when bishop Holbech conveyed it, with about thirty other manors, to the king and his courtiers. The estate was afterwards given by queen Elizabeth to the bishopric of Oxford in exchange for other lands. In the time of Henry VIII., 1534, it was valued at 141L. 13s. 10d. but at the time of the above exchange it was estimated at 49L. 18s. 6d. a year.

This place was made a borough by queen Mary, who being pleased with the inhabitants for their support of her against lady Jane Grey, granted them a charter, and invested the town with several privileges. This charter was altered by James I., who appointed the government of the town to consist of a mayor, twelve aldermen, and thirty burgesses. A new charter was granted by George I., A.D. 1718, and the town is now governed by a mayor, high steward, recorder, six capital burgesses, and thirty aldermen, a town-crier, and two farrers to the market.

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bang in that island; on which the sovereign of Banca, who is puffed also of the territory of Palamabong, keeps his constant residence. He maintains his authority over his own subjects, and his independence of the neighbouring princes, in great measure, by the affair being of the Dutch, who have a settlement and trade at Palamabong, and who enjoy the benefit of a contract with the king of Banca for tin, which his subjects procure from thence; and which, like the king of Bantam, with regard to pepper, he compels the miners to deliver to him at a low price, and he sells it to the Dutch at a small advance, agreeably to his contract. This island is celebrated throughout Asia for its tin-mines, which were first discovered in 1710 or 1711, and which since that time have yielded immense quantities of ore, and appear to be inexhaustible. It is dug chiefly in seven places, which are under the direction of Chinese managers, that provide and pay the labourers, who are also, in general, of that nation. These miners reduce the ore into metal byemploying wood as fuel in their furnaces, and not coal or coal, which is seldom to free from sulphur as to affect the malleability of the metal. It is therefore sometimes preferred to European tin at the Cantoun market; and the profit upon it to the Dutch company is supposed to be not less any year than 50,000 pounds. The tin is delivered by the managers of the mines to the king at Palamabong for five rix-dollars per 255 pounds, and by him to the Dutch for 15 rix-dollars, equal to about 58 shillings per cwt. English. Raynal, and others, state the quantity of tin received by the Dutch company at 2,000,000l, but it appears that they take at least 3,000,000l. Very little, however, comes to Europe; in 1778, 700,000l was sold in Holland at £. 2 per 100l; but the greatest part goes to the China market. Stavronius's Voyage to the East Indies, by Wilcocke, vol. i. p. 357. Stanton's Embassy to China, vol. i. p. 355.

BANCA, Strait of, lie between this island and Sumatra; which, on its eastern side, forms the western side of these straits, and its southern extremity forms the northern side of the straits of Sunda. Through these straits there is a safe navigation from the China sea, except near the northern entrance, where a shoal lies off, and another within it, so that it is necessary for a ship to found in that situation. Capt. Marchand, in endeavouring to gain the entrance of these straits, experienced strong currents, some setting to the E.N.E. others to the E. and others to the E.S.E. He therefore renounced the idea of going out of the China sea by the straits of Banca, and determined to sail by another strait situated more to the eastward, between the island of Banca and that of Billiton. This strait is known under the names of Gaspar's, Billiton's, or Clement's strait; and has been much frequented in palling to and from the China sea. See Marchand's Voyage, vol. i. p. 98.

BANCALIA, a kingdom in the island of Celebes.

BANCALIS, a town of the island of Sumatra, in the kingdom of Acheen.—Alfo, a bay on the north-east coast of this island, in N. lat. 1° 15'. E. long. 106° 7'. 43 leagues west of Malacca; it is in Brouer strait, which is a branch of that of Malacca; is large, and affords good anchorage, and its navigation, as far as Bancalil, at the utmost extremity, is safe.

BANCAPOUR, a district of Hindostan, in the country of the Mahattas.—Alfo, a town of this district. N. lat. 14° 55'. E. long. 75° 15'.

BANCAPOUR, Senore. See SANORE.

BANCK, LAURENCE, in Biography, a Swedish lawyer, was born at Norcopon, and after returning from his travels in France, Italy, Spain, &c. acquired great reputation as professor of the civil law in the university of Franeker, which post he occupied for 15 years. He died on the 12th of October in the year 1662. In 1649, he published a Latin work " On the Tyranny of the Pope over Christian Kings and Princes," and in 1656, "Rome triumphant, or the Inauguration of Innocent X." But his principal work was his edition of the famous book of "The Tax of the Roman Church," in which are fixed the prices of abjuration for the most heinous and infamous crimes. This edition, formed by a collation of the most ancient copies, both printed and manuscript, was printed at Franeker, in 1651; and several other editions have been, before and since, printed at different places. Jurien, in his "Prejeç, es legit, contrle Papine," t. i. p. 257, &c. published the particulars of these taxes. Banck's edition of these taxes, and some others, has been referred to the class of prohibited books, in the "Index" of the Inquisition, as corrupted by heretics; but enough remains in uncontested editions to induce worthy Catholics to lament that such taxes should ever have disgraced the church. Gen. Diet.

BANCK, Peter Vander, an eminent engraver, was a native of Paris, and received instruction in the art of engraving from the celebrated Francois de Polly. About the year 1674, he came over to England, and married; but not receiving recompense answerable to his labour as an artificer, he was reduced to penury, and to dependence on the brother of his wife. He died at Bradford in 1697, and left his plates to his widow, who sold them to great advantage, and left an easy fortune.

His chief employment was engraving of portraits; and he was the first in England who engraved them on fo large a scale. Like many of Polly's disciples, his great merit consists in the laboured neatness and management of the mechanical part of the art. In England his productions will be always esteemed, as they preserve the best resemblance of many eminent persons who were living at that time. Strutt.

BANCOK, BANOR, or BOO, in Geography, a maritime and fortified town of Asia, in the kingdom of Siam, seated on an island formed by the river Menan. N. lat. 12° 1'. E. long. 101° 17'.

BANCOTIE, now fort Victoria, lies on the Malabar coast of India, contiguous to Rajapoor. It has a good harbour, and a great trade for salt, &c. from Bombay, whither it makes returns in cattle.

BANCROFT, RICHARD, in Biography, archbishop of Canterbury in the reign of James I. sprung from a good family at Farnworth in Lancashire, and was born in September 1544. Having finished his education in the university of Cambridge, he rose by quick gradations to very distinguished stations in the church. The Puritans were the objects of his bitter invectives. Accordingly, in a sermon delivered at St. Paul's cross, on the 9th of February 1589, he accused them, in very intertempore language, of ambition and covetousness; alleging that the principal cause of non-conformity and schism was the propert of plundering bishops, feizing the endowments of cathedrals, and frambling for the remainder of the church revenues; and accusing the bating among the non-conformists of an intention to diloloe the bonds of property, and to introduce a community of goods. He strongly represented the danger of permitting private men to contend the authority, and violate the constitutions of the church, exposed the absurdity of extemporal prayers, and maintained the divine right of bishops, in terms which, in the judgment of Sir Francis Knollys, one of the queen's counsellors, were injurious to the supremacy of the crown. This sermon, preached, as Spyke supposes, at the instigation of archbishop Whitgift, furnished ample evidence of Bancroft's inveterate hostility against the Puritans. As one of the composers for ecclesiastical causes, he adopted rigorous measures for the suppression of heresy and schism; and he was an avowed enemy to sects and innovations of every kind. Writings against episcopacy, or recommending any other mode of church discipline, were treated
treated by Bancroft as editors, and he pursued their authors as enemies to the state. His zeal recommended him to ecclesiastical preferment; and in 1637, he was advanced to the see of London, and the management of the ecclesiastical affairs of the kingdom devolved upon him. In the celebrated conference between the bishops and the Presbyterian ministers, held at Hampton court in 1639, Bancroft took an active part; and when the king required satisfaction in the three points of confirmation, abolition, and private baptism, he undertook to explain and vindicate these branches of ecclesiastical discipline, as they were exercised in the church of England. In the prosecution of this conference, and with a view to its speedy termination by an act of authority, he moved the king, that an ancient canon, that "schismatics are not to be heard against Bishops," should be revived; and that, according to a decree of an ancient council, which prohibited any man to plead against his own suffringer, those of the opponents, who had publifhed the communion-book, should be let aside. These absurd and unjust proposals were rejected by the king. When Dr. Reynolds, on the part of the non-conformists, moved for several alterations in doctrine and discipline, the bishop fell upon his knees before the king, praying that care might be taken to provide a praying clergy, as the services of the day were too much neglected, and the duty of a parish priest wholly restricted to the pulpits; that till men of learning could be procured for every congregation, homilies should be read, and their number increased; and that pulpts might not be turned into batteries, from which every malecontent might be allowed to vent his spleen against his superiors. These requests, whether well or ill-founded, were evidently pointed against the non-conformists. Upon the lord chancellor's taking occasion to argue against pluralities, and expressing a wish that some clergyman might have single coats before others had doublets, adding also, that he had bestowed benefices in the king's gift upon this principle, the bishop of London replied, "I commend your honourable care that way; but a doublet is necessary in cold weather." The good bishop, it is said, spoke feelingly, for he had himself experienced the comfort of warm clothing. In 1664, bishop Bancroft was elected and consecrated to succeed archbishop Whitgift in the see of Canterbury; and in this high station he retained his intolerant principles, and pursued the same measures against the non-conformists. To this purpose lord Clarendon (Hist. vol. i. p. 83.), in his eulogy, testifies, that "if he lived, he would quickly have extinguished all that fire in England, which had been kindled at Geneva, and would easily have kept out that infection which could not afterwards be so easily expelled." For the rights of the church, the archbishop manifested a jealousy, which involved him in a contile with the judges; against whom he exhibited to the lords of the council, complaints of their encroachments on the ecclesiastical courts in granting prohibitions; but these complaints were over-ruled by the unanimous opinion of the judges, which Coke justly calls the highest authority of the law. In the interior discipline of the church, the archbishop was rigorously exact, urging a strict conformity to the rubric and canons, and making no allowance for diversity of opinion. He enforced injunctions to the articles in the most unseasonable terms; and it appears, that, not long before his death, forty-nine clergymen were deprived of their benefices for not complying with his rigid regulations. In 1610, he proposed to parliament a plan for increasing the revenues of the church, by improving the tithes, redeeming lay appropriations, and restoring the practice of mortuaries by repealing the statute of mortmain. Parliament wisely refuted this project, which seems to have been the last public act of the archbishop's life; for he died of the stone, at his palace at Lambeth, in November 1610, aged 67. His library was bequeathed to his successors in the metropolitan see of Canterbury. Besides his sermon against the Puritans, we have only two tracts, written by him before his advancement to the episcopal dignity, in defence of the church against the non-conformists, intitled "Dangerous Positions," and "Survey of the pretended holy Discipline." The prominent features in the character of this prelate were intemperate zeal and intolerant severity; and if he rendered any services to episcopal policy, the general caule of Protestantism owed him little obligation; for nothing could be more inconsistent with the fundamental principle of the reformation, than the restraint and prohibition of that freedom of judgment and choice in the province of religion, which had been affected and maintained by the predominant party on their separation from the church of Rome. Bancroft, however, though his principles were narrow and temper rugged, possefl ed a degree of understanding and of activity of spirit, which fitted him for public business, and which enabled him to occupy important stations in the church with a considerable degree of reputation. A letter written by this prelate to king James I., in vindication of pluralities, is preferred in the advocate's library at Edinburgh, and may be read in the first volume of Sir Dalrymple's Memorials. Biog. Brit. Gen. Biog.

BAND, in a general sense, some small, narrow ligament, wherever a thing is tied or fastened.

We say, a fly-band, a brow-band, a hat-band, &c.

Band, in Architecture, denotes any flat, low member, or moulding. This amount to the same with what is otherwise called fascia, from the Latin fines, which Vitruvius uses for the same thing, and sometimes fillet, plint, &c.

Bands of Columns, properly denote a kind of embellishments surrounding shafts of rustic columns, at certain distances, by way of decoration. These are sometimes plain, sometimes picked or vermiculated, and sometimes carved with decorations of low relief, which are different in every different band.

Columns enriched with these bands, are sometimes called banded columns.

Band, in matters of Artillery, denotes a hoop of iron used about the carriage of a gun.

Such are the nave bands, which are iron hoops binding the nave at both ends.

Band, in Geography, a town of Persia, in the province of Mecran, 400 miles S.S.W. of Candaubar.

Band, Bandum, is used, in Middle Age Writers, for a flag or banner.

Band of Soldiers, in Military Language, so many as fight under the same flag or ensign. Thus Romulus called those who fought under the same name manipule (a handful of hay being then used for a flag) manipulus militum.

Formerly bands especially denoted bodies of foot; and the French formerly called their infantry bandes Francaises.

Band of Pensioners, is still retained, to denote a company of gentlemen, who receive a yearly allowance of 100l. for attending the king on solemn occasions. See Pensioners.

Bands, Trained. See Trained Bands.

Band, gives the denomination to a military order in Spain, instituted by Alphonso X. king of Castile, in the year 1332. It takes its name from bands, band, or red ribband, which comes across over the right shoulder, and under the left arm of the knight. This order is for none but the younger sons of nobles; the eldest sons of grandees are excluded; and, before admittance, it is requisite to have served at least ten years, either in the army or at court. They are bound to take up arms for the Catholic faith against the infidels.
The king himself is grand-master of the order. 

**Balm of Saddle**, denote two flat narrow pieces of iron, nailed on each side the bow of the saddle, to retain those bows in the situation which makes the form of a saddle. 

**Band, to put a bow in the**, is to nail down the two ends of each band to each side of the bow. 

Besides the two great bands, the fore-bow has a small one called the wither-band, and the hinder-bow another to strengthen it. 

**Band, in Surgery**, is a long strip of linen, or some other convenient material, intended for the purpose of binding and surmounting any part of the body. When a band has been rolled up for use, into a cylindrical form, it is generally denominated a **Bandage or Roller**. 

**Banda**, in Geography, the chief island of a group, which comprises five others, lying close to one another, and situated in the Eastern Pacific ocean, east of Celebes or Macaffar, south of Ceram, and south-east of Ambonay, in about 8° lat. 5° 45'. E. long. 120° 30'. These islands are called the **Spice or Nutmeg islands**, and also Banda islands from the name of the principal of the group. Banda formed the second government of the Dutch to the eastward. The first of the chief islands is Neira or Nera, where stands the chief settlement of the province; it has a spacious and commodious harbour, but difficult of access; ships anchor under the cannon of two forts, called Belgica and Nappa, the first standing on an eminence, and commanding the whole extent of the island and of the harbour, as well as fort Nappa; the defence of it would require a garrison of 400 men, and yet the whole number of military in all the islands scarcely ever exceeds 300. The next island is that of Banda, Lantor, or Lanthoir; it does not exceed eight British miles in length from west to east, and the greatest breadth at its eastern extremity may be five; it has a fort and two or three redoubts. The third and fourth in importance are Pulaway or Way, and Pulo-run or Rohan: upon the first of which is a small fort, and upon the other a redoubt. The other two are Rozingen or Roffigen, in which there is a redoubt, and to this island the Dutch company often banish their flate prisoners; and Gunung-api, Gannong, or Ganapex, which has a volcano constantly emitting smoke, and often flames. The nutmeg-tree is chiefly cultivated in Neira, Gannong, Ay or Way, and Lantor or Banda; and it flourishes not only in the rich black mould, but even amid the lavae of Gannong, which is the highest isle, the summit being 1940 feet above the sea. When the English admiral Raimier took possession of the island of Ambonay and Banda, which he seized without resistance, in February and March 1796, the annual produce was about 165,000 pounds of nutmegs, and 45,000 pounds of mace. The hurricane and earthquake, in 1797, almost annihilated the nutmeg-trees in Banda, so that the Dutch have become the dupes of their own avarice. From 1796 to 1798, the English East India company imported 817,312 lbs. of cloves, 93,732 lbs. of nutmegs, and 46,570 lbs. of mace, besides considerable quantities of each in private trade and privilege goods, amounting to about a third part of the above. The ground being chiefly occupied with these precious productions, cattle and grain, &c. are imported from Batavia, at the distance of three or four weeks' sail. The inhabitants of the Banda isles were found to be 5762. The English were expelled from Lantor and Rohan, at a period prior to the massacre of Ambonay; but seizing the whole Spice islands in 1796, and reduced them to their Batavian masters by the treaty of Waitoa in 1801.

To the government of Banda belong likewise several other islands in the neighbourhood, known by the appellations of the South-eastern and the South-western isles. Their inhabitants are in alliance with the company, and furnish a considerable quantity of provisions, confounding of wild-boars, flags, sea-cows, and other articles of food, which they barter at Neira for piece-goods and other necessaries. This trade, however trifling, is very beneficial to the inhabitants of Banda; and it is supposed, that the province would derive greater advantages from it, if the company would allow Neira to become a more commercial place; but this is prevented by the sanguine policy of the government. Stavrius's Voyages, by Wilcocke, vol. i. p. 331. vol. ii. p. 418. 

**Banda, Ican landa Ruyfch. Theat. bandasche curatuoba** and **Ikan bandina Jang. Swapti, Valen amb. banda Ican Potoa, banda Renard Ptc. in Iohannbelie, synonymous names of the species of Coryphantha, called by Genulin janudalbyle. 

**BANDAGE, in Surgery, is a Strip, a Filler, Swathe, or Band, applied to its peculiar use upon any member, &c. of the body. The nature and application of bandages are a study of considerable importance in Surgery; for it often happens that the cure of a local disease depends principally or entirely upon the proper management of them. Their substances and forms are various, according to the nature of the case, and the intention to be fulfilled in their application. They may be made of linen, flannel, leather, or cloth composed of different materials. Each of these substances, on particular occasions, has its respective advantages or disadvantages. 

**The common properties and uses of bandages are—**

1. To retain parts in their situation.
2. To separate or keep them athered.
3. To expel morbid fluids, or prevent their accumulation.
4. To confine dressings or external remedies.
5. To compress and obliterate certain vesicles.

The bandages must in use are made of linen or cotton.

The linen used for this purpose must have been already worn, but still sufficiently strong, cut according to the direction of the threads, and without seam. In order to prevent its unravelling, the edges may be slightly fitched round, but it ought to have no seams whatever.

As it is often impossible to procure long bandages of a single piece, and we are consequently obliged to form them of several different pieces, they should be sewed together with back-stitches, leaving ends several lines in breadth, which must be doubled round and heat perfectly smooth and even. But in order to avoid all the inconveniences that attend the use of bandages made of linen, it will be best to ufe fillers of linen expressly manufactured for the purpose, which may be woven of different breadth and lengths. 

Bandages are distinguished into **single bandages**, which consist of a single piece, and **compound bandages**, which are composed of several different pieces, and whose application requires greater trouble and skill. They are also divided into **general bandages**, or such as may be applied to several different parts of the body, and **particular bandages**, which are adapted only for one particular part.

Every single bandage consists of a beginning, middle, and end. The beginning and termination are named its **end**; and when the bandage is rolled up, they are called **bands**. The middle part of the bandage is called its **body**. When we roll up one end of the bandage to the other, we have a **single-headed bandage**; but when we roll up each end separately only towards the middle, it is then called a **double-headed bandage**. In order to apply any bandage properly, it is necessary that it should first be rolled up tight and perfectly even. The operator, when he applies it, holds its **body** between his **thumb and fore-finger of one hand, in such a manner that it lies directed upwards in the hand, and the end that has been rolled off is held down with the other hand upon the part till it is sufficiently secured by several turns. In rolling out the bandage, the head must run as close
close as possible to the diseased part, and constantly be turned towards the surgeon; the bandage should never be rolled out too far, and the head should be held neither too tight nor too loose. When we wish to remove the bandage again, we should not pull it forcibly off from any part to which it may adhere, but previously moisten it with warm water. It is then cautiously drawn off from the diseased part, and, in winding it off, that part of the bandage which has been rolled off is alternately shifted out of the right hand into the left, and vice versa.

To the simple bandages belong the circular bandages, the fiddle bandage, the retaining the expellent, the creeping, and the uniting bandages. To the compound bandages are referred the eighteen-headed bandage, the many-headed bandage, the T bandage, and in some measure also the 'Tournez.' Some bandages receive their appellations from the names of the parts to which they are applied: thus, bandages for the head, eyes, ears, nose, neck, breast, back, belly, &c.

The eighteen-headed bandage may be formed of several (suppose three) pieces of linen, about a foot in length, and ten or twelve inches in breadth, more or less according to the length and thickness of the limb, and all three are laid at the middle of each other. At the middle they are sewed together longitudinally, after which each of them is cut through on each side, till about two fingers breadth from the middle, into three equal parts, which form nine heads on each side. But as in this mode one head covers the other, there always remains a slit between the heads, by which means the limb is unequally pressed upon and secured. This defect may be remedied by arranging the cuts in such a manner that the heads of the middle piece of linen are always covered by a slit and the half of two heads of the other pieces of linen. This will be the case if, as Loeffler advises us, we give the first piece of linen four, the second three, and the third again four heads. See the Many-headed Bandage.

In cases of compound fractures, in which the bandages are frequently foiled, it will be more convenient, as Daffault advises, to use a bandage confiding of eleven separate fillets of linen, each a foot and a half in length, and four fingers broad. Four of these are to be laid at the bottom, three in the middle, and again four at the top, at the side of each other; and thus we obtain a twenty-two headed bandage of a more convenient composition. This bandage may still be improved by cutting the middle fillets shorter than the lowest, and the upper shorter than the middle; by which means the bandage will apply farther to the part. Should now any of the fillets be foiled, we have the advantage of being able easily to substitute another in its place; for we need only to sew the new fillet to the old one, and draw it by means of the latter through between the rest, without deranging any of the other parts of the bandage.

The Circular Bandage. This bandage may be of various lengths and breadths; it is rolled upon one head, and is used for securing small dressings, such as lint and compresses. It is applied in such a manner that one turn entirely covers the other, so that only the last turn is visible.

Ruinative Bandage. This is a common simple bandage, which is used for retaining dressings in their proper situation; and it is applied sometimes with circular, sometimes with spiral, and sometimes with creeping turns.

The Neck Bandage. A fillet, two feet or two feet and a half in length, is laid across over the head in such a manner that the ends reach down on both sides to the shoulders; and over this other fillet, five or six feet in length and two or three fingers broad, is rolled round the neck with circular turns. The two ends of the first fillet are then doubled back to the head, and securely to the circular turns with pins; by which means the circular turns are prevented from slipping off, an accident that is particularly to be apprehended when the neck is long.

Doubtful Bandage, to support the head, is formed with a small fillet, which is laid over the head in the direction of the sagittal plane, so that one end hangs over the nose down to the breast, and the other over the back of the neck till between the shoulders; and another larger inlet, fifteen or eighteen feet long and three fingers broad, which is rolled upon two heads. The middle part of the latter is laid upon the forehead, over the first fillet; it is then carried over the ears round the head, to the back of the neck; its heads are then shifted to opposite sides, brought forwards under both axillae, then carried backwards over the shoulders, crossed again, carried under the axilla over the breast, the head's shifted again, and the rest of the bandage rolled round with circular turns. The surgeon then takes hold of the two hanging ends of the small fillet, carries them back over the head, and there pins them together, or to the other turns, after having drawn the patient's head straight.

The Expulsive, or Distended Bandage. This is a common simple bandage, the length and breadth of which are to be regulated according to the purpose for which it is to be used. It is used in cases of huldas, and wounds made with pointed instruments, in order both to force the pus and blood towards the orifice, and thus expel them from the body, and also by bringing their inner surfaces into contact, to promote their healing up. Before the bandage is applied, all the fluids must be expelled out of the wound, ulcer, or fistula, by rubbing, prickling, or throwing injections into it. When this has been done, compresses of various dimensions are applied along the course of the fore, and particularly at the region of its bottom; and generally it is necessary to have compresses that are graduated at one end, the thickest part of which is applied over the bottom of the fore, and the thinnest over its orifice. An affiant holds the compresses fast in their proper situation, whilst the surgeon applies a single or a two-headed bandage, according to the situation of the ulcer. He commences the application over the bottom of the compress, so as to secure and press it down by two or three turns of the bandage, which he then carries towards the orifice with spiral turns; after which he carries it back again, and finishes with spiral turns. This mode of bandaging may also be used with great advantage in cases in which a flap of flesh has been partly cut off from the body, whilst it still remains attached by one part, in order to make it heal up again in its proper situation; and in such cases the bandage becomes an unrolling one. But when we apply it in this manner, we ought always to be careful to make a sufficient and equal pressure at every point; for otherwise our intention, if not entirely frustrated, will at least be impeded, and the cure prostrated.

Galen's Bandage. The four-headed or flinging bandage for the head. This bandage is formed of a piece of linen three or four feet in length, and from four to eight fingers broad, both ends of which are cut off as far as to leave the middle part about eight fingers broad. It is generally applied with the middle part straight upon the head, so that the anterior ends hang down over the cheeks, and the two others over the ears; and in order that it may lie more firmly upon the head, the edge of the middle part that lies over the forehead, as well as that on the back of the head, is doubled round, so as to form a kind of seam. The two anterior ends of the bandage are then carried over the ears, and fastened at the back of the neck; after which the two posterior ends are carried in the same manner over the ears, and fastened under the chin. The bandage may be applied in a similar manner upon various parts of the head, only it is to be...
be observed, that the central portion must always be placed over the diseased part, and the ends carried in opposite directions, either crossed or stretched out.

The Uniting Neck Bandage. This bandage is formed in the following manner. The surgeon takes a napkin four double, lays it under the patient's axilla, and pins it together in the front of the breast. He then takes two pieces of linen, fold each one of them to the patient's night-cap, and the other to the napkin, in such a manner, that if the wound be situated in the trachea, or at the fore-part of the neck, the ends, after the patient's head has been inclined forwards a little, can be fastened to the fore-part of the cloth, in order to keep the head in that position. But should the wound be situated in the back of the neck, the head may be inclined a little backwards, and retained by the same bandage in that position, by drawing the ends of the two small fillets more backwards, and fastening them there to the napkin.

The application of the T bandage, according to Mr. Evers's method, is however more advantageous, especially for uniting wounds across the throat. For this purpose, we are to take a fillet, three fingers broad and ten feet long, and few to the middle of it another of equal breadth and six feet long, so as to represent the figure of the letter T. The smaller fillet is now to be flit open all but one foot. In applying it, the part at which the two fillets are fewed together, is placed upon the back of the neck in such a manner that the smaller fillet lies over the back of the head upon the vertex. The two heads are next brought forwards over the shoulders, then carried under the axillar, which are guarded with compresses, to the back; the bandage is then crossed, brought forwards again upon the breast, and fastened. The flat ends of the smaller fillet are next crossed over the vertex; after which they are carried over the face under the axillar; the patient's chin, if necessary, being drawn downwards towards the breast, and this fillet is finally fastened like the former. Mr. Koehler has propounded for this purpose a leather cap with fraps, by means of which the patient's head may be drawn into any position that may be necessary. See the T Bandage.

The Inguinal Bandage. The bandage for luxations of the os femoris. This is a bandage eight or nine yards in length, and three or four fingers broad, rolled up into one head.

The Six-headed Bandage of Galen. This bandage consists of a piece of linen from three to four feet in length, and 8—12 fingers broad; its breadth and length being determined according to the size of the patient's head. The cloth is folded in such a manner that its breadth can be divided into three equal parts, and these parts are flit open from both sides, so far as to leave entire in the middle a space of the breadth of a man's hand, by which means fix heads are formed. It is applied nearly in the same manner as the four-headed bandage for the head.

The many-headed Bandage. This bandage is formed of a piece of linen or flannel, the dimensions being regulated according to those of the diseased part, into which a number of fillets are made at both sides, so as to leave only one part entire in the middle for the purpose of connecting the tail. In applying it, the whole piece is laid under the diseased part; the lowest of the ends, which lies on the outer side, is then brought obliquely upwards on the inner side, and that which lies within is brought obliquely upwards on the outer side, and so on; so that the lower ends are always half covered and secured by the upper. A many headed bandage may also be formed in another way, by cutting a piece of linen or flannel into several strips, of which the one is always longer than the other, but each of the same breadth with the rest. The shortest is generally made a foot, and the longest two feet in length. All these strips are now laid over each other in such a manner that always half the breadth of the one is covered by the other. To secure the whole, a narrow flit of linen or tape is sewed to them behind and also in the middle. In applying it, the narrowest part of the bandage must always come to lie over the smallest part of the limb. A bandage of this kind will perform the functions of the belt applied circular or spiral bandage, and it applies to the parts far better than the eighteen-headed bandage; on which account it may be used instead of the latter.

The T Bandage, the bandage for the flitula in ano. This is a common compound bandage, which is chiefly used in lesions of the neck, the breast, the abdomen, the back, but particularly the general organs, the anus, the groin, and the perineum. It is either single or double. The simple T bandage is formed in the following manner: take a fillet from four to eight feet in length, and fold it together in such a manner as to get the exact middle point. At this middle point few to it another fillet in a perpendicular direction, and of such length as may be most convenient for the purpose for which it is intended. To form the double T bandage, either two fillets are sewed in the middle obliquely beside each other, or a whole piece is sewed on and afterwards flit open. According to the dimensions of the place to which it is to be applied, it is made more or less broad.

The Creeping Bandage. This is a common simple bandage rolled upon one head, which is applied in a spiral manner round the limb, so that the one turn does not cover the other, but only lies close to it, in such a manner that no part of the limb remains visible. It may sometimes be used for securing compresses and other dressings.

The Scapulary and Napkin. This bandage consists of a napkin, and a scapulary as it is termed. The napkin is folded together, and rolled upon two unequal heads; the middle part is then applied under the arm in such a manner that the larges part is carried over the back, and the smaller over the breast; but both heads are laid over each other, and then fastened. But in order to prevent the napkin from falling out of its situation, the scapulary is required. This is formed of a piece of linen 2—4 feet long, and half a foot broad. In the middle of the piece a flit is cut, large enough for the head to pass conveniently through it; and in this manner one end hangs down before over the breast, and the other over the back. These two ends are then fastened to the napkin before applied. We may also flit open the ends, and thus attach them more extended to the napkin, by which means they will support it better. This bandage may be used in almost all lesions of the breast, as also in simple wounds of the abdomen.

The Spiral Bandage. This is a common simple bandage, the length and breadth of which must be adapted to the dimensions of the part; the second turn of the bandage always covers the first, and the third and following turns always cover each the preceding turn, either half or a little more, so as to represent a spiral figure. The turns may be made either from the upper towards the lower part of the limb, or from the lower towards the upper; in the first case it is termed the descending, and in the second, the ascending spiral bandage. It is generally applied in the last-mentioned manner, and may be used for swathing whole limbs, by which means alone very obilinate diseases may sometimes be cured.

Mr. Theden (Neue Bemerkungen u. Erfahrungen, &c. Th. I. Berl. 1761, p. 1.) was the first who called the attention of the public to the more frequent and rational use of swathing with this bandage; and experience has proved that this practice may certainly be attended with very great advantages. In applying it, every thing depends upon the whole limb being entirely encircled with it from the
the very points of the fingers or toes, so as to leave no part whatever bare, as a tumor would be produced in such a part. The method of applying it to the superior extremities is as follows:—For each finger we are to take a fillet a foot in length, and of the breadth of a finger, and wind it round each finger as well as the thumb in the following manner. The fillet turn is made circularly round the point of the finger, the second, in order to afford a good hold for the ret, immediately over the fillet; the third turn covers half or a little more of the second, and the fourth and following turns the same. The ends of these fillets are laid upon the back of the hand, and secured with a fillet from 20 to 30 feet long, and 2 or 3 fingers broad. With this long fillet, the fillet turn is made immediately over the fingers round the hand, and for the sake of security, the second straight over the fillet; but the following turns always cover each one half of the preceding turn, and they ascend as high as the elbow, being applied neither too loose nor too tight; for we must always have in our power to introduce a finger between the turns in case of necessity. If we intend to wet this bandage with any liquid, we must apply it somewhat looser, as it contracts and becomes tighter when it is moist; but afterwards it must be kept constantly moist, as otherwise, when it dries, it becomes too loose, and is consequently rendered useless. Should the person who applies the bandage, not know how to hit the proper measure of tightness in this case, he may wet the bandage before he applies it.

These turns are carried up as high as the elbow, where, if it be a case of injury from blood-letting, a piece of rag spread with a proper ointment is laid upon the inflamed or ulcerated part, and the bandage is carried two or three times up to the humerus, and back again, so as to form turns like ∞ ∞, as in the operation of blood-letting. If we cannot cover every part by means of these turns, we may lay an oblong piece of linen, 3—4 fingers broad, and a foot long, under the elbow, draw it tight, and secure it above and below with the bandage. The end of the piece of linen that projects under the bandage is doubled back, and another turn made round it, in order to prevent its giving way. The turns are then continued as high as the deltoid muscle, or to the shoulder, and the end of the bandage is fastened to the neck. When the tumor grows smaller, fat is to render the bandage too loose, it may be renewed. In swathing the lower extremities, it is not necessary to bandage each limb separately, and this would also be very difficult on account of the shortness of these members. We may therefore apply the middle part of a piece of linen, about twice the breadth of a man’s hand in breadth and length, close to the points of the toes, and turn one part over the back of the foot, and the other under the sole; the two folds of the linen are then to be drawn tight towards the foot, and doubled downwards, both at the great and little toe, towards the sole, where they are to be held fast with the left hand. The surgeon then takes into his other hand the bandage, which may he from 30 to 40 feet long, and 2—3 fingers broad, and secures the piece of linen that includes the toes, with two circular turns, after which he proceeds to carry the bandage with spiral turns towards the leg. In order to obviate the difficulty that attends the bandaging of the heel, we may apply under the sole another piece of linen, somewhat more than the breadth of a man’s hand, so as to reach above the heel, surround it with the bandage and draw it tight, then double down the ends, and secure them with the bandage in order to prevent their giving way. For the greater security of the bandage, and in order to prevent the pain which it might occasion by its pressure upon the Tendo Achillis, we may fill up the depressions on both sides of the tendon, as high as the termination of the calf, with lint, whilst we are bandaging the limb. As often as it is necessary, namely when any turn is not drawn so as to cover half of the preceding, we must turn the bandage, and this must be done particularly under the calf. When the limb has been swathed, a flocking that fits well should be drawn over it.

**Stellated Bandage with Two Heads.** This bandage is used after blood-letting at the temporal artery. It is from 16 to 20 feet long, two fingers broad, and rolled upon two heads. Instead of this bandage Mr. B. B. L. recommends the use of a well-hardened feel spring, three quarters of an inch broad, and twelve or fourteen inches long, which is covered with soft leather, and of equal strength with the spring of a rupture bandage.

**The Single Star Bandage.** This is a one-headed bandage, from sixteen to twenty-four feet long, and four fingers broad, which is used in some affections of the fœnus.

**The Double Star Bandage.** This bandage is 3—4 fingers broad, 24—32 feet long, and rolled upon two heads: it is likewise used in leisons of the fœnus.

**The Bandage for an Umbilical Hernia.** These bandages may either be elastic or non-elastic. With infants an elastic bandage is both troublesome and superfluous. Mr. Richter therefore recommends to apply half a nutmeg, wrapped in a piece of linen to the umbilicus, and to secure this with a single adhesive planter and a circular roller. But lest the bandage should slip, and the planter together with the nutmeg fall off, he directs the front part of the bandage to be made almost as broad as the hand, and that which lies upon the hips two thirds narrower, in order that if it should slip a little upwards or downwards, it may still in some degree help to retain the piece of nutmeg in its place. In order to prevent the bandage from wrinkling, it is made of double linen, and at the front part which covers the navel, a piece of leather is inserted between the two pieces of linen; by which means this part of the bandage constantly preserves its proper breadth. When we wish to change this bandage, we should introduce a finger under the bandage, and press down the nutmeg upon the navel till the bandage has been applied, left the navel should again be protruded. Instead of the nutmeg, we may employ for the same purpose a set of graduated compresses, or any other proper hard substance. See the article **Rupture.**

**An umbilical bandage for the umbilical hernia in adults is made in the following manner.** We take a piece of parchment four or five feet long and four fingers broad; and cut into the middle of it a slit a foot long, which passes over the patient’s head when it is applied. To the one end, at both corners, two straps are sewed, which run on in a straight line with the whole. Two other straps are sewed immediately over the former to the margin of the bandage, so that when the whole is laid upon a horizontal surface, they form a right angle with the slit of parchment, on each side. Finally, to the inner side of the bandage a cushion is attached, which is stuffed with horse-hair, cork, or cotton, and in order that it may lie properly, it ought to have a degree of swell round the margin. In applying it, the patient introduces his head through the slit above-mentioned, so that the longer portion of the slit of parchment hangs down perpendicularly over his breast, and the shorter down his back. After the hernia has been reduced, the two upper straps attached to the margin of the bandage are carried round the body and tied upon the back; or if they be long enough, over the cushion in front. The other two are brought through between the thighs, and fastened at the back to the slit, or to the upper piece of parchment or linen. But
But as the hernia is not always of equal size, being smaller in the morning, and larger after meals, and as it alternately rises and sinks in inspiration and expiration, it is evident that these elastic bandages cannot adapt themselves to these diversities, as they either render necessary a stronger, inconvenient, and often hurtful pressure, or do not press sufficiently, so that the hernia is constantly in danger of slipping through.

With adults therefore we can expect no security, except in the use of elastic bandages for the umbilical hernia; and of these there are simple, compound, and double bandages. The simple bandage consists of a somewhat broad, round, or oval cushion, and an elastic band. With patients whose umbilical region is more debilitated, an oval cushion is requisite, having in the middle a small hole of the size of a walnut, which comes to be upon the navel. Mr. Richter also recommends the use of a common bandage for the inguinal hernia, provided in its front with a field, to the inner side of which a cushion is attached. However, this and the above-mentioned rupture bandages are not sufficiently secure against slipping out of their situation, on account of their being provided only with a single hand spring.

Mr. Theden has proposed the use of elastic gum for bandages for the umbilical hernia; and Mr. Juville thinks that it may be sufficient with patients that are not corpulent, and when the hernia is small. But as elastic gum loses its elasticity when it grows warm, it has been proposed to superpose its use by the application of spiral steel springs to both sides of the cushion. However, both these methods are liable to the objection, that they produce the same pressure upon the whole surrounding part of the abdomen, as they do upon the navel itself; and consequently the cushion either does not compress the navel sufficiently, or it presses it more than is necessary.

A better bandage than these, for the umbilical hernia, is that of Squire, which consists of a plate, with a cushion screwed to it, and two lateral springs proceeding from the plate, which, when it is applied, firmly embrace the body. An elastic bandage of another kind is that of Surer crucis, which Mr. Richter (Abhandlung van den Bruechen. Göttingen, 1785, p. 641. tab. vi.) has described, delineated, and in a high degree improved. Two bandages of Mr. Juville for umbilical hernia, of which one is described and delineated by Mr. Bell; and the other by Mr. Hofer. (Lehrfuecke des Chirurg. Verbandes. Th. II. Erfurt-1791, tab. x. fig. 77.) Dr. Alex. Mono, senior, has also described a bandage, confining of a steel spring, which, after the hernia has been reduced, is placed upon the navel, and retained in this situation by a bandage. It is drawn as tight as may be necessary by means of straps and buckles.

When, as sometimes occurs, the hernia has formed adhesions, either spontaneously, or on consequence of improper bandaging, in which case its reduction is altogether impracticable, we must use a concave cushion, instead of a convex one, that may receive the hernia into its hollow, and prevent the farther protrusion of the intestines. If the bandage be skilfully constructed, the adhesions may gradually be diminished, and the hernia at length reduced.

The uniting Bandage. This is a common double-headed bandage, and one of the most useful and indispensible which is used in cases of fresh wounds, in order to promote their speedy re-union. Properly it is only adapted for such wounds as run in the direction of the body and limb, and that are situated in parts which admit of the application of a bandage; however, it may also be used in cases of transverse wounds; but then it rather belongs to the compound bandages. It may be formed in different ways: viz.

1. According to one method of forming it, its length must be regulated by the circumference of the wounded part, and its breadth must be equal to the length of the wound. In general, however, it is rather used narrow than broad, and it must always be so long that the wounded limb can be three encircled with it. In the middle part it must have a large slit, through which the head of the bandage rolled up may easily be passed. In applying it, the surgeon takes one of its heads into each of his hands, applies that portion of the middle part that is not slit to the side of the limb opposite to the wound, brings the heads round the limb towards the wound, passes one of the heads through the slit, over the wound, and then the heads in such a manner as to bring the lips of the wound together; after which the one head is rolled round the limb above the wound, and the other below it. When the wound is deep, a longuette is applied under the bandage to each of the lips of the wound, at some distance from its edges; the thickness of these longuettse must be proportionate to the depth of the wound, and by means of them the bottom of the wound is pressed together when the bandage is drawn tight.

When the wound is very long, we must either apply several bandages, one at the side of the other, or make several slits in a single bandage, and pass the head through the second slit over the first turn, and there draw the lips of the wound together, and so also the second and the third time. In this case it will be best to make the slits whilst we are applying the bandages, namely, at the place where the two heads meet each other, as otherwise they do not fit accurately to the wound. The application of this bandage, however, requires great accuracy. If it be applied too tight, it excites pain, swelling, inflammation, and frustializes the purpose of reunion; but if it be applied too loose, the lips of the wound do not come into contact with each other, and the re-union is not properly effected.

2. Another more convenient bandage which is equally applicable to longitudinal and to transverse wounds, is that which has already been recommended by Mr. Henkel. (Anwendung zum Verbiess. Verbande, Berlin, 1767, 8. p. 237. Tab. XV. fig. 104.—Albo Richter's Anfangserudnisse des Wundzuruzynb. B. I. Tab. I. fig. 2.) It consists of four strips of linen, each of which is from one to two feet in length, and two or three inches in breadth. The dimensions, however, must always be regulated according to those of the divided part. Thrice four pieces are united by means of thefix narrow straps in such a manner, that all the six straps cross each other like the fingers of the hand when folded. In this manner we obtain a four-headed bandage, in which the six narrow straps form the centre of the whole.

When it is applied, the narrow straps, or the middle of the bandage, must be placed directly over the wound, and two of the heads must lie on each side of it, in such a manner that the one entirely covers the other. First, the two lowest heads on each side are fastened quite close round the limb with circular turns. The two heads above are then also first drawn tight with both hands, and then fastened in the same manner as the former. When this bandage is used, we have constantly a view of the wound, as the narrow straps lie immediately over it.

3. Mr. Eottcher (Aufenthalt des chirurgischen Verbandes, Berlin, 1795. p. 62. § 71.) has also recommended a very simple bandage for promoting the re-union of longitudinal wounds. He takes a common two-headed bandage, two or three fingers in breadth; and first applies to each side of the wound, at the distance of from half an inch to three inches from the edge, a longuette, which in the mean time is held by an assistant; he then takes one of the heads into each hand, and makes the beginning with the middle of the bandage, on the side of the limb opposite to the wound.
The two heads are now brought over the loutigettes, and in the same manner also over the wound; but this must be done in a very loose manner. The heads are then shifted into different hands, and drawn tight, by which means the longuettes are brought together, and the wound united. The two heads are then flung round each other, over the middle of the wound, then shifted again into different hands, and carried back in the same manner as they were brought forwards to the wound. This turn may be repeated three, four, or more times, according to the size of the wound. The ends are then either entirely wound off in circular turns, or should they not be long enough for that purpose, pinned to the other turns.

Should no unfavorable symptoms supervene, the untang bandage may be left to remain in its situation, five, six, and, if the wound be deep, still more days. Great accuracy, however, must always be used in applying it, as the wound is to be united from its bottom; and the dimensions of the longuettes, or compresses, must also be regulated accordingly; for with deep wounds they must be thicker, and with superficial wounds thinner. When the wound is entirely superficial, none are required. When the bandage is removed, the part must be retained precisely in the same position that has been given to it, and the new bandage applied in the same manner as the former. Even after the wound has completely healed, it will still be proper, by way of precaution, to leave the bandage in its situation for some days longer.

The Bandage of the Patella featured longitudinally. For this purpose is required a bandage from sixteen to twenty-four feet long. three fingers broad, and rolled upon two heads. When it is applied, the hollow of the knee must be boldered with compresses, and a small longuette, about half an inch thick, laid on each side of the knee-pan. The middle part of the bandage is then laid upon the hollow of the knee, and both heads brought forwards; a slit is then cut into the one part, through which the head of the other is passed, in such a manner that the slit fits to the middle of the knee-pan, after which the bandage is drawn tight transversely. The heads are then carried backwards, but obliquely, so that one comes to be situated higher than the other; and the bandaging is completed with circular turns. In order to keep the leg constantly extended, a well-boldered ferula or splint is laid into the hollow of the knee, which may be fastened there by the last turns of the bandage. For greater security, the leg may also be inclosed in a box properly lined, which reaches as high as the thigh.

We do not here profess to give an entire treatise on Bandages, but only an account of those which are most commonly used. Several authors, both ancient and modern, have discoursed on this subject very amply. In particular, we recommend the treatise of Vindex Vindius, for the opinions and practice of the oldest surgeons, which he has translated from the original Greek, and elucidated by various figures: edit. Lutetiae Parthorum, fol. 1544. Among the moderns, the best writers on bandages are Mr. Sive, Thulliae, Heider, Lombard, and Bernein; but all of them are too prolix and tedious, especially the French authors.

Mr. John Bull of Edinburgh has endeavored to simplify this study in his first volume of "Principles of Surgery;" there is, however, a very singular declaration in that part of Mr. Bull's book, viz. "Thos. innumerable forms in which the ancients turned the roller round the head, neck, and body." Says he, "are to be found in the treatises of Socrates, Glorus, Diocles, and Galen. In their treatises I find nothing but what has fallen into decayed and out of nothing that I could mention either for your amusement or instruction." See page 129. Now it happens in this instance, if not in some others, that Mr. Bull has never perused the authors whom he quotes; for no treatises of the kind alluded to, by Socrates, Galen, and Diocles, have ever descended to their posterity. Galen, indeed, wrote on bandages, and his observations are translated by Vitalis Vitalius, in the collection we have already referred to; but certainly Mr. Bull has had no access to copies of any familiar works by the three former physicians.

BANDAL, or BANDELLO, in Commerce, the name of a measure used in the fourth of Irelund, which is somewhat more than half a yard, by which coarse narrow linen is sold in the markets; whence it is called bandaleer.

BANDALEER, BANDELLO, or Bandler, a large leather belt, thrown over the right shoulder, and hanging down under the left arm; worn by the musketeers in the time of James and Charles 1st, both for the fastening of their fire-arms, and for the carriage of their muskett-charges; which being put up in little wooden, tin, or leathern cylindrical boxes, were hung, to the number of twelve, to each bandleer. Each of these boxes contained a single charge of powder.

The word is originally French, bandouiller, formed apparently from bandouiller, a kind of banditu partiicularly infecting the Pyrennes, who were formerly distinguished by this piece of furniture; and were themselves so denominated, gest van de volleurs, a kind of robbers.

The French soldiers still retain the bandaleer; their horse, their musketeers, and common guards, wearing it indifferently; excepting for some difference in its garniture. Grose (Treatise on Ancient Armour, p. 293.) says, this contrivance seems to have been borrowed from the Dutch or Walloons.

BANDAR-MALANKA, in Geography, a town of Hindostan, in the Circars, situated at the mouth of the river Godavery. N. lat. 16° 25'; E. long. 82° 26'.

BANDE', or in Brux., in Heredity, expresses the position of a lion, when he is placed diagonally in the shield.

BANDED, a term applied to a garb, or wheat, &c. when the band is of a colour different from that of the garb itself.

BANDELLO, in Geography, a town of Africa, on the coast of the kingdom of Adel.

BANDELL, a town in the kingdom of Bengal, situated on the western arm of the Ganges, or Hougly river. N. lat. 22° 53'; E. long. 88° 32'.

BANDELET, or BANDEL, in Architecture, any little hand or flat moulding, encompassing a column, like a ring; so that which crowns the Doric architrave. It is also called trunca, which Vitrivius uses for the same thing; sometimes fillet, finemen, &c. It is sometimes used for the three parts which compose the architrave, called by Vitrivius, fascia; and which are sometimes also denominated bands or flat bands.

BANDELLO, Matthew, in Biography, bishop of Agen, was born towards the close of the fourteenth century, at Calcediniano of Servia, in the Milanese. He entered into the society of the Dominicans; and after many changes of situation, he settled in France; and in 1550 was nominated by Henry II. to the bishopric of Agen; but he paid little attention to the duties of his office. The time of his death is not exactly known; but he was living in 1561. He was principally distinguished as a writer of novels. His collection was first printed at Lucca in 1554, in three volumes, 400, under the title of "Novelle del Bandello," to which was added another volume, printed at Lyons in 1573. The edition of London in 1740 comprises four volumes 410. In his narrations the author is said to imitate the manner of Boccaccio, and to write in a lively, pleasing style; but he has also copied his model in those licentious freedoms, which were
were no less unsuitable to his office, than offensive to the church. He was also author of a Latin version of Boccacio's story of "Tieto e Gippippo," of eleven cantos, in ottava rima, in honour of Lucretia Gomaga; and of some other works. Nov. Diet. Hillor.

BANDELVELLO, or Old Port, in Geography, the name of a good harbour at the mouth of the river Dora, on the east coast of Africa, in the Indian ocean; about twenty-seven leagues north of Magadara or Magadaxo, on the same coast.

BANDER ABASSI. See Gomberon.

BANDERAS, a large bay of the Pacific ocean, on the west coast of Mexico, in North America; running inland between two points of land, the north point called Tintoque, and the south cape Corientes, with an open entrance, and sufficiently spacious for the accommodation and anchorage of a fleet of ships.

BANDER CONGO, a port town of Asia, on the easterly side of the Persian gulf, and thirty-three leagues west from Bandar Abassi. N. lat. 25° 5'. E. long. 55° 8'.

BANDERE, a town of Hindoostan, in the circuit of Gojud, one hundred miles south of Agra, and forty-four S. S. E. of Gojud.

BANDERET, the name appropriated to the commanders of the militia of the canton of Bern.

BANDEROLE, in Heraldry, is a blazer affixed by small lines or ftirrups immediately under the crook on the top of the staff of a crooner, and folding over the staff.

BANDEROLs, in Military Language, the ornaments which were given to pikes near the point, in order to render their appearance handsome. Thesef sometime had the name of pencells. (See Grose on Ancient Armour, ii. 277.)

BANDEROLL, in Naval Language, a little flag, in form of a guidon, extended more in length than breadth, used to be hung out on the masts of vessels, &c.

BANDEROLLS, in Military Language, an ancient name for camp-colours.

BANDI, in Geography, a river of Africa, in the country of Calabar, in Lower Guinea, which runs into the sea by two channels. There is a town of the same name on an island at the mouth of the river.

BANDINELLI, Baccio, in Biography, a painter of history, was born at Florence in 1497, and became a disciple of Giovanni Francesco Rustico, a good sculptor. He had the ambition to become a rival of Michael Angelo, in painting as well as in sculpture; but hearing that this great master treated his works contemptuously, he laid aside the pencil, and would never afterwards resume it. As a flatuary, he possessed skill and merit, and in that art he deemed himself equal to Buonarroti; however, when he found that the world did not concur with him in opinion, he was much mortified. He died at Florence in 1559, at the age of 62 years. Several of his pupils became eminent artists. The principal of his works are the bas-reliefs of the tombs of Leo X. and Clement VII. at Rome, a St. Peter, a Baccus, the Lacocon, and some figures of some princes of the Medici family at Florence. His drawing is generally correct, and evinces an extensive knowledge of anatomy; but his muscles are too strongly marked, and he is deficient in grace. Argenville, Vie de Sculpteurs. Pilkington.

BANDITI, from the Italian bandire, persons proscribed, or, as we call it, outlawed; sometimes denominated banniti, or forti banniti.

BANDITI, or BANDITI, is also a denomination given to highwaymen and robbers, who infet the roads in troops, especially in Italy, France, and Sicily. Mr. Drydone, in his Tour through Sicily, informs us, that in the eastern part called Val Demoni, from the devils that are supposed to inhabit mount Etna, it has ever been found altogether impracticable to extirpate the banditti; there being numberless caverns and subterraneous passages round that mountain, where no troops could possibly pursue them; besides, they are known to be perfectly determined and resolute, never failing to take a dreadful revenge on all who have offended them. Hence the prince of Villa Franca has embraced it, not only as the safest, but likewise as the safest and most political scheme, to become their declared patron and protector; and such of them as think proper to leave their mountains and forests, though perhaps only for a time, are sure to meet with good encouragement and a certain protection in his service, where they enjoy the most unbounded confidence, which, in no instance, they have ever yet been found to make an improper or a dishonourable use of. They are clothed in the prince's livery, yellow and green, with silver lace; and wear likewise a badge of their honourable order, which intitles them to universal fear and respect from the people.

In some circumstances, these banditti are the most respectable people of the island, and have by much the highest and most romantic notions of what they call their point of honour. However criminal they may be with regard to society in general; yet, with respect to one another, and to every person to whom they have once professed it, they have ever maintained the most unshaken fidelity. The magistrates have often been obliged to protect them, and pay them court, as they are known to be perfectly determined and desperate, and to extremely vindictive, that they will certainly put any person to death that has ever given them just cause of provocation. On the other hand, it never was known that any person who had put himself under their protection, and feared that he had confidence in them, had cause to repent of it, or, was injured by them in the most minute trifles; but, on the contrary, they will protect him from impositions of every kind, and be on hand to go halves with the landlord, like most other contractors and travelling savants, and will defend him with their lives, if there be occasion. Tho' of their number who have thus enlisted themselves in the service of society, are known and respected by the other banditti all over the island; and the perfons of those they accompany are ever held sacred. For these reasons, most travellers choose to hire a couple of them from town to town, and may thus travel over the whole island in safety.

The term is also applied to a sort of free-booters, who pillage in the islands of the Archipelago.

BANDOBENA, in Ancient Geography, a town of India, on this side of the Ganges, seated, according to Strabo, on the river Chospes.

BAND-DOG, in Zoology, a variety of the mastiff or Canis Molossus of Linnaeus. It is lighter, smaller, more active and vigilant than the mastiff, but not so powerful; its nose is smaller, and pooffies, in some degree, the scent of the hound; its hair is rougher, and generally of a yellowish grey, streaked with shades of a brown or black colour. It frequently feizes cattle by the flank, attacks with enraged, and its bite is keen and dangerous. It is not often to be seen at present. Bewick's Hill Quadrupeds, p. 338.

BANDOL, in Geography, a harbour of the Mediterranean, nearly well, and about five leagues from Toulon. It has a fort, and there is anchorage near the east part of a fine island, which lies on the well point of the bay that is here formed by the coast.

BANDOLEERS, from the French bandoulieres, in the Military Art. See Bandoleer.

BANDON, in Geography, the name of a fine river in the county
BAN

county of Cork, province of Munster, Ireland, which rises
in the mountains of Carbery, and after watering the large
and thriving town of Bandon-bridge, and the village of
Inihoman, falls into the harbour of Kinsale. It is navigable
for large vessels as far as Collier's quay, near Inihoman, from
which place Bandon is supplied with English coal. At
the confluence of the Bandon and Brinny rivers, a little
above Inihoman, the East India company of England formed
a settlement about the year 1612, for carrying on cotton works,
and building large ships; for which purpose they purchased
the adjoining woods and lands. They garrisoned a castle,
and built three villages; but the opposition given to this
undertaking by the natives, soon obliged them to relinquish
it. The great woods in the neighbourhood were from that
time much demolished; though the river has not yet forfeited
the charter given of it by Speucer in his Fairy
Queen:

"The pleasant Bandon, crown'd with many a wood.,"
Campbell's Political Survey of Great Britain, &c. Smith's Cork.
Beaufort's Memoir.

BANDON-BRIDGE, or, as it is more commonly called, Bandon,
a considerable market and port town of the county
of Cork, province of Munster, Ireland, situated on both
sides of the river Bandon, over which it has a bridge.
It was one of the towns which owed its origin to the laudable
exertions of Richard Boyle, the first, and frequently called
the great, earl of Cork. He built it in the year 1610, in
the midst of a waste bog and wood, which had been impassable,
and inclosed it with walls, which were of great strength for
that period. In 1613, he procured for it a charter of
incorporation, in consequence of which it sent two members
to the house of commons; and was one of the boroughs
which occasioned so violent a debate at the meeting of
Parliament in that year. It was part of the policy of lord
Cork, as appears from his letter to secretary Cook (quoted
in Smith's Cork, vol. i. p. 236.), to admit none but Protes-
tant to live in the town; which seems to have been
considered a necessary support to the infant colony.
The consequence of this was, that the inhabitants, being united
among themselves, and all trained to arms, were very powerful,
and took an active part in the civil wars which distracted
Ireland, in the middle of the seventeenth century. After
the restoration of Charles II., the exiling party was not very
strictly observed, though it had been confirmed by a by-
law of the corporation; but the adherents of James II.,
under the earl of Clancarty, having destroyed the walls in
1689, and treated the Protestant inhabitants with severity,
it was revived, and has been since, with few exceptions,
strictly attended to. The widows and advantage of this
exclusion has been often called in question, but the strongest
objection to it certainly is, that it tends to keep alive
that animosity which has been the bane of Ireland, and which
all who study the true interests of the country will endeavour
to appease. The inhabitants of Bandon have been gene-

BAN

rally industrious. For many years they carried on the manu-
ufactures of fluff, cambrics, and linens, very extensively,
but these have of late declined. Ticken of superior quality,
and coarse green linens 27 inches wide, called cotton,
made in the town and neighbourhood; the latter of which is
fent from Cork to London and Bristol. There are also some
manufactures, which employ a great number of people.
The town is chiefly the property of the duke of
Devonshire, representative of the eldest branch of the Boyle
family, and on account of the shortness of the leaves, and
the want of proper encouragement, it is in general ill built,
the houses not at all corresponding to the wealth of the in-
habits. During the late war, Bandon became a great
military station, being conveniently situated for feeding
affluence to any part of the south-western coast at which it
might be wanted, and a strong garrison is still continued
there. The population is estimated at 12,000, and it sends
a member to the imperial parliament. Its distance S.W.
from Dublin is 156 Irish miles, and S.W. from Cork 13.
N. lat. 51° 44'. W. long. about 8° 44'. Smith's Cork, &c.

BANDORA, the capital of Sallet island, and separated
from Bombay island, on the Malabar coast of India, by a
narrow channel, in N. lat. 19° 5'. E. long. 75° 30'.

BANDURA, in Moser, an inferior kind of lute, for
which the notes were written in the same kind of tablature as
for the theorbo or great lute. See LUTE.

BANDIT, in Geography, a small island in the German
ocean, near the coast of East Friesland. N. lat. 53° 36'.
E. long. 6° 33'.

BANDURI, Anselme, in Biography, an antiquary of the
eighteenth century, was a native of the republic of
Raguila, in Dalmatia, and a Benedictine monk. He studied
at Florence, and having made rapid progress in the learned
languages, he became a preceptor. Montfaucon employed
him in 1700 to examine MSS. for his projected edition of
Chrysolom's works; and for extending his acquaintance with ecclesiastical antiquities, Banduri, under the patronage of
the grand duke of Tuscany, spent some years in the abbey
of St. Germain in Paris. Here he was enabled to complete his
valuable work, intitled, "Imperial Orientale, five, Anti-
quitates Conflantinopolitane," and published at Paris, in
1711, in two volumes, folio. He also published at Paris, in
1718, fol. a collection of Roman medals, under the title of
"Numimata Imperatorum Romanorum à Trajano Decio
di Palæologos Augustis;" which was enriched and enlarged,
and reprinted in 1720, at Hamburg, in 1720, by J. A. Fabric-
ius. In 1724, Banduri was appointed librarian to the duke

BANDUSIAN FOUNTAIN, in Ancient Geography, a
famous spring of Sicily, celebrated by Horace in the thir-
teenth ode of his third book, placed by fome at his Sabine
farm; but incontrovertibly proved by the abbé Chappuy, to be
near Panazo, in the principality of St. Germain. No shady
groves now hang over its banks to shut out the burning mid-
day sun; its gild waters no longer tumble down the rocks
in beautiful cascades; but checked with dirt and loll in
bosom of the earth. This is the valley under ground to which

BANDY-LEGS, in Surgery, are the dilatation of the lower
extremities, in any direction. This disease is usually occasion-
ated by a defective osification of the Tibia or leg-bone,
which therefore is unable to sustain the weight of the body
without yielding. See Distortions, and Mollieties Offic.

BANE-BERRY, in Botany. See Acer.

BANE, in Geography, a small island of France, near the
English channel, about a league S. W. of Ushant.

BANEK, John, in Biography, a famous general of
Sweden, descended of an illustrious family, was born in 1601,
and was so much distinguished by his proficiency in literature,
that Gustavus Adolphus used to call him his learned general.
In very early youth, he attracted, by his magnanimity,
the notice of that monarch, who pronounced him formed
for great events, and placed him in the army; and he soon
signalized himself so much, that, under twenty years of age,
he was employed in many critical enterprises, which required
no less dexterity than bravery. After the death of Gustavus,
he supported, as commander in chief, the battle of the
Swedish arms, by a series of victories, which raised his mili-
tary character as high as that of any general of the age.
He sustained this reputation undiminished till his death,
at Halberstadt, on the 10th of May 1641, in the 40th year
of his age. Baner, though not inefable of the glory he
had
had acquired by his actions, usually spoke of them with great
modesty. He was accustomed to say, that he never formed an
expedition, nor hazarded an action, without the most
reasonable hopes of success. He was equally feared and
beloved by the soldiers, and always inspired them with un-
bounded confidence. At the head of his troops, he acted
solely from himself, and without dependence, and would
rather have resigned the command, than have been directed
in his military operations by the orders of the cabinet. He
had the absolute disposal of all communications, and established a
regular order of promotion; he was humane to the vanquished
enemy, cautious in not wantonly expelling his troops to
action, and he blamed those generals who in sieges sacrifice
the lives of their men to raise their own military character.
Coxe's Travels in Poland, Sc. vol. iv. p. 51.
BANFF, in Geography. See Banff.
BANGA, a town of Africa, in the country of Whidah,
on the Slave coast.
BANGALORE, a town of Hindostan, in the Myfore
country, situated in the centre of the peninsula, and having
routes passing through it in every direction. It is, in itself,
place of great political importance, being a fortress of
strength, and from situation, the bulwark of the Myfore
country, towards Arecot. It is placed, by major Rennell,
in N. lat. 13°; E. long. 77° 37' 15". This is the common
point of junction, in the centre of the peninsula, as Com-
bectore is in the south-west, and Tittlecopol in the south-
east.
BANGER, one of the principal places in the island
of Belleisle, on the coast of France; and Palais is the
other.
BANGUS, Peter, in Biography, a Swedish divine,
was born at Helingberg, in 1633, and having studied at
Upsall, travelled with a pupil through Sweden, Denmark,
and the Netherlands. On his return, he was appointed pro-
fessor of theology in the university of Abo in Finland,
and filled the chair with credit 32 years. In 1682, he was ap-
pointed bishop of Wyburn, by Charles IX. of Sweden;
and died in 1696. He took great pains to serve his country,
by establishing schools and promoting knowledge. He
wrote in Latin an ecclesiastical Swedish history; a treatise
on Sacred Chronology; a Commentary on the Hebrews,
and other works.
BANCROR, Thomas, a learned Danish divine, of the
university of Copenhagen, was born 1602. He discharged,
with great credit, the duties of the professorhips of Hebrew,
philosophy, and divinity; and was the author of several learned
works. He died in 1661. Among his writings in Latin
are various dissertations to elucidate the scriptures: "Psal-
tologica Observations," printed in Svo. at Copenhagen,
in 1640: "An Exercitation on the origin of Diversity of Lan-
guages, and on the Excellence of the Hebrew," Svo. 1643;
BANGLE EARS, in the Metre, an impression in a
horse's ears, remedied in the following manner: place his
ears in such a situation as they are wanted to stand;
bind them with two small boards, so fast as not to flir;
and then clip away the empty wrinkled skin close by the
head.
BANGO, in Geography, a long shoal on the call coast of
Africa, of variable breadth, but in some places about two
leagues. See Cape Corrientes.
BANGOR, a township of America, in Hancock
county in the dist of Maine, on the west side of Penobscot river,
25 miles from its mouth at Belfast bay; 45 N.W. by W.
from Machias; 63 N.E. from Hallowell; and 280 N.E.
from Portland.
BANGOR, a small city of Camarvashire, North Wales,
Down, in the province of Ulster, in Ireland, situated on the south side of the bay of Carrickfergus; but though permitting a grant was granted to improve its port, it has very little trade. An abbey was founded here in the sixth century, put of the ruins of which yet subsists. Near this town, Duke Schonberg landed with the English army, 13th August 1689. Diedne N. from Dublin, 90 Irish miles. N. lat. 54° 58'. W. long. 5° 33'.

BANGUE, in *Sloane's* *MSS.*, a spèce of opium, in great use throughout the East for drying clothes, and inspiring joy.

This, by the Persians, is called *hacq*; by the Arabs, *asfar*, corruptly *esfar* and *afbak*; by the Turks, *bażik*, and vulgarly *mophets*; by the European naturalists, *bhang* or *banga*. The Indians, says Acosta, eat the seeds and leaves to increase their vigour, and to excite an appetite to their food.

The nobles, and chief military officers, when they are disposed to forget their toil, and to sleep in perfect ease and security, take of the powder of the seed and leaves, as much as they think sufficient, and add to it an opium, or green hemp hazel-nut; with as much opium as they think fit, and eat them all together with sugar. If they desire to be entertained with variety of scenes, and images of things, in their sleep, they add fome of the choicest cumari, cloves, nutmegs, and mace. If they have a mind to be merry, witty, and to indulge their amours, they add ambergriefe and mulk, and make them all into an electuary with sugar. It is by many affirmed that the seed and leaves promote lust; whence says J. Boshine, it appears that this herb has no affinity with hemp, though it be very much like it; since hemp, according to Dioscorides, is of a hot and dry nature, and extinguishes amorous desires.

Rays, from whom this account is taken, says, he learned from his Hans Shawe, that it is a different plant from hemp. It grows in Hindoostan, and other parts of the East Indies, where it is principally in use. Among the Indians, the seed is prepared among other medicating and aromatic substances into an electuary, which excites pleating visions, and as some faye, emboldens them to perform the most daring and atrocious deeds. See Datura.

Banga, in reality, is a *saæcledanes* to wine, and obtains in those countries where Mahometanism is established; which prohbiting the use of that liquor absolutely, the poor wretched are forced to have recourse to *saæcledanes*, to rout their spirits. The principal are *aspam*, and this *bangue*, which, says *Sylv* (Prel. Difc. p. 124.), consists of the leaves of hemp in pills or conserve, and by the rigid Mahometans is esteemed unlawful, though not mentioned in the Koran, because it intoxicates and disturbs the understanding as wine does, and in a more extraordinary manner. It is, however, commonly used in the East, but they who abdick themselves to the use of it, are generally looked upon as debauchees. According to the account given of this substance by Alexander Manucordato, councillor and physician to the Ottoman Porte, in a letter to Wedelius, bangue is prepared of the leaves of wild hemp, dried in the shade, then ground to powder, put into a pot, in which butter has been kept; let in an oven till it begin to torrefy; then taken out, and pulverized again; and thus to be used in the quantity of as much, at a time, as will lie on the point of a knife. As to the opinion among the Europeans, that the Turks prepare themselves for battle by a dose of bangue, which routes their courage, and impels them with ardour to certain death, Dr. Manucordato affirms us, that it is a popular error. The Turks think they are then going to receive the crown of martyrdom, and would not, for any consideration, forfeit the merit of it, which they would do by eating the bangue, which is held to be unlawful by their apostle, among other things which intoxicatingly.

BANGUEY, in Geography, an island of the Indian ocean, at the northern extremity of Borneo, not far from Balabac, the most south-wetern of the Philippines. N. lat. 7° 12'. E. long. 11° 25'.

Banta or Bango Peak lies in the peninsula of Malacca. N. lat. 7° 18'. E. long. 117° 17' 30'.

BANIFS, Padro nos, a small island and sand bank, of the north-western of the islands of Malacca, in about S. lat. 5° 35', and E. long. 100° 42'.

BANIOS, Padro nos, a small island surrounded by a sand bank, east of the half island, as far as S. lat. 6° 50'. E. long. 70° 20'.

BAN, a small district of Africa, in the country of Calabar, containing nine or ten villages.

BAN, a town of Italy, in the kingdom of Naples, and province of Capua, ten miles south-thouth of Troin.

BANIAL, a city of Italy, which runs into the Lecia.

BANICA, a small island on the west coast of Sumatra, in about N. lat. 1° 46'. E. long. 96° 52'.

BANJALUKA, or BANJALUK, a considerable town of European Turkey, in Bania, the residence of a pacha, seated near the river Seina, on the frontiers of Dalmatia, 144 miles W. of Belgrade. It is supposed to contain 18,000 persons. N. lat. 44° 20'. E. long. 18° 20'.

BANIAN Days, in *Marine Language*, a cant term among sailors, to signify those days in which they have to feed meat. It seems to be derived from the practice of the people mentioned in the article Banians.

BANIAN Tree, in Botany. See Ficus.

BANIANA, in *Annius* Geography, a town of Hispania Betica, in the country of the Tarshish. Presumably.

BANIANA, a religious F-6 in the country of the Mogul who believe a *monsgikesa*, and will therefore eat no living creature, nor even kill noxious animals, but endeavour to release them, if they see them in the hands of others.

The Banians are said to be so fearful of having communication with other sects, that they break their cups, if one of a different religion have drunk out of them, or even touched them; and empty the water out of a pond where he has washed himself. It is added, that if they happen to touch one another, they must wash and purify themselves before they eat, or enter their houses. They carry hanging at their necks, a stone called *tanberan*, as big as an egg, and perforated in the middle, through which run three strings: the stone, they say, represents their great god, and upon this account, they have great respect shewn them by all the Indians.

In a more general sense, the appellation of Banians comprehends all the inhabitants of India, as contradistinct with the Mahometans: but in a more restricted and peculiar sense, it is appropriated to one of the four principal sects, into which the Indians are commonly divided; the other three being the Brahmans or prieitets, the Rajaputs or men of the sword, and the artisans and labourers. See HINDOOS.

The proper Banians are called, in the Shaster, or book of their law, by the name of *flauditri*, under which are comprehended all who live after the manner of merchants, or that deal and trade for others, as brokers; exclusive of the mechanics, or artificers, who make another craft, called *soye*. Their name in the Brahmian language, in which their law is written, signifies an innocent and harmless people; and such they really are; for they cannot bear to see a fly, worm, or any other living creature hurt; and if and they receive a bow, they take it meekly and patiently. These Banians have no peculiar sect or religion, unless it be,
be, that two of the eight general precepts given by the legislator, Bremaw to the Indian nation, are, on account of the profession of the Banians, suppos'd more immediately to relate to them, viz. those which join veracity in their words and dealings, and avoiding all practices of circumvention in buying and selling.

The Banians and the Chinese are the greatest traders in the Indies, to whom must also be added the Jews and Armenians who are greatly dispersed over those parts. But the most considerable trade is carried on by the Banians, in the whole peninsula on this side the Ganges. They are extremely skilful and cunning in commerce. Most of them follow brokerage, and most of the brokers of the English, Dutch, and French companies are of that nation. They are deemed, in general, very honest, and have almost constantly in their hands the stock and cash of those companies.

They are likewise bankers; and there are few places in the East Indies for which they cannot furnish bills of exchange. They have also a sort of standing cash or bank where persons may deposit their money, and take it out again whenever they please.

Their form of contract, in buying and selling, is remarkable; being done in the profoundest silence, only by touching each other's fingers: the buyer loosening his *pamerin* or girdle, spreads it on his knee; and both he and the seller having their hands underneath, by the intercours of the fingers, mark the price of pounds, shillings, &c. demanded, offered, and at length agreed on. When the seller takes the buyer's whole hand, it denotes a thousand, and, as many times as he squeezes it as many thousand pagods, or roupies, according to the species in question, are demanded: when he only takes the five fingers, it denotes five hundred, and when only one, one hundred; taking only half a finger, to the second joint, denotes fifty; the small end of the finger, to the first joint, stands for ten.

See CEU SWATH.

Their children are betimes accustomed to trade, and to imitate the gentleness of manners, which distinguishes this class of persons. Those of the Banians, who have slaves, treat them with great humanity. Their manner of living is very frugal, and they never depart from it, except when they sell their children; on which occasion, they spend a sum amounting to no less than 12,500L. Their women are also distinguished by their simplicity of manners. They hold the nuptial tie in great estimation; and never allow themselves the least intercourses with strangers. Their husbands will not be satisfied without this revenge; alleging against every kind of familiarity between the sexes this proverb: "if you bring butter too near the fire, you can hardly keep it from melting."

BANIAS, in Geography, a town of Syria, fifty miles S.W. of Damascus.

BANIER, ANTONY, in Biography, a French abbe, was a native of Clermont, in Auvergne, who completed his education at Paris. Having been employed in cultivated instruction, he directed his particular attention to the subject of ancient mythology, and published in two volumes, 12mo., "An Historical Explanations of the Fabules of Antiquity." This work gained him the reputation of being a writer of taste and erudition; and 1744, he was admitted into the Academy of Inscriptions and Belles Lettres. In 1751, his treaties, designed to trace the fables of the ancients to historical facts as their true origin, was much enlarged and published in the form of dialogue. The fame subje& was pursu'd by the author in several dissertations communicated to the academy of which he was a member, and published in its Memoirs. With a view to the fame subject, he presented the public with the result of his researches during the last ten years of his life, first in his "Translation of the Metamorphoses of Ovid," with historical remarks and illustrations, and the plates of Picart, published at Amsterdam, in folio, in 1732, and reprinted in 1738 at Paris, in two volumes, 4to; and afterwards in a work, intituled, "Mythology, or the Fables explained by History," printed in 4to. and also in 12mo. at Paris, in 1740, translated into English and printed at London in 1741, 4 vols. 8vo. Banier died in November 1741, aged 69 years. He published an improved edition of Marville's "Mlangez d'Histoire et de la Literature," and had a great share in the new edition of Picart's "General History of Religious Ceremaries," published in 1741.

BANIER-MASSING or BENDER MASSIN, of Mid′Anville, in Geography, a town and district on the south side of the island of Borneo: the chief product and trade of which are pepper. The factory of the Dutch lies in S lat. 5°. They have here a small fort, where a junior merchant, as resident, with about 25 or 30 soldiers, are stationed. The object of this establishment is chiefly the collection or purchase of the pepper and rough diamonds produced in the country. The resident is allowed five per cent on the pepper. The contract with the king obliges him to deliver 600,000 pounds at three fivers per pound; and this is the only article which induces the company to retain this possession; for the profits on the rough diamonds, gold, wax, canes, and fago, would not be sufficient to make good the charges. Banier-massing is of no importance to the company as a source of revenue, for they do not possess a foot of land without their fort, and are obliged to be constantly on their guard against the infectious attacks of the natives. The charges of this establishment in 1779 were about 1100L. per annum, which, together with those of conveying the pepper from Borneo to Batavia, are fiercely covered by the profits accruing from this scanty trade. The river Banjar, called Bisios by d′Anville, flows from the centre of the country almost due south, and forms the harbour of the town; and on this river is experienced a difference of twelve feet in the rise and fall of the tide. The Bisios, as they are denominated, come down this river to the port in rude boats, with gold dust, and other articles, among which are diamonds; the Moors called Banjarcens being the factors. These Bisios are tattooed blue, with a small wrapper about the loins. The chiefs extract one or two of the fore-teeth, substituting others of gold; and stringing of the teeth of tigers, which abound in the island, a real badge of knighthood or of courage, are worn round the neck.

BANII.LIA, in the Materia Medica, a name used by some for the veainilla, or vanillaes, used in making the richest chocolate.

BANISHMENT, Exile, in Law, among us, is of two kinds: the one voluntary, and upon oath; the other by compulsion, for some offence or crime.

The former, properly called abjuration, was abolished by Stat. 21. Jac. I. c. 28; and has now ceased, 2 Inf. 629: the latter is enjoined by judgment of parliament. Yet out-laying and transportation may be also considered as a species of exile.

However, no power on earth, except the authority of parliament, can send any subject of England out of the land against his will; no, not even a criminal. For exile and transportation are punishments at present unknown to the common law; and whenever the latter is now inflicted, it is either by the choice of the criminal himself to escape a capital punishment, or else by the express direction of some modern act of parliament. To this purpose Magna Charta declares (c. 29.) that no Freeman shall be banished, unless by the judgment of his peers, or by the law of the land. And by
by the **bucco corpus act** (31 Car. II. c. 2), it is enacted, that no subject of this realm, who is an inhabitant of England, Wales, or Berwick, shall be sent prisoner into Scotland, Ireland, Jersey, or Guernsey, or places beyond the seas, where they cannot have the full benefit and protection of the common law; but that all such imprisonments shall be illegal; that the person who shall dare to commit another contrary to this law, shall be disabled from bearing any office, shall incur the penalty of a præsumption, and be incapable of receiving the king's pardon; and the party suffering shall also have his private action against the person committing, and all his aids, advisers, and abettors, and shall recover treble costs besides his damages, which no jury shall assess at less than 500l. Blackett. Conn. vol. i. p. 157.

**BANISTER, John**, in **Biography**, was educated at Oxford. In 1573, having taken a bachelor's degree, he obtained a licence to practice physic. He then went to Nottingham, and professing both medicine and surgery, "was wonderfully followed (Wood says) by all forts of people, for his happy practice in those arts." Banister published several works, of which the following are the titles: "A needful, new, and necessary Treatise of Chirurgery, briefly comprehending the general and particular Curation of Ulcers, with certain Experiments of his own Invention," London, 1573, 8vo. It is dedicated to Tho. Stanhope, Esq., high sheriff of Nottinghamshire. "The History of Man, lurked from the Sap of the most approved Anatomists," nine books, fol. Lond. 1578; decorated. Douglas says, with anatomical engravings, copied from Vesalius, but miserably executed. "Compendious Chirurgery, gathered and translated, especially out of Wecker," Lond. 1585, 12mo. This is not a mere translation, the work being corrected and much improved by Banister. "Antidotiary Chirurgical," containing variety of all sorts of medicines, Lond. 1589, 8vo. In 1633, several years after his death, his chirurgical works were published together in six books, in 4to. The Antidote was dedicated to the earl of Warwick, by whom he appears to have been patronized. Wood's Athenæ Oxon. Aikin's Biog. Mem.

**Banister, Richard**, was in great credit in the end of the sixteenth and beginning of the seventeenth century, for his skill in surgery, which he practised at Stamford in Lincolnshire. His knowledge in the art he learned of his near kinsman, John Banister, by whom he had been educated. "Sitting at the feet," he says, "of a Gama- lid in that art, let his name (he adds) be as a precious ointment poured out; for he was one to whom malice itself could do no mischief, nor hatred hurt." He continued in the general practice of surgery several years. "At length," he says, "I left the greatest maps of that unceafable mystery, and confined myself to the cure of the eyes, of the hare lip, the wry neck, and to affist the hearing by an instrument." But his principal object was relieving the blind; to perfect himself in this art, he appears to have associated with Henry Blackbourne, Robert Hall of Worcester, master Velder, Surlet, and Barnabie, of Penny Stanton, Lynn, and Peterborough, all famed for their skill in teaching and performing their operations on the eyes. Following their example, he visited many of the principal cities in the kingdom, particularly London, which place he visited spring and autumn for several years. It appears to have been his custom to procure certificates of the cures he performed at each place. "I can shew," he says, "that in the year 1609, I made, with the help of God, twenty-four blind people see in the city of Norwich; and I came thither again in 1611, and all of them had their sight; for confirmation of which, I had a certificate from the mayor and alderman, with the city seal annexed." A similar certificate he obtained from Sir Wm. Cockaine, lord mayor of London in the year 1621, which appears to have been the last time of his coming hither. "But now," he says, I know it is not long to the period of my days, so I mean to rest at home the small remnant that God hath allotted to me." He promises, however, to continue to afflict those who visit him at his house. The time of his death is not known.

In 1632, he published "A Treatise of one hundred and thirteen disaffections of the eyes and eye-lids," the second time published with some profitable additions of certain principles and experiments by Richard Banister, master in chirurgery, oculist, and practitioner in physic, 12mo. The book is not paginated. The part added by Banister seems to be a small treatise at the beginning of the volume, which he calls "Banister's Breviary of the Eyes." He here complains of the number of ignorant persons, and among them many women, who interfered in the art, to the hurt of the people. This part is interlarded with poetical effusions, in which he bounces at some pretended cures performed by drinking and washing the eyes with the waters of the Malvern and other springs.

"So many folks unto the town did run
For water, that alewives were half undone.
At first, when this news went o'er the world,
I doubted was it touched my freckled
I dwelt from thence, at least some twenty miles,
Yet there my patients went o'er fields and fylies."

He had the satisfaction, however, to see them come back,
"Their bodies wearied, and their griefs made worse,
And ease'd and purged only in the parke."

The treatise which gives the general title to the volume, and of which Banister has with most people the credit of being the author, was written originally in French by Jacques Guillaume, translated into English by an anonymous writer, and dedicated to John Banister. Wood's Athenæ Oxon. Aikin's Biog. Mem.

**BANISTERIA**, in Botany, so named by Dr. Houftoum in memory of the Rev. John Banister, a curious botanist, who lost his life in the sea after a ship in Virginia. Linna. gen. n. 573. Reich. 622. Schreb. 780. Cavanilles, t. 243: 258. Gott. t. 116. Cliffs, ?anuddia biqina; manuddia Cav. Nat. Order, tribe; loll, m. Juv. Gen. Char. Col., perianth, five-pertedt (four,eldon five, Cavan.) very small, fliff underneath with tubercles, permanent; two melfiferous glands under each division of the calyx, except one; and they are therefore eight in number. Car. petals five, orbiculate, very large, spreading, crenate (limbriate C.); claws oblong, linear. Stem, filaments ten, very small, coalescing at bottom; authors simple. P. germs three, winged, coalescent; fylies three, simple; filiggae obtuse (enlarged into a leaflet, Cav.) P. capsulated three, running out into a long wing, ocellataed, marked at the sides with small appendices, not gaping. Seeds solitary, covered, toothed on the lateral edge. Jaff. The flower, especially the glands of the calyx, shew the affinity between this and melpigia. It differs however in the leafy filigmas and winged fruit. B. leona has ten, the leaf have eight glands. Cav. Eff. Char. Col., five-perted, with melliferous pores at the base on the outside. Pet. roundish with claws; filiggae leaf-shaped; seeds three, winged with membranes.

at top in a short digger point, green above, yellow beneath, nearly equal to the petioles, on which and near the leaf are two opposite glands; without stipules; flowers in opposite axillary umbels; common peduncle elongated; rays five to seven, an inch long, jointed, with two short, opposite bracts; at the base of the rays are two small suborbicular leaves; corolla sulphur-coloured. A native of Dominique, Hispaniola, &c. 12. B. purpurea. Lam. Dict. n. 2. Plum. Spec. 18. ic. 15. Mt. t. 2. A. A. 

Leaves ovate; spikes lateral; seeds erect. A stem strong and woody, dividing into many opposite and twining branches; leaves ovate, on short peduncles; there are five or six pairs of braches, near the base of the same face with those of the common acacia, but whitish on their undersides; flowers axillary, in a kind of spike; petals purplish, short; third germ often abortive, whence Plummer says that the fruit is bicapular and two winged; and Miller, that the greater number of species have only two flowers. A native of the Caribbean islands, sent to Miller from Campeachy, and cultivated by him in 1750. 3. B. laurifolia. Lomarck. Dict. n. 3. A. A. 

Leaves ovate-oblong, rigid; racemes terminal. Stem shrubby, climbing, with long, reflex, diverging, roundish, rugose branches; leaves petiolate, ovate-lanceolate, acute, entire, nerved, smooth; racemes panicled; peduncles commonly one-flowered, short, yellow; leaves at the base of the peduncles two, minute, tomentose; calyx five-veined; petals filiform; anthers elliptic; stigma three-lobed, truncate at the tip; styles filiform; fruit, small, ill-defined, one of the three capsules usually abortive; wings three or four times longer than the capsules. A native of Jamaica and Hispaniola. 4. B. longifolia. "Leaves oblong, acuminate, rigid, shining, paniculate terminal; branches spreading very much." A native of the West Indies. 5. B. bongii. "Leaves ovate-oblong, acuminate; racemes lateral; seeds spreading." This species recoeds from the genus, it has only one flower, and the capsule has four wings. It has strong woody stalk, twining about trees which grow near it, and ribs twenty feet high. A native of the East and West Indies. 6. B. dichotoma. B. convolvulis. Cavan. 

diff. 228. t. 236. Lomarck. Dict. n. 6. "Leaves ovate; branches dichotomous." Plimmer first observed it in the island of Martinico. 7. B. fulgens. "Leaves suborbate, tomentose under and on the underside; racemes branchiate; peduncles umbellate." Its slender winding stalks, up to five feet high, the twining branches in a round bunch at the extremity of the branches, of a brownish yellow colour; the seeds are smaller, and have narrow wings than in the third species. A native of Jamaica and Barbados. 8. B. brevifolia. "Leaves suborbate; branches branchiate; seeds narrower within." Very like the foregoing; but the leaves more blunt; spreading out many branches, dividing into others, and yielding tendrils which fall on neighbouring trees, and mounting to a great height; the flowers, in loose clusters at the ends of the branches, are flat of a golden colour, and fade to a yellow, succeeded by slender thin seeds. A native of Carthagena. 9. B. acuta. "Leaves pinnate; leaflets oblong, obtuse; flowers fuscous; bloom branching, prickly." Climbing spikes, dividing into many branches with long winged leaves, composed of about twenty pair of small blunt pinnae, each having a deep furrow on the under side; the flowers grow in loose spikes at the end of the branches, and are surrounded by scale leaves, as large as those of the fertile male. A native of Tolm. 10. B. coriacea. A. A. 

Plum. Mt. f. 2. t. 109. Spec. 18. "Plants branchiate; leaves ovate-acute, coriaceus; racemes axillary." A native of Jamaica and Dominique. 11. B. vitata. "Leaves ovate-oblong, quite entire, shining beneath; paniculate terminal, navelling leafy." A native of Brazil, where it was found by Commerson. 12. B. crispophylla. "Branches tufted; leaves ovate-acute, with a golden spot on the lower face, wings very long." Found by Commerson near Rio-Janeiro in Brazil. 13. B. muricata. "Leaves ovate-acute, tomentose beneath; racemes axillary; capsules muricata." A native of Peru, where it was found by Joseph de Jufilier. 14. B. leonis. "Branches tufted; leaves ovate-acuminate, coriaceous; flowers panicled." It varies with more elongated leaves. A native of America, and found by Smeththan at St. Leon, in America, whether it has been transported. 15. B. fervicaria. "Leaves ovate-acuminate, ferrugineous beneath; flowers pinnate; bracts imbricate. A native of Rio-Janeiro, near St. Sebastian, in Brazil, found there by Commerson. 16. B. emarginata. "Leaves ovate, subcoriaceous, emarginate; at the end, tomentose on the lower face, flowers racemo-corymbulose." A native of America. 17. B. purpurea. "Leaves ovate, tomentose beneath, flowers in corysts, seeds erect." A shrub, six feet high, putting out many tomentose twining branches, by which it climbs up trees. A native of Guiana, on the borders of meadows, flowering in Augwil, observed there by Aublet. 18. B. furfuracea. "Leaves ovate, acuminate, flowers in corymbs, yellow, wings gradually widening." A shrub, with a trunk five feet high, putting forth many climbing, twining branches. A native of Guiana, on trees, by the sides of meadows and fields, flowering and fruiting in Augwil, observed there by Aublet. 19. B. cordata. "Stem twining; leaves orbiculate, beneath tomentose and silky; pediuncles biglobular." A native of Jamaica, Guadaloupe, and St. Domingo. Canavilles attributes to this the same synomyns of Stome and Browne, which Linnus has given to B. fulgens. 20. B. diffusa. "Leaves coriaceous, roundish, curled, smooth, cicinate." A native of Brazil, where it was found by Dominick. 21. B. urticifolia. "Stem twining, leaves subpapillatate, fuscous, with rounded lobes, flowers in umbels." A native of Rio Janeiro, found there by Commerson. 22. B. ovata. "Stem twining, leaves ovate, acute, quite entire, flowers in umbels, involucres fuscous." A native of the island of Dominique, where it was found by Delportes and Suman. 23. B. palmata. "Stem twining, leaves palmate, tomentose beneath, pedicels biglobular." A native of St. Domingo, found there by Delportes. 24. B. angustifolia. "Stem twining, leaves fuscous, large, tomentose, pedicels biglobular." A native of St. Domingo, found there by Delportes.

The species of this genus are all inhabitants of very hot climates, chiefly of America, from Brazil to Louisiana, particularly the islands. They are shrubs, mostly with twining stems, adorning the woods with the beauty of their flowers, and the variety of their opposite leaves. Plummer discovered four sorts; and for the rest, we are obliged to Aublet, Commerson, and other modern travellers.

Propagation and Culture. These plants, being natives of hot countries, cannot be preferred in England, unless they are kept in a bank-house. They are propagated by seeds, procured from the countries where they grow, naturally gathered when fully ripe, and brought to England in land or earth. When they arrive, they should be kept in pots, and if it be autumn, or winter, the pots should be plunged into a hot bed or tanner's bark, and removed from fruit and dust, till sprouting, when they must be removed to a fresh hot-bed, which will bring up the plants; when the plants come up, let them be put into separate pots, filled with light earth, and plunged into the bank-bed, after which they must be treated like other tender plants from the same countries. Marilyn's Miller.

Banisteria. See Gouania.
BANK, in Commerce, is a denomination given to certain societies or communities, who, on the charge of the money of private persons to improve it, or keep it secure; or in a common repository, where many persons agree to keep their cash, to be always ready at their call, or direction. The word bank in this sense comes from the Italian banco, formed of the Spanish banco, a bench, whereas the ancient money-changers sat in the public markets; or, as others think, a table whereon they told their money; for the Spanish banco signifies a table, as well as a bench; as among the Greeks the word ἄνθροπος signifies a bench, as well as a table, whence the word ἄνθροπος signifies a bank. Accordingly the institution of banks commenced in Italy, where the Lombard Jews kept benches in the market-places for the exchange of money and bills. Mr. John Law, indeed, in his treatise, intituled, "Money and Trade considered," describes the invention of banks to Sweden; alleging that the bulk of their money being copper, rendered it inconvenient; and in order to remedy this, a bank was set up, where the money might be pledged, and paper credit given to the value, which passed in payment, and facilitated trade. But this opinion, says Anderson (Hist. Comm. vol. i. p. 476.), is so far from being barely probable, that it is in a manner past all doubt, that the free cities of Italy were, in very early times, the inventors of banks (banker-houses, or barker-bourhous) and bills of exchange, long before the countries on the north extremity of Europe knew any thing of commerce, which Sweden knew not a Uttil of all the rest.

It cannot be doubted but that the beginning of traffic was by exchanging one commodity for another, as men could not fuit each others occasions. But the necessities of men being so various and different, in respect to the quantity and quality of requisites, money was instituted as the most convenient medium for commerce, whereby people might procure whatsoever they found in need of, in quantities according to their exigencies.

This changed the term of bartering into that of buying and selling; yet all trading at length refuits into a general barter. For he who sells any thing to receive money for it, purchases what he requires with the same money. Money then becoming the principal engine for circulating the bulk of commerce, its application to trade is proper to be considered.

Money is used in the minister kinds of dealings, as retailing, &c. when it is commuted for all kinds of labour, and to furnish the necessary provisions for daily use. This requires its being divided into the smallest denominations of the pieces, as into shillings and pence; so that this way of dealing is not capable of being transacted by bills and figures.

Money is also employed in the more extensive and wholesale way of trade, wherein large sums are negotiated; and this occasions frequent payments from one tradesman to another. In which payments, although strictly speaking ready cash be required as often as contracts are made, yet as commerce in general consists in the mutual dealings and transactions of many traders, it may often so fall out, by means of interchangeable debts and credits, that divers traders may satisfy each others occasions, without making any payments in specie, by transferring their debts to each other.

But when such mutual conveniences do not occur, traders usually receive their money in specie, and so pay it from one to the other. Yet this way of payment is attended with many inconveniences, as trouble in counting the money, hazard in securing it from the attempts of robbers, and loss from trusting it with unfaithful servants; for the prevention of all which, cities of large commerce have very naturally instituted the use of banks.

Of the said banks some are public, consisting of a company of moneyed men, who, being duly established and incorporated by the laws of their country, agree to deposit a considerable fund or joint stock, to be employed in various ways for the use of the society: or private, being such as are set up by private persons or partnerships, who traffic in the same way upon their own single stock or credit. Of the former sort of banks, several have been established in the principal trading cities of Europe, as in Venice, Genoa, London, Edinburgh, Amsterdam, Hamburg, Paris, &c. The most ancient of these is the bank of Venice. The bank, or Banco, of Venice, commonly called banco del guini, was established in the middle of the twelfth century, or as Anderson suggests (Hist. Comm. vol. i. p. 84.), A.D. 1157, though some have dated its establishment in 1156, or former what later. It is properly a board of public credit and industry, being a general and perpetual fund for all merchants and traders, established by a solemn edict of the commonwealth, which enacts, that all payments of whole and small mercantile, and letters of exchange, shall be in banco, or bank notes; and that all debtors and creditors shall be obliged, the one to carry their money to the bank, the other to receive their payments at banco; so that payments are performed by a simple transfer from the one to the other; he who was before creditor on the bank books, becoming debtor as soon as he has resigned his right to another, who is entered down as creditor in his place; so that the parties only change names, without any effective payment being made. Indeed there are sometimes actual payments made, especially in matters of retail, and when foreigners are disposed to have ready money to carry off in specie; or when particular traders choose to have a stock by them to negotiate in bills of exchange, &c. The necessity of these effective payments has given occasion to the opening a fund of ready money; which is found so far from diminishing the stock, that this liberty of withdrawing money at pleasure rather augments it. By means of this bank, the republic, without encroaching on the freedom of commerce, or without paying any interest, is mistress of 5,000,000 ducats, to which the capital of the bank is limited, to be in readiness on any pressing occasion; the republic being security for the capital. The original fund of this bank was two millions of ducats. In one of its wars with the Turks, the state became security to pay the money lodged in it, which they had been under a necessity of using in that exigency. Its agio, in process of time, arose so high as to be 50 per cent. better than current money, although the state by several edicts endeavoured to keep it lower. Its capital was afterwards made double the original sum; and the state, in another exigency, made free with that increased capital. In after times the state endeavoured, that bank money, or the agio of the bank, should never exceed 20 per cent. advance, as it still remains to this day.

The constitution of this bank was originally founded on such just principles, that it has served as a model in the establishment of banks in other countries, and the administration of its affairs has been conducted with so much integrity, that its credit has never been shaken; and it has been of infinite benefit to the state. For adjusting and balancing all their accounts in banking, they shut their books four times in every year, for three weeks at each period. Accordingly, Venice may boast of having given the first example to Europe of an establishment altogether unknown...
Bank of England, was first established in the year 1694, partly for the convenience of commerce, and partly also for the emolument of the proprietors; and it is the greatest bank of circulation in Europe. The scheme was projected by Mr. W. Pateron, a merchant, and debated for a long while in the privy council, till at length, by an act of 5 & 6 William & Mary, cap. 20. it was enacted, that their majesties might grant a commission to take particular subscriptions for 1,200,000l. of any persons, natives or foreigners, whom their majesties were hereby empowered to incorporate with a yearly allowance of 100,000l. viz. 80,000l. or 8 per cent. for interest till redeemed, and 40,000l. to be allowed the intended bank for charges of management. The corporation was to have the name of "The governor and company of the bank of England," their saidfund to be redeemable upon a year's notice, after the 1st of August 1705, and payment of the principal, and then the corporation to cease. The company was enabled by this act to purchase lands, &c. unlimitedly, and to enjoy the other usual powers of corporations; their stock to be transferable. They were restricted from borrowing more than 1,200,000l. except on parliament funds, and from trading in any merchandise, except in bills of exchange, and in bullion, and in the sale of such goods as were the produce of lands purchased by the corporation: and all bills obligatory under the seal of the said corporation, were made affiabile by indorsement. The charter of incorporation was executed July 27, 1694; which directs, that there be a governor, deputy-governor, and twenty-four directors; and specifies the qualifications of voters and of directors, together with other regulations, which have been further amended and enlarged by subsequent statutes.

In 1697, the bank was allowed to enlarge its capital stock, by an engratment of 1,601,711 10s. Its whole capital stock, therefore, amounted at this time to 2,201,711 10s. This engratment is said to have been for the support of public credit. In 1696, tallies had been at 40, and 50, and 60 per cent. discount, and bank notes at 20 per cent. During the great recoinage of silver, which was going on at this time, the bank had thought proper to discontinue the payment of its notes, which necessarily occasioned their disferr. By this engratment act, as it was called, the capital stock of the bank was to be exempted from any tax; no act of the corporation, nor of its court of directors, nor sub-committees, should subject the particular share of any member to forfeiture; but their shares were subject to the payment of all just debts contracted by the corporation; and it was made felony to counterfeit the common seal of the bank, affixed to their sealed bills, or to alter or erase any sum in, or any indorsement on their sealed notes, signed by order of the said governor and company, or to forge or counterfeit the said bills or notes. This act was judiciously framed for the restoration of public credit; and it served to effect two points; viz. the release of the exchequer tallies and orders from the stock-jobbing harpies by engratting them into this company, and also by cancelling the bank notes, also engratted, which had been at 20 per cent. discount; because the government had been greatly deficient in their payments to the bank; and a good interest was fecured to the proprietors of the increased capital. By stat. 6 Anne c. 22. it was enacted, for securing the credit of the bank of England, that no other banking company in England shall consist of more than six persons, empowered to issue bills or notes payable on demand, or for any time less than six months, which is the only exclusive privilege belonging to the bank. In pursuance of the 7th Anne, c. 7. the bank advanced and paid into the exchequer the sum of 450,000l.; making in all the sum of 1,650,000l. which it had advanced upon its original annuity of 56,000l. interest, and 4000l. for expense of management. In pursuance of the same act, the bank cancelled exchequer bills to the amount of 1,755,027l. 17s. 10d. at 6 per cent. interest; it likewise undertook the circulation of 2,500,000l. of exchequer bills for the supply of the year; and it was at the same time allowed to take in subscriptions for doubling its capital. In 1709, therefore, the capital of the bank amounted to 4,492,243l. 17s. 10d.; and it had advanced to government the sum of 3,375,027l. 17s. 10d. By a call of 15 per cent. towards the 400,000l. advanced to government, there was paid in and made stock 656,204l. 15s. 9d.; and by another call of 10 per cent. in 1710, 501,448l. 12d. 11d. In consequence of these two calls, the bank capital amounted to 5,559,995l. 14s. 8d. In consideration of the sum of 400,000l. advanced to government without interest, the exclusive privileges of the bank were prolonged to one year's notice, after the 1st of August 1732.

The convenience which government found in issuing exchequer bills by means of the bank, produced an agreement in 1713, when the company undertook to circulate new bills for raising 1,200,000l. towards the supplies, on having an allowance of 3 per cent. per annum, payable weekly, and a further allowance of 8000l. per annum, payable quarterly. On this occasion, by 12 Anne, c. 11. the company obtained an additional term of 10 years to the period of their continuation as a corporation; so that they were not to be dissolved but upon twelve months notice after 1st of August 1724; and to enable them to fulfill their engagements, they were empowered to make a call for money upon the proprietors. In the following year, they first received the subscriptions to a loan for the public service, which had been hitherto usually taken at the exchequer; but the bank, being found more convenient for monetized persons, has usually received them ever since.

In pursuance of the stat. 3 Geo. I. c. 7. 8, 9. in 1717, the bank delivered up two millions of exchequer bills to be cancelled; and it had, therefore, at this time, advanced to government 5,375,027l. 17s. 10d. It was now agreed to reduce the interest from 6 to 5 per cent. In pursuance of the stat. 8 Geo. I. c. 21. in 1722, the bank purchased the South Sea company stock to the amount of 4,000,000l.; and in this year, in consequence of the subcriptions which it had taken in for enabling it to make this purchase, its capital stock was increased by 3,400,000l. At this time, therefore, the bank had advanced to the public 9,375,027l. 17s. 10d.; of which the sum of 1,650,000l. was entitled to 6 per cent. interest, till the 1st of August 1745; but the rest was to be reduced to 4 per cent. from and after Midsummer 1727; and the capital stock of the bank amounted only to 8,995,995l. 14s. 8d. It was upon this occasion, that the sum which the bank had advanced to the public, and for which it received interest, began first to exceed its capital stock, or the sum for which it paid a dividend to the proprietors of bank stock; or, in other words, that the bank began to have an undivided capital, and over above its divided one; and it has continued to have an undivided capital of the same kind ever since.

In 1728, the company of the bank advanced to government 1,755,000l. at 4 per cent. Interest, without any power of enlarging their capital. In the following year, they advanced the further sum of 1,250,000l. at 4 per cent. The capital due from government, after fundy redemptions, was 10,100,000l.; of which the sum of 1,000,000l. was redeemed
deemed in 1738, being part of the principal for exchequer bills cancelled in 1717.

In 1734, the company advanced a farther sum of £600,000, towards the supply for that year, without receiving any additional allowance for interest or management; but they were empowered to enlarge their capital stock to the same amount; and by the act 15 Geo. II. c. 13, establishing this contract, by which the privileges of the bank were continued till one year's notice after the 25th of August 1764, it was declared, that the acts of 7 and 12 Anne, and all other acts for determining the corporation, should be void; and that the governor and company of the bank should remain a body corporate and politic for ever, subject to such restrictions and regulations as were contained in the acts and charters then in force. The whole fund, advanced on the original fund of 100,000l. per annum, thus became 3,200,000l. and the interest upon it from 1st of August 1743, 3 per cent. per annum.

By this act, persons forging, counterfeiting, or altering any bank note, bill of exchange, dividend warrant, or any bond or obligation under that company's seal, or any indorsement upon it, or knowingly uttering the same, shall suffer death without benefit of clergy. Moreover, the company's servants breaking their trust to the company, shall suffer death as a felon without benefit of clergy. It was also enacted, that when, at a court of directors of the bank, neither the governor nor deputy governor shall attend in two hours after the time appointed for business, then any 13 or more of the directors may choose a chairman for the time, for the dispatch of business; and that such court shall be as valid as if either the governor or deputy governor had duly attended.

In consequence of the act, 19 Geo. II. c. 6, in 1746, the bank agreed to deliver up to the treasury 288,800l. in exchequer bills; in lieu of which it was to have an annuity of 4 per cent. for that sum, out of the fund for licensing spirituous liquors; and the bank was empowered to add the said 288,800l. to its capital stock, by taking in subscriptions for that purpose. Accordingly, at Michaelmas 1746, the whole debt due to the bank from the public was 11,688,800l. and its divided capital had been raised by different calls and subscriptions to 10,780,000l. The rate of these sums has continued to be the same ever since.

In 1764, the company of the bank agreed to advance 1,000,000l. towards the supplies, in exchequer bills, to be repaid in 1766; and to pay into the exchequer 110,000l. without any repayment of the principal or allowance of interest for the same; in consideration of which, the term of their charter was extended to 1st of August 1786; and the dividend on the company's stock was raised at Michaelmas from 4½ to 5 per cent. At Michaelmas 1767 it was raised to 5½ per cent.

From a very early period after the establishment of the bank, it had been the practice of the company to affix government with money in anticipation of the land and malt taxes, and by making temporary advances on exchequer bills and other securities. In the year 1781, the sums thus lent to government amounted to upwards of eight millions, in addition to the permanent debt of 11,688,800l. An agreement was now entered into for the renewal of their charter, the term of which was extended to August 1812, on the company's engaging to advance £2,000,000l. on exchequer bills, at 3 per cent. interest, to be paid off within three years out of theinking fund. In order to enable them to make this advance, a call of 8 per cent. on their capital was thought necessary, by which their former capital stock of 10,780,000l. was increased to 11,642,400l. the sum on which they now divide. The dividend was also increased one half per cent. so that it now became 6 per cent. In consequence of this agreement, the total of their advances to government on the land and malt taxes, exchequer bills, and treasury bills, was increased, on the 25th of February 1782, to 5,991,678l. The amount of the bank-notes in circulation must of course be augmented by the increase of advances to government.

In consequence of large advances to government, the great exportation of coin and bullion to Germany and Ireland, and several concurrent circumstances, which, at the commencement of the year 1791, produced an unusual demand of specie from different parts of the country on the metropolis, an order of the privy council was issued on the 26th of February, prohibiting the directors of the bank from issuing any cash in payment till the sense of parliament on the subject was obtained. This redivision was sanctioned by parliament; and a committee was appointed to examine the state of the bank, from whose report it appeared, that, on the 25th of February, after examining the outstanding claims against it with the corresponding acts, the amount of demands on the bank was 13,770,390l. and that of deficits, not including the sum of 11,688,800l. of permanent debt due by government, was 17,592,298l; so that there was a surplus of 5,826,903l.

Soon after the meeting of parliament, in November following, the committee of secrery, appointed to inquire into the expediency of continuing the redivision on the bank, reported, that the total amount of outstanding demands on the bank, on the 11th of November, was 17,578,910l. and of the funds for discharging the same, exclusively of the permanent debt, 21,148,640l. leaving a balance in favour of the bank at that time of 3,699,730l. The report stated that the advances to government had been reduced to 4,258,140l. and that the cash and bullion in the bank had increased to more than five times the value at which they floated on the 25th of February 1797, when it was about 1,272,000l.

By this statement, the solvency and solidity of the bank were satisfactorily vouched; and, indeed, its stability must be connected with that of the British government. All that it has advanced to the public must be lost before its creditors can sustain any loss. No other banking company in England can be established by act of parliament, or can consist of more than six members. It acts, not only as an ordinary bank, but as a great engine of state. It receives and pays the greater part of the annuities which are due to the creditors of the public (See National Debt, and Fund); it circulates exchequer bills; and it advances to government the annual amount of the land and malt taxes, which are frequently not paid up for some years. It likewise discounts the bills of merchants, and has, upon several different occasions, supported the credit of the principal houses, not only of England, but of Hamburgh and Holland. The business of the bank is under the direction of a governor, sub-governor, and 24 directors, who are elected annually by a general court; and it is transacted by a great number of subordinate clerks in different offices. The qualification of a director is 2000l. of a deputy-governor 3000l. and of a governor 4000l.; 500l. bank stock entitles the proprietor to vote at the general courts, provided he has been in possession of it six months.

The company may not improperly be denominated a trading company, and that which is peculiarly distinguished by the appellation of bank stock is a trading stock, the dividend of which, amounting to 11,642,400l. paid half-yearly, and now 7 per cent. accruing from the annual income of the company...
pany; and this arises from the interest received for the money advanced by the proprietors to the public, or the permanent debt of 14,886,800l. from interest on the annual temporary advances; from the profits of their dealings in bullion, and of their discounts; from the interest of stock held by the company; from the sums allowed by government for the management of the annuities paid at the offices of the bank, such as, an allowance of 450l. per million for management of the public funds, and the allowance of 8.5l. 15s. 10d. per million for receiving the contribution to loans, and from some other smaller articles.

The bank of England may be considered as the main spring of that complicated mechanism, by which the commercial payments of this country are transacted; and by which the comparatively small sum of money with which they are performed is kept in perpetual and regular circulation. The subordinate parts of this machine consist of about 70 private banking-houses in London, and about 386 banks diffused over the country. By the joint operation of these various money-dealers, almost all bank payments, founded on commercial bargains, are ultimately settled in London, with the money which issues from the bank of England. This money circulates, in ordinary times, partly of coin, and partly of bank notes. From its large capital and extensive issue of paper, that bank indirectly supplies the whole kingdom with as much gold as is required for circulation. Its notes are issued in loans, granted either for the accommodation of the public treasury, or for that of merchants by discount of their bills; and in consequence of a common agreement among the bankers, no notes of any private house are current in London. All the payments of that metropolis are in this manner effected by the paper of the bank of England; and they are chiefly transacted by the private bankers, who, according to a conjectural estimate, make daily payments to the amount of four or five millions, and have probably in their hands a very large proportion of the whole of the notes circulating in the metropolis.

The following table will exhibit, at one view, the state of the cash and bullion, the average of bank notes in circulation, and also the discounts and advances to government during the several periods which it comprehends.

<table>
<thead>
<tr>
<th>Date</th>
<th>Cash and Bullion</th>
<th>Average of Bank Note circulated</th>
<th>Bills Discounted</th>
<th>Average Advan. to Government</th>
</tr>
</thead>
<tbody>
<tr>
<td>1793</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>March</td>
<td>5,505,000</td>
<td>11,061,820</td>
<td>4,877,000</td>
<td>7,184,800</td>
</tr>
<tr>
<td>June</td>
<td>4,412,000</td>
<td>10,965,420</td>
<td>2,665,000</td>
<td>9,300,420</td>
</tr>
<tr>
<td>September</td>
<td>6,358,100</td>
<td>10,965,310</td>
<td>1,975,000</td>
<td>8,990,310</td>
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<tr>
<td>December</td>
<td>5,605,000</td>
<td>11,159,200</td>
<td>2,905,000</td>
<td>8,254,200</td>
</tr>
<tr>
<td>1794</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>June</td>
<td>4,165,000</td>
<td>10,846,420</td>
<td>2,657,000</td>
<td>8,189,420</td>
</tr>
<tr>
<td>September</td>
<td>5,368,100</td>
<td>10,612,850</td>
<td>2,660,000</td>
<td>7,952,850</td>
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<tr>
<td>December</td>
<td>5,763,000</td>
<td>10,621,570</td>
<td>1,885,000</td>
<td>8,736,570</td>
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<tr>
<td>1795</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>March</td>
<td>5,942,000</td>
<td>10,621,540</td>
<td>2,658,000</td>
<td>8,963,540</td>
</tr>
<tr>
<td>June</td>
<td>5,735,000</td>
<td>10,612,200</td>
<td>2,627,000</td>
<td>8,985,200</td>
</tr>
<tr>
<td>September</td>
<td>5,792,000</td>
<td>10,668,700</td>
<td>1,590,000</td>
<td>8,078,700</td>
</tr>
<tr>
<td>December</td>
<td>4,000,000</td>
<td>10,668,700</td>
<td>1,590,000</td>
<td>8,078,700</td>
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<tr>
<td>1796</td>
<td></td>
<td></td>
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<td></td>
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<tr>
<td>March</td>
<td>5,972,000</td>
<td>10,524,150</td>
<td>2,826,000</td>
<td>7,698,150</td>
</tr>
<tr>
<td>June</td>
<td>5,531,000</td>
<td>10,770,200</td>
<td>3,730,000</td>
<td>7,040,200</td>
</tr>
<tr>
<td>September</td>
<td>5,732,000</td>
<td>9,706,420</td>
<td>1,512,000</td>
<td>8,194,420</td>
</tr>
<tr>
<td>December</td>
<td>5,795,000</td>
<td>9,706,420</td>
<td>1,512,000</td>
<td>8,194,420</td>
</tr>
<tr>
<td>1797</td>
<td></td>
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<td></td>
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<tr>
<td>Feb. 26</td>
<td>1,127,000</td>
<td>5,640,250</td>
<td>2,905,000</td>
<td>2,735,250</td>
</tr>
</tbody>
</table>

In the beginning of 1798, the bank advanced to government 3,000,000 on exchequer bills, and in the progress of the year a further advance of 500,000l.; so that the total sum, advanced by the bank for the public service, and out-

In November following, a negotiation was entered into for renewing the term of the company's charter, although about 13 years of it remained. The provision was agreed to at a general court held January the 9th, 1800. The conditions were, that the bank should advance to government 5,000,000l. for the service of the year 1800, on exchequer bills, payable, without interest, out of the supplies to be granted for the year 1800, in consideration of which the term of their charter was continued till the end of twelve months notice after the 1st of August 1803.

The amount of bank notes in circulation had gradually increased since the beginning of 1797; and, during the year 1800, amounted to about 15,500,000l. The amount, on an average of a month, to 27th of January 1801, was 16,355,200l.; consisting of 13,845,500l. in notes of 5l. and upwards, and 2,519,700l. in 1l. and 2l. notes.

At a general court, held 16th of March 1801, another occasional dividend of stock was proposed. This dividend was to be made of 285,120l. of 5 per cent. annuities, at the rate of 5 per cent. for every 100l. bank capital; and the transfer was made on the 1st of May.

The commerce of London itself is immense: not only as a seat of populous and luxurious consumption but as a station of manufacturers, and an emporium of maritime trade. The number of payments occasioned by such various transactions, is further increased by the dividends which the national creditors receive on the great sum of our public debt. But in addition to all these payments, originating within the capital itself, bills are drawn upon London, and remittances are sent thither to provide for them, from all parts of the kingdom. Even foreign drafts, on account of merchants in the country, are, with scarcely any exceptions, made payable in London. And thus a great proportion of the pecuniary engagements, to which the whole commerce of the kingdom gives birth, are ultimately settled there. This transfer of the country payments to London, has, in some degree, fulfilled for a long time; the practice, once begun, was likely, from its great advantages, to be gradually extended; and, of late years, it seems to have been reduced to a regular and very commodious system. It was much facilitated by the multiplication of country banks, during that period of high prosperity and confidence which immediately preceded the late war. The formation of these throughout the whole country was actively encouraged by the private bankers of London; and, indeed, the existence of a great national bank, which, like that of England, must provide a constant reservoir of gold, naturally suggests the creation of smaller establishments. Upon the formation of such banks in the country, many traders of all descriptions, who had formerly maintained a direct correspondence with merchants in London, fell into the practice of transacting their business with the metropolis through the bank in their own neighborhood, without keeping any cash. On their account, he drew largely upon a banker in London; who agreed to execute the extensive country business he had thus acquired, at a much lower remittance, than what had formerly been paid by the several country traders to their
their separate correspondents. The rate of commissio

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the circulating medium, is aptly illustrated by a custom w

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each clerk there exchanges the drafts on other bank

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the natural consequence of that progressive subdivision

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money he may rely almost as confidently as on the ch

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for the interest that grows upon such negotiable paper

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Should the alarm be great and of long continuance, the bank, by maintaining only a million of notes in circulation, may, by the continual return of these, be exhausted of fifty millions of guineas. Besides, a more permanent cause of a run upon the bank of England for specie is the excess of the market price of gold above its mint price. This was formerly occasioned by the debased state of gold currency; and the bank has been reduced to the necessity of coining new guineas, which were immediately melted down, that the bullion might be sold to the bank itself at the high market price. In whatever manner the high price of gold is produced, immediate demands are made upon the bank for guineas, in order to export them. Thefe it endeavours to replace, though gold cannot be purchased without a considerable loss. A molt unequal competition will thus be established between the bank, on the one hand, which buys and coins at a great loss, and the clandestine dealers, on the other hand, who melt and sell at a great profit. If the unfavourable balance of trade, which has caused this high price of bullion, were not of a temporary nature, the bank of England, by this continued accumulation of unproductive expense, might ultimately be reduced to very great distress. Besides, the excess of the market price of gold above its mint price may likewise be produced by too great a quality of paper-money. The bank, indeed, has the power of restricting the country paper, by limiting its own notes to those which are actually needed for the purposes of circulation. It has, therefore, the power in a great degree of preventing that high price of gold, and the consequent drain of its own guineas, which proceed from an excessive circulation of paper. So long, then, as the bank is liable to payments in specie, it has an evident interest to prevent its own paper, as well as that of the whole country, from being so excessive, as to occasion a rise in the price of commodities. To limit the total amount of paper issued, and to retort, whenever the temptation of borrowing is strong, to some effectual principle of restriction; never to diminish greatly the sum in circulation, but to let it vibrate only within certain limits; to afford a slow and cautious extension of it, as the general trade of the country is enlarged; and to permit a temporary increase during an extraordinary period of difficulty or alarm:—this, according to Mr. Thornton (ubi infra), is the true policy of an institution placed in the circumstances of the bank of England.

If the bank of England, says an anonymous writer (Edinb. Rev. N. 1. p. 196.), must now be considered as a national establishment, not merely influencing, by the superior magnitude of its capital, the state of commercial circulation, but guiding its movements according to views of public policy, an important revolution has taken place since the first erection of that corporation as a banking establishment. That power of refining the medium of exchange, with the opportunities it implies of varying its quantity and value, which, while precious coin was in use, was exercised under the immediate prerogative of the crown, is now virtually invested in the governor and directors of the bank of England. In the official character of that board, some of the functions of sovereignty are united to those of a trader; and the opportunities of banking profits are blended with a trust and charge of the public interest. It will be pleasing if these shall prove more happily compatible, than they have been found in other institutions. The organization of this establishment, possessed of such means to control the operations of commerce, as well as to facilitate the advance of financial supplies, may, into our political constitution already so complicated, introduce a new principle of action, the effect of which cannot be clearly determined. Perhaps an unbounded field will be opened for the exten-
sixth of the whole. If we consider the quick circulation which paper admits of, and the increase which an accelerated rate of circulation gives to the effective powers of currency, this addition of almost one-sixth must be regarded as an immense augmentation of the mass of efficient currency. While the issue of bank of England notes was moderate and restrained, the market price of bullion, particularly of silver bullion, which is a more certain standard of gold, because it is a more regular article of commerce, continued very nearly the same as its established price in our mint. In the summer of 1799, however, about the same time with the great increase of bank paper, a rapid and extraordinary advance took place in the market price of bullion. That of silver rose at once to 6s. 8d. almost 10 per cent. above the mint price. It continued to rise along with the progressive increase of notes; and in 1801, when they exceeded fifteen millions, it was as high as 6s. more than 16 per cent. and even as 6s. 1d. more than 17 per cent. above the mint price. Thus also, while the issue of the bank of England notes was moderate and restrained, the rate of exchange at Hamburg continued in favour of this country, being from three to five per cent. above par. But in the summer of 1799, about the same time with the great increase of bank paper, a very rapid fall took place. It fell at once to 32 above eight per cent. below par; and continued to fall almost regularly, though not quite so regularly as the price of bullion rose, along with the progressive increase of notes. At the commencement of 1801, when they exceeded fifteen millions, the exchange with Hamburg was as low as 29l. 10s. almost 15 per cent. below par. Lord King has subjoined a list of tables, which exhibit the remarkable correspondence between the variations in the quantity of bank notes, and the variations in the price of bullion and rate of exchange. His lordship has also shewn, that the paper currency of the bank of Ireland has been augmented from £21,017l. 17s. 11d. in 1797, to £2,653,864l. 13s.; and that its notes at present in circulation exceed more than four times the amount of what were in circulation when the act of restriction was passed. During the same period, the price of silver in Dublin has experienced a great advance, having varied from 6s. 6d. to 7s. 6d. Irish currency; an increase, which, eliminating the mint price at 5s. 7d. is from 14 to 20 per cent. The rate of exchange between Dublin and London has been also remarkably affected; the difference having progressively increased from 83, the ordinary difference, to 10, 12, 14, and even 16. This proof of the depreciation of bank of Ireland notes has not been confined to the course of exchange with London, but is felt in the transactions of Dublin with many of the provincial towns, where those notes have not acquired a general circulation; the currency still confining either of specie, or of country notes. In consequence of this, and of the depreciated condition of the Dublin currency, there is an actual difference of exchange between Dublin and those towns. This is the case, for instance, in Belfast; when a payment is there made in bank of Ireland notes, an additional sum is paid proportional to the discount. Hereby Lord King infers, that the measure of 1797 has actually had a pernicious influence upon the system of circulation; and in long terms deprecates its continuance. Mr. Thorton states the following fact, that the enumeration of country-banks taken in 1805, differed from that taken in 1797, by the excess of 336 above 355.

It is not, says Dr. Smith (ubi infra), by augmenting the capital of the country, but by rendering a greater part of that capital active and productive than would otherwise be so, that the most judicious operations of banking can increase the industry of the country. That part of his capital which a dealer is obliged to keep by him unemployed, and in ready money for answering occasional demands, is so much dead stock, which, so long as it remains in this situation, produces nothing either to him or to his country. The judicious operations of banking enable him to convert this dead stock into active and productive stock; into materials to work upon, into tools to work with, and into provisions and subsistence to work for; into stock which produces something both to himself and to his country. The gold and silver money which circulates in any country, and by means of which the produce of its land and labour is annually circulated and distributed to the proper consumers, is, in the same manner, as the ready money of the dealer, dead stock. It is a very valuable part of the capital of the country, which produces nothing to the country. The judicious operations of banking, by substituting paper in the room of a great part of this gold and silver, enable the country to convert a great part of this dead stock into active and productive stock; into stock which produces something to the country. The gold and silver money which circulates in any country may very properly be compared to a highway, which while it circulates and carries to market all the goods and corn of the country, produces itself not a single pile of either. The judicious operations of banking, by providing, if I may be allowed to violent a metaphor, a road waggon-way through the air, enable the country to convert, as it were, a great part of its highways into good pastures and corn fields, and thereby to increase very considerably the annual produce of its land and labour. The commerce and industry of the country, however, it must be acknowledged, though they may be somewhat augmented, cannot be altogether to secure, when they are thus, as it were, suspended upon the Dardanian wings of paper money, as when they travel about upon the solid ground of gold and silver. Over and above the accidents to which they are exposed from the unskilfulness of the conductors of this paper money, they are liable to several others, from which no prudence or skill of those conductors can guard them. Mr. Hume (Effays, vol. ii. Eff. iii. p. 301.) expresses his doubt concerning the benefit of banks and paper credit. That provisions and labour, he says, should become dear by the incease of trade and money is, in many respects, an inconvenience, but an inconvenience that is unavoidable, and the effect of that public wealth and prosperity which are the end of all our wishes. It is compensated by the advantages, which we derive from the possession of these precious metals, and the weight which they give the nation in all foreign wars and negotiations. But there appears no reason, as he conceives, for increasing that inconvenience by a counterfeit money, which foreigners will not accept of in any payment, and which any great disorder in the state will reduce to nothing. (See Paper-Money.) Inquiry into the nature and effects of the Paper Credit of Great Britain, by Henry Thornton, Esq. M.P. London, 1802. Smith's Nature and Causes of the Wealth of Nations, vol. i. p. 479–484.

In Scotland, there are two public banks erected at Edinburgh; of which the one, called "The Bank of Scotland," was chartered by act of parliament in 1695; the other, called "The Royal Bank," by royal charter in 1727. New banking companies have been also erected within the last thirty and forty years in almost every considerable town, and even in some country villages. The banknotes of the country, says Dr. Smith (vol. i. p. 442.), is almost entirely carried on by means of the paper of these different banking companies, with which purchases and payments of all kinds are commonly made. Silver very seldom appears except in the change.
change of a twenty shilling bank note, and gold seldom.

But though the conduct of all these different companies has not been unexceptionable, and has accordingly required an act of parliament to regulate it; the country, notwithstanding, has derived great benefit from their trade. It has been affected, says this writer, that the trade of the city of Glasgow doubled in about fifteen years after the first erection of the banks there; and that the trade of Scotland has more than quadrupled since the first erection of the two public banks at Edinburgh. Whether this statement be strictly just or not, it is certain, that the trade and industry of Scotland have increased very considerably during this period, and it must be allowed, as a unquestionable fact, that the banks have greatly contributed to this increase. The whole value of the gold and silver, which circulated in Scotland before the union, cannot be estimated at less than a million sterling. In the present times, says Dr. Smith, the whole circulation of Scotland cannot be estimated at less than two millions, of which that part which consists in gold and silver, most probably, does not amount to half a million. But though the circulating gold and silver of Scotland have suffered a great diminution during this period, its real riches and prosperity do not appear to have suffered any. In agriculture, manufactures, and trade, on the contrary, the annual produce of its land and labour has evidently been augmented. It is chiefly by discounting bills of exchange, that is, by advancing money upon them before they are due, that the greater number of banks and bankers infuse their promissory notes; deducting always, upon the sum they advance, the legal interest till the bill shall become due. The payment of the bill when it becomes due, replaces to the bank the value of what had been advanced, together with a clear profit of the interest. The banker, who advances to the merchant whose bill he discounts, not gold and silver, but his own promissory notes, has the advantage of being able to discount to a greater amount by the whole value of his promissory notes, which he finds by experience are commonly in circulation. He is thereby enabled to make his clear gain of interest into a much larger sum. The commerce of Scotland was much less considerable than it is now, when the two first banking companies were established, and those companies would have had but little trade, if their business had been restricted to the discounting of bills of exchange. They invented, therefore, another method of infusing their promissory notes; by granting, what they called "cash accounts," that is, by giving credit to the extent of a certain sum (e.g. 2 or 3000 pounds), to any individual who could procure two persons of undisputed credit and good landed estate to become security for him, that whatever money should be advanced to him within the sum for which the credit had been given, should be repaid upon demand, together with the legal interest. Credits of a similar kind are commonly granted by banks and bankers, in all different parts of the world. But the cases upon which the Scotch banking companies accept of repayment are, says Dr. Smith, peculiar to them, and have, perhaps, been the principal cause, both of the great trade of their companies, and of the benefits which the country has received from it. Whoever has a credit of this kind with one of these companies, and borrows e.g. a thousand pounds upon it, may repay this sum by piece-meal. by 20l. and 30l. at a time; the company discounting a proportionable part of the interest of the great sum from the day on which each of those small sums is paid in, till the whole be in this manner repaid. All merchants, therefore, and almost all men of business, find it convenient to keep such cash accounts with them, and are thereby interjected to promote the trade of those companies, by readily receiving their notes in all payments, and by encouraging all those with whom they have any influence to do the same. The banks, when their customers apply to them for money, generally advance it to them in their own promissory notes. Thus, the merchants pay away to the manufacturers for goods, the manufacturers to the farmers for materials and provisions, the farmers to their landlords for rent, the landlords repay them to the merchants for the conveniences and luxuries with which they supply them, and the merchants again return them to the banks in order to balance their cash accounts, or to replace what they may have borrowed of them; and thus almost the whole money business of the country is transacted by means of them. Hence the great trade of these companies.

By means of these cash accounts, every merchant can, without imprudence, carry on a greater trade than he otherwise could do. If there are two merchants, one in London, and the other in Edinburgh, who employ equal fleets in the same branch of trade, the Edinburgh merchant can, without imprudence, carry on a greater trade, and give employment to a greater number of people, than the London merchant. The London merchant is kept always, by him a considerable sum of money, either in his own coffers, or those of his banker, who gives him no interest for it, in order to answer the demands continually coming upon him for payment of the goods which he purchases upon credit. Let the ordinary amount of this sum be supposed 500l. The value of the goods in his warehouse must always be left by 500l. than it would have been, had he not been obliged to keep such a sum unemployed. Let us suppose that he generally disposes of his whole flock upon hand, or of goods to the value of his whole flock upon hand, once in the year. By being obliged to keep so great a sum unemployed, he must sell in a year 500l. worth less goods than he might otherwise have done. His annual profits must be left by all that he could have made by the sale of 500l. worth more goods; and the number of people employed in preparing his goods for market, must be left by all those that 500l. more flock could have employed. The merchant in Edinburgh, on the other hand, keeps no money unemployed for answering such occasional demands. When they actually come upon him, he satisfies them from his cash account with the bank, and gradually replaces the sum borrowed with the money or paper which comes in, from the occasional sales of his goods. With the same flock, therefore, he can without imprudence, have at all times in his warehouse a larger quantity of goods than the London merchant; and can thereby both make a greater profit himself, and give constant employment to a greater number of industrious people who prepare these goods for the market. Hence the great benefit which the country has derived from this trade.

The late multiplication of banking companies in both parts of the united kingdom, an event by which many people have been much alarmed, instead of diminishing, increases the security of the public. It obliges all of them to be more circumspect in their conduct, and, by not extending their currency beyond its due proportion to their cash, to guard themselves against those malicious runs, which the rivalry of so many competitors is always ready to bring upon them. It refines the circulation of each particular company within a narrower circle, and reduces their circulating notes to a smaller number. By dividing the whole circulation into a greater number of parts, the failure of any company, an accident which, in the course of things, must sometimes happen, becomes of less consequence to the public. This free competition too, oblige all bankers to be more
more liberal in their dealings with their customers, left their rivals should carry them away. In general, if any branch of trade, or any division of labour, be advantageous to the public, the freer and more general the competition, it will always be the more so. Smith’s Wealth of Nations, vol. i. p. 446, &c. p. 498, &c.

**Banks of Deposit** are such as are instituted wholly for the benefit of the public. Of these Dr. Smith has given the following account: “The currency of a great state, such as France or England, generally consists almost entirely of its own coin. Should this currency, therefore, be at any time worn, clipped, or otherwise degraded below its standard value, the state by a reformation of its coin can effectually re-establish its currency. But the currency of a small state, such as Genoa or Hamburg, can seldom consist altogether in its own coin, but must be made up, in a great measure, of the coins of all the neighbouring states with which its inhabitants have a continual intercourse. Such a state, therefore, by reforming its coin, will not always be able to reform its currency. If foreign bills of exchange are paid in this currency, the uncertain value of any sum, of that which is in its own nature so uncertain, must render the exchange always very much against such a state; its currency being, in all foreign states, necessarily valued even below what it is worth.

In order to remedy the inconvenience to which this disadvantageous exchange must have subjected their merchants, such small states, when they began to attend to the interest of trade, have frequently enacted, that foreign bills of exchange of a certain value should be paid, not in common currency, but by an order upon, or by a transfer in the books of a certain bank, established upon the credit, and under the protection of the state; this bank being always obliged to pay, in good and true money, exactly according to the standard of the state. The bank of Venice established in 1157; that of Genoa in 1345; that of Amsterdam in 1609, that of Hamburg in 1619, and the bank of Nuremberg, seem to have been all originally established with this view, though some of them may have afterwards been made subservient to other purports. The money of such banks, being better than the common currency of the country, necessarily bore an agio, which was greater or smaller, according as the currency was supposed to be more or less degraded below the standard of the state. The agio of the bank of Hamburg, for example, which is paid to be commonly about fourteen per cent. is the supposed difference between the good standard money of the state, and the clip, worn, and diminished currency, poured into it from all the neighbouring states.

Before 1609, the great quantity of clip and worn foreign coin which the extensive trade of Amsterdam brought from all parts of Europe, reduced the value of its currency about nine per cent. below that of good money fresh from the mint. Such money no sooner appeared than it was melted down or carried away, as it always is in such circumstances. The merchants, with plenty of currency, could not always find a sufficient quantity of good money to pay their bills of exchange; and the value of those bills, in spite of several regulations which were made to prevent it, became in a great measure uncertain.

In order to remedy these inconveniences, a bank was established in 1609, under the guarantee of the city. This bank received both foreign coin, and the light and worn coin of the country at its real intrinsic value in the good standard money of the country, deducting only so much as was necessary for defraying the expense of coining, and the other necessary expense of management. For the value which remained after this small deduction was made, it gave a credit in its books. This credit was called bank money, which, as it represented money exactly according to the standard of the mint, was always of the same real value, and intrinsically worth more than current money. It was at the same time enacted, that all bills drawn upon or negotiated at Amsterdam, of the value of six hundred guilders and upwards, should be paid in bank money, which at once took away all uncertainty in the value of those bills. Every merchant, in consequence of this regulation, was obliged to keep an account with the bank in order to pay his large bills of exchange, which necessarily occasioned a certain demand for bank money.

Bank money, over and above both its intrinsic superiority to currency, and the additional value which this demand necessarily gives it, has likewise some other advantages. It is secure from fire, robbery, and other accidents; the city of Amsterdam is bound for it; it can be paid away by a simple transfer, without the trouble of counting, or the risk of transporting it from one place to another. In consequence of these different advantages, it seems from the beginning to have borne an agio, and it is generally believed, that all the money originally deposited in the bank was allowed to remain there, nobody caring to demand payment of a debt which he could fall for a premium in the market. By demanding payment of the bank, the owner of a bank credit would lose this premium. As a shilling fresh from the mint, will buy no more goods in the market than one of our common worn shillings, so the good and true money which might be brought from the coffers of the bank into those of a private person, being mixed and confounded with the common currency of the country, would be of no more value than that currency, from which it could no longer be readily distinguished. While it remained in the coffers of the bank, its superiority was known and ascertained. When it had come into those of a private person, its superiority could not well be ascertained without more trouble than perhaps the difference was worth. By being brought from the coffers of the bank, besides, it lost all the other advantages of bank money; its security, its easy and safe transferability, its use in paying foreign bills of exchange. Over and above all this, it could not be brought from those coffers, as will appear by and by, without previously paying for the keeping.

Those deposits of coin, or those deposits which the bank was bound to restore in coin, constituted the original capital of the bank, or the whole value of what was represented by what is called bank money. At present, they are supposed to constitute but a very small part of it. In order to facilitate the trade in bullion, the bank has been for these many years in the practice of giving credit in its books upon deposits of gold and silver bullion. This credit is generally about five per cent. below the mint price of fresh bullion. The bank grants at the same time what is called a receipt or receipt, entitling the person who makes the deposit, or the bearer, to take out the bullion again at any time within six months, upon transferring to the bank a quantity of bullion money equal to that for which credit had been given in its books when the deposit was made, and upon paying one-fourth per cent. for the keeping, if the deposit was in silver; and one-half per cent. if it was in gold; but at the same time declaring, that in default of such payment, and upon the expiration of this term, the deposit should belong to the bank at the price at which it had been received, or for which credit had been given in the transfer books.

What is thus paid for the keeping of the deposit may be considered as a sort of warehouse rent; and why this ware-
Bank.

Bullion rent should be so much dearer for gold than for silver, several different reasons have been assigned. The fineness of gold, it has been said, is more difficult to be ascertained than that of silver. Frauds are more easily practiced, and occasion a greater loss in the most precious metal. Silver, besides, being the standard metal, the state, it has been said, wishes to encourage more the making of deposits of silver than those of gold.

Deposits of bullion are most commonly made when the price is somewhat lower than ordinary; and they are taken out again when it happens to rise. In Holland, the market price of bullion is generally above the mint price, for the same reason that it was so in England before the last reformation of the coin. The difference is said to be commonly from about six to sixteen shillings up to the mark, or eight ounces of silver of eleven parts fine, and one part alloy. The bank price, or the credit which the bank gives for the deposits of such silver (when made in foreign coins of which the fineness is well known and ascertained, such as Mexico dollars), is twenty-two guilders the mark; the mint-price is about twenty-three guilders, and the market price from twenty-three guilders fixed, to twenty-three guilders sixteen shillings, or from two to three per cent. above the mint price. The proportions between the bank price, the mint price, and the market price, of gold bullion, are nearly the same. A person can generally sell his receipt for the difference between the mint price of bullion and the market price. A receipt for bullion is almost always worth something, and it very seldom happens, therefore, that any body suffers his receipt to expire, or allows his bullion to fall to the bank at the price at which it had been received either by not taking it out before the end of the six months or by neglecting to pay the one-fourth or one-half per cent. in order to obtain a new receipt for another six months. This, however, though it happens seldom, is said to happen sometimes, and more frequently with regard to silver, on account of the higher warehouse rent which is paid for keeping of the more precious metal.

The person who by making a deposit of bullion obtains both a bank credit and a receipt, pays his bills of exchange as they become due with his bank credit; and either sells or keeps his receipt according as he judges that the price of bullion is likely to rise or to fall. The receipt and the bank credit seldom keep long together, and there is no occasion that they should. The person who has a receipt, and who wants to take out bullion, finds always plenty of bank credits, or bank money to buy at the ordinary price; and the person who has bank money, and wants to take out bullion, finds receipts always in equal abundance.

The owners of bank credits, and the holders of receipts, constitute two different sorts of creditors against the bank. The holder of a receipt cannot draw out the bullion for which it is granted, without re-affixing to the bank a sum of bank money equal to the price at which the bullion had been received. If he has no bank money of his own, he must purchase it of those who have it. The owner of bank money cannot draw out bullion without producing to the bank receipts for the quantity which he wants. If he has none of his own, he must buy them of those who have them. The holder of a receipt, when he purchases bank money, purchases the power of taking out a quantity of bullion, of which the mint price is five per cent. above the bank price. The agio of five per cent., therefore, which he commonly pays for it, is paid not for an imaginary, but for a real value. The owner of bank money, when he purchases a receipt, purchases the power of taking out a quantity of bullion of which the market price is commonly from two to three per cent. above the mint price. The price of the receipt, and the price of the bank money, compound or make up between them the full value or price of the bullion.

Upon deposits of the coin current in the country, the bank grants receipts likewise as well as bank credits; but those receipts are frequently of no value, and will bring no price in the market. Upon ducatons, for example, which in the currency pays for three guilders three shillings each, the bank gives a credit of three guilders only, or five per cent. below their current value. It grants a receipt likewise to the bearer to take out the number of ducatons deposited at any time within six months, upon paying one-fourth per cent. for the keeping. This receipt will frequently bring no price in the market. Three guilders bank money generally fell in the market for three guilders three shillings, the full value of the ducatons, if they were taken out of the bank, and before they could be taken out, one-fourth per cent. must be paid for the keeping, which would be mere loss to the holder of the receipt. If the agio of the bank, however, should at any time fall to three per cent. such receipts might bring some price in the market, and might fall for one and three-fourths per cent. But the agio of the bank being now generally about five per cent. such receipts are frequently allowed to expire, or, as they express it, to fall to the bank. The receipts which are given for deposits of gold ducatons fall to it yet more frequently, because a higher warehouse rent, or one half per cent., must be paid for the keeping of them before they can be taken out again. The five per cent. which the bank gains, when deposits either of coin or bullion are allowed to fall to it, may be considered as the warehouse rent for the perpetual keeping of such deposits.

The sum of bank money for which the receipts are expired must be very considerable. It must comprehend the whole original capital of the bank, which, it is generally supposed, has been allowed to remain there from the time it was first deposited, nobody caring either to renew his receipt or to take out his deposit, as for the reasons already assigned, neither the one nor the other could be done without loss. But whatever may be the amount of this sum, the proportion which it bears to the whole mass of bank money is supposed to be very small. The bank of Amsterdam has for these many years past been the great warehouse of Europe for bullion, for which the receipts are very seldom allowed to expire, or, as they express it, to fall to the bank. The far greater part of the bank money, or of the credits upon the books of the bank, is supposed to have been created, for these many years past, by such deposits which the dealers in bullion are continually both making and withdrawing.

No demand can be made upon the bank but by means of a receipt or receipt. The smaller sums of bank money, for which the receipts are expired, is mixed and confounded with the much greater sums for which they are still in force; so that, though there may be a considerable sum of bank money, for which there are no receipts, there is no specific sum or portion of it which may not at any time be demanded by one. The bank cannot be debtor to two persons for the same thing; and the owner of bank money who has no receipt, cannot demand payment of the bank till he buys one. In ordinary and quiet times, he can find no difficulty in getting one to buy at the market price, which generally corresponds with the price at which he can sell the coin or bullion it entitles him to take out of the bank.

It might be otherwise during a public calamity; an invasion
The owners of bank money being then all eager to draw it out of the bank, in order to have it in their own keeping, the demand for receipts might raise their price to an exorbitant height. The holders of them might form extravagant expectations, and instead of two or three per cent. demand half the bank money for which credit had been given upon the deposits that the receipts had been respectively granted for. The enemy, informed of the constitution of the bank, might even buy them up, in order to prevent the carrying away of the treasure. In such emergencies, the bank, it is supposed, would break through its ordinary rule of making payment only to the holders of receipts. The holders of receipts, who had no bank money, might have received within two or three per cent. of the value of the deposit for which their respective receipts had been granted. The bank, therefore, it is said, would in this case make no scruple of paying, either with money or bullion, the full value of what the owners of bank money, who could not get no receipts, were credited for in its books; paying at the same time two or three per cent. to such holders of receipts as had no bank money, that being the whole value which in this state of things could justly be supposed due to them.

Even in ordinary and quiet times it is the interest of the holders of receipts to depress the agio, in order either to buy bank money (and consequently the bullion, which their receipts would then enable them to take out of the bank) for much cheaper, or to sell their receipts to those who have bank money, and who want to take out bullion, for so much dearer; the price of a receipt being generally equal to the difference between the market price of bank money and that of the coin or bullion for which the receipt had been granted. It is the interest of the owners of bank money, on the contrary, to raise the agio, in order either to sell their bank money for much dearer, or to buy a receipt for much cheaper. To prevent the flock jobbing tricks which these opposite interests might sometimes occasion, the bank has of late years come to the resolution to sell at all times bank money for currency, at five per cent. agio, and to buy it again at four per cent. agio. In consequence of this resolution, the agio can never either rise above five, or fall below four per cent. and the proportion between the market price of bank and that of current money, is kept at all times very near to the proportion between their intrinsic values. Before this resolution was taken, the market price of bank money used sometimes to rise so high as nine or nine and a half per cent. agio, and sometimes to fall so low as par, according as opposite interests happened to influence the market.

The bank of Amsterdam professes to lend out no part of what is deposited with it, but, for every guilder for which it gives credit in its books, to keep in its repositories the value of a guilder either in money or bullion. That it keeps in its repositories all the money or bullion for which there are receipts in force, for which it is at all times liable to be called upon, and which, in reality, is continually going from it and returning to it again, cannot well be doubted. But whether it does so likewise with regard to that part of its capital, for which the receipts are long ago expired, for which in ordinary and quiet times it cannot be called upon, and which in reality is very likely to remain with it for ever, or as long as the states of the United Provinces shall, may perhaps appear more uncertain. At Amsterdam, however, no point of faith is better established than that for every guilder, circulated as bank money, there is a correpndent guilder in gold or silver to be found in the treasure of the bank. The city is guaranteed that it should be so. The bank is under the direction of four reigning burgomasters, who are changed every year. Each new set of burgomasters visits the treasure, compares it with the books, receives it upon oath, and delivers it over with the same solemnity to the set which succeeds; and in that sober and religious country, oaths are not yet disregarded. A rotation of this kind seems alone a sufficient security against any practices which cannot be allowed. Amidst all the revolutions which faction has ever occasioned in the government of Amsterdam, the prevailing party has at no time accused their predecessors of infidelity in the administration of the bank. No accusation could have affected more deeply the reputation and fortune of the disgraced party, and if such an accusation could have been supported, we may be assured, that it would have been brought. In 1672, when the French king was at Utrecht, the bank of Amsterdam paid so readily as left no doubt of the fidelity with which it had observed its engagements. Some of the pieces which were then brought from its repositories appeared to have been foreshed with the fire which happened in the town-house soon after the bank was established. Those pieces, therefore, must have lain there from that time.

What may be the amount of the treasure in the bank, is a question which has long employed the speculations of the curious. Nothing but conjecture can be offered concerning it. It is generally reckoned that there are about two thousand people who keep accounts with the bank, and allowing them to have, one with another, the value of fifteen hundred pounds sterling lying upon their respective accounts (a very large allowance), the whole quantity of bank money, and consequently of treasure in the bank, will amount, to about three millions Sterling, or at eleven guilders the pound sterling, thirty-three millions of guilders; a great sum, and sufficient to carry on a very extensive circulation, but vastly below the extravagant ideas which some people have formed of this treasure.

The city of Amsterdam derives a considerable revenue from the bank. Besides what may be called the warehouse rent above mentioned, each person, upon first opening an account with the bank, pays a fee of ten guilders; and for every new account, three guilders are charged; for every transfer two guilders; and if the transfer is for less than three hundred guilders, fix guilders, in order to discourage the multiplication of small transactions. The person who neglects to balance his account twice in the year, forfeits twenty-five guilders. The person who orders a transfer for more than is due upon his account, is obliged to pay three per cent. for the sum overdrawn, and his order is set aside into the bank. The bank is supposed too to make a considerable profit by the sale of the foreign coin or bullion which sometimes falls to it by the expiring of receipts, and which is always kept until it can be sold with advantage. It makes a profit likewise by selling bank money at five per cent. agio, and buying it in at four. These different emoluments amount to a good deal more than what is necessary for paying the salaries of officers, and defraying the expense of management. What is paid for the keeping of bullion upon receipts, is alone supposed to amount to a net annual revenue of between one hundred and fifty thousand and two hundred thousand guilders. Public utility, however, and not revenue, was the original object of this institution. Its object was to relieve the merchants from the inconvenience of a disadvantageous exchange. The revenue which has arisen from it was unforeseen, and may be considered as accidental. Smith's Wealth of Nations, vol. ii. p. 219.
Bank of France was first projected by Mr. Law, a native of Scotland, with a view of paying off the public debts of France, by drawing its creators into the newly projected Mississippi and India companies, and erected in the year 1716. It was taken into the king’s hands in 1718, and denominated the royal bank; and by its union with both the companies above-mentioned, formed a bubble, which occasioned great confusion and diffidence in the year 1736.

Bank, Million, derived its name from king William’s million lottery in the year 1695; the proprietors agreeing in partnership to purchase tickets in this lottery. They afterwards purchased many revisions of the 14 per cent. annuities, and admitted many proprietors of annuities to purchase their joint stock, which amounted to 500,000. They were a partnership by deed enrolled in chancery, in the year 1731. They divided 5 per cent. till Lady-day 1728, when they reduced their annual dividend to 4 per cent. and it was again raised to 5 per cent. which it continued until its dissolution.

Bank of London, Copenhagen, has a capital stock, consisting of 300,000 rix-dollars, each being of the value of about 45. 6d. Sterling. Its notes are received in payment of the royal revenues. It lends money on pledges, not exceeding 100 rix-dollars, at an interest of 4 per cent. In 1762, his Danish majesty directed the bank for current bank-notes, to exchange their 100 rix-dollar notes, for notes of 50, 10, or 1 rix-dollar; and not to pay any one person above one crown in specie.

Bank of Rotterdam was erected in 1675. It pays bills of exchange in large money, and only 10 per cent. in guilders.

Bank of Affiguration, a new bank established in Russia during the hostilities against the Turks. When copper-money could not be coined with sufficient expedition to answer the necessities of the state, bank notes to the value of 50, 75, and 100 rubles, in copper, were issued. These notes are changed at the bank in Petersburg and Moscow. The former is a brick building, containing several vaulted rooms, each capable of holding 400,000 of copper coin in bags, piled one above another. Since the year 1784, the old bank notes were called in, and a new issue made to the acknowledged amount of 100,000,000 rubles, in notes of 5, 10, 15, 25, and 100 rubles. On the first appearance of this paper, it was received, particularly in the remote parts of the empire, not without difficulty, and the discount against it was commonly about 3½, and in some places even 6 per cent. The obvious advantages, however, over copper money, soon recommended it to general use, and it was found to be beneficial to commerce, that in 1779 the discount in favour of silver specie was only 1½ per cent. and it bore a premium of 1½ per cent. over copper money. But so large a quantity was circulated, and the loans to government so lowered the credit of the state, that in 1790 the discount against the paper currency was near 20 per cent.

The Loan Bank is an institution established at Peterburgh for the benefit of the nobility and corporations. With this view Catherine II., in 1786, made a deposit of 22 millions of rubles for the nobility, 11 millions for the corporate towns, and 3 millions for the province of Taurida, to be lent out for the improvement of rural economy, of social industry, and the benefit of civilization in general. This bank lends only on real estates. As the value of a landed estate in Russia is estimated according to the number of boors upon it, the bank takes the boors at 40 rubles per head; so that the proprietor of an estate, requiring the loan of 1000 rubles, must give 25 boors as his pledge. The loan is made for 20 years; the mortgagor annually paying 5 per cent. interest, and 3 per cent. on the capital, so that after 20 years he has paid back the whole of his loan. The loans are subject to no other limitations than what arise from the value and the security of the pledge; every one being allowed to apply for and receive as much money as he is capable of laying down a lawful pledge for. The bank, however, lends no sum under 1000 rubles, and only by thousands, for the sake of avoiding perplexing accounts. The mortgaged property is subject to no suit, to no confiscation, nor to any demands from the crown or from private individuals. Every four years one part of the pawa is discharged, equal in value to that part of the capital already paid. The bank can redeem estates elsewhere mortgaged or appropriated to the payment of debts; and mortgaged estates may be sold; but in that case the purchaser takes upon himself all the obligations which the seller was under to the bank. The municipal magistrate vouches for the worth of the pledge; and must be responsible for it. The interest is paid annually. The bank gives ten days grace; whoever exceeds one month pays a flated penalty per cent. and this likewise holds good the second and third month. If payment be delayed beyond three months, the mortgaged estate is taken into charge by the noble court of wards. The interest and fines are paid from the income of the estate, and the remainder is paid to the proprietor. The inhabitants of towns obtain loans on their real estates, paying only 4 per cent. interest, and 3 per cent. capital, and are consequently freed from their debt in 22 years. Storche’s Pict. of Peterb. p. 211.

Bank of Philadelphia, called the bank of the United States, was founded in 1792, and incorporated by act of Congress, Febr. 25, 1791, under the latter appellation; and seems to have been successful; as it divides a profit of 8½ per cent. annually, paid half-yearly. Its capital stock was 10 millions of dollars. The stock-holders are to continue a corporate body by the act, until the 4th day of March, 1811; and are capable of holding property to an amount not exceeding, in the whole, 15 millions of dollars.

Bank of Stockholm owes its origin to Palmfhut, a merchant, who carried on an extensive trade, and possessed great property in iron mines. He established at Stockholm a bank for the purpose of exchanging and lending money, divided into two departments. Such was his credit, and such were his resources, that, though he was the only banker in the kingdom, and his connections of course very extensive, the notes which he issued at the interest of 8 per cent. for a term of ten years and upwards, were circulated through the kingdom, and received as cash at the trading part of the nation. In process of time, by the issue of counterfeit notes and other unfavourable circumstances, the bank was drained of cash, and its credit was in danger of sinking into disrepute. In this dilemma a Palmfhut applied to Charles XI., and induced the king to take the bank under his royal direction. Accordingly, the king appointed Palmfhut director, and having established the credit of the bank, transferred the direction of it to the states of the kingdom assembled in 1688; and declared himself and his successors protectors of the bank, but renounced all interference in the disposal of the money. The states being thus declared guarantors, proprietors, and directors of the bank, several regulations were made. The bank was permitted to lend money on good security, at the interest of 8 per cent. but to pay for all money borrowed only 6 per cent.; the debtors to discharge interest upon interest, but the bank not to pay interest upon interest; all the king’s revenues were to be deposited in the bank, without receiving interest. The bank was empowered to issue notes not exceeding the value of thirty-six dollars copper-mint, or ten shillings; and it was finally resolved, that the states, or those whom they should depute,
The Bank, should have the power of inspecting the accounts, and inquiring into the nature of its constitution. By these regulations, the credit and riches of the bank increased to such a degree, that towards the close of the 17th century, it became the universal depositary of the whole kingdom, both as to public and private circulation, and lowered the interest from 8 to 7, and afterwards to 6, 4½, and 3 per cent. In return, the interest for all money borrowed, or deposited in the bank by way of loan, was likewise levied from 6 to 4½, 3, and 2 per cent. The large quantity of copper money then current in the country, being, by its bulk and weight, extremely inconvenient, the circulation of bank notes became advantageous to commerce. From 1714 to 1717, the bank supplied Charles XII, with such considerable sums, that the revenues arising from the tolls and customs were insufficient to pay the interest, and of course there was a considerable deficiency. These supplies lowered the credit of the bank in the estimation of the public; and therefore the king on the remonstrance of the estates, mortgaged certain revenues of the crown, for the discharge of the interest; and declared that all the revenues then mortgaged should remain in the bank till the debt should be fully discharged; and also promised, that he would not, on any pretext or emergency, recur again to the bank for money, except for such as belonged to the crown. Its credit was thus in some measure retrieved; but its block was too far dwindled to repair its former credit, until Baron Goertz undignifiedly contributed to it by a scheme which was in every other respect detrimental to the nation. To supply Charles with money for his confluent wars, Goertz compelled persons by means of fines and penalties, and afterwards by a species of torture, to deliver up their plate, jewels, and coin. In return for these effects, they received copper-money, called "Mynteneller," or signs of coins, each weighing only one-thirtieth of a ducat, but pawning for a silver dollar, of which it was only a ninety-sixth part. The public secretly transferred their property, confiding of plate, jewels, and money, which was thus to be forced from them and exchanged for a debased currency, to the bank, confiding in the royal promise, that the bank should be exempted from the interference and inspection of the crown. Goertz advised the king to seize the property deposited in the bank; but Charles refused to violate his promise, and prohibited Goertz from making any proposals tending to the prejudice of the bank. In this crisis, the bank received such large sums of money, a great part of which paid no interest, that the profits were very confiderable. Accordingly the bank, in this flourishing state, was induced, by order of the estates, in 1741, to present the king with a donation of 100,000 silver dollars, or 8,333. 4s., and to furnish him with 500,000, or 41,666½, without interest, towards carrying on the war against Russia. Since that period it has frequently advanced large sums of money to the crown and to the board of manufactures, by order of the estates. The bank is divided into two departments;  

Bank, Agents of. See Agent. 
Bank-Bills. See Bill. 
Bank, Days in. See Day. 
Bank, Land, an institution projected during the years 1694 and 1695, by Dr. Hugh Chamberlain, for lending of money at a low interest on land security, which was the principal difference between this and the bank of England; in opposition to which corporation, then in its infancy and struggling with difficulties, this ill-judged project was set up. It was principally encouraged by the Tory party; and an act of parliament, viz. 7 & 8 W.III. c. 31, was obtained for the purpose. The subventions for its establishment failed, and the plan proved abortive. 

Bank Notes. See Note. 
Bank, or Bench, in Law. See Bank. 
Bank, Foot. See Banquett. 

Bank, in Natural History, denotes an elevation of the ground, or bottom of the sea, so as sometimes to surmount the surface of the water, or at least to leave the water shallow, as usually not to allow a vessel to remain afloat over it. In this sense, bank amounts to much the same as flath, shoal, &c. 

There are banks of sand, and others of stone, called also

Banks.
flame, and one greater pilot, proportioned where veffels By this the thou be to the thou, but cured at in world's

In part, these, or a large piece of that matter floating. See Icebergs.

Vapours at sea sometimes occasion such a deceptio misit, that mariners imagine they see land with trees, &c. They call such deceptions fog-banks. For the account of a remarkable deception of this kind, see Dr. Hawkworth's Account of the Voyages to the Southern Hemisphere, vol. i. p. c.

A long narrow bank is sometimes called a tide. The bank absolutely so called, or the main bank, or great bank, denotes that of Newfoundland, the scene of the cod-fishery. It is called the great bank, not only by reason of its vast extent, being, according to the English computation, two hundred miles long, and, according to the French, one hundred leagues, or three hundred miles; but also on account of several lesser banks near it, where cod are also caught. These last the French call banqueaux. This is one of those banks which have water enough to float a ship, and which, on this account, are not dangerous.

Banks are usually distinguished by a buoy, post, or the like. On charts, sand-banks are usually marked by little dots, and banks of stone by crosses. The colours of the buoys are also varied accordingly; sand-banks being denoted by light-coloured buoys, and rocks by black ones.

In large rivers, as the Elbe, &c. sand-banks, by high tides and inundations, are liable to change places; care is therefore taken to shift the buoys from time to time, to shoe the true channel of the river.

An exact knowledge of the banks, their extent, and the depth of water on them, makes the most essential part of the science of a pilot, and the matter of a ship: if the vessel be large, and draw much water, great attention will be necessary to keep clear of the banks: on the contrary, if it be small, the same banks afford a fair asylum, where it may brave the largest and stoutest vessels, which dare not follow it here. By means of this barrier, many a small craft has escaped its enemy.

Bank, in vessels which move with oars, is used for the bench where the rowers are seated; popularly called by our leaman, the thole.

In this sense we read of banks of galleys, of galleasses, of galleons, of brigantines, and the like.

The Venetian gondolas have no banks; for the watermen row flanking.

The common galleys have twenty-five banks, that is, twenty-five on each side, in all fifty banks, with one oar to each bank, and four or five men to each oar. The galleasses have thirty-two banks on a side, and fix or seven rowers to a bank. See Double-banked.

Bank also denotes an elevation of earth, fenes, flacks, or other materials in form of a wall, or causeway, to stop the waters, and prevent inundations.

These, on other occasions, are denominated damis, and sea-walls, &c. and by the ancients aggera; those on the coasts of Holland are more particularly denominated dykes. The belt bank, in the opinion of Dr. Hales, is that contrived by Dr. Wark of Scotland. A quantity of furze is fixed to the bottom of the channel, of such a breadth as is proportioned to the force which it is to resist. The said, or flame, will soon settle in the furze, and when this is covered, another bed of furze is to be laid on as before, and so on till the bank is raised to a sufficient height.

Bank is also used in several games, for the flock or fund of him who undertakes the game.

Bank at bill, a sum of money laid down by the tailors, before the gamblers, to answer all the winning cards that shall turn up in his course of dealing. Yet it is observed, that what the bankers gain per cent. of all the money adventure at pharo, is greater than that at board; being two pounds nineteen shillings and ten-pence per cent. in the first, and but fifteen shillings and three-pence in the second.


BANKER, in Commerce, a person who trafficks in money, and remits it from place to place, and supplies his correspondents or customers with money from the stock; deposited in his hands for bills of exchange and other securities. (See Banks.) The history of private banks is as follows. The royal mint in the tower of London had for some years before the year 1645, been made use of as a kind of bank, or depot for merchants to lodge their cash in. But king Charles the First having in that year made free with their money, the mint lost its credit. After this, the merchants and traders of London generally trusted their cash with their bankers, until the breaking out of the civil war, when it was very customary for apprentices and clerks to leave their masters and go into the army. Whereupon, in such unsettled times, merchants, not daring longer to confide in their apprentices, began about the year 1645, to lodge their necessary cash in goldsmith's hands, both to receive and pay for them; until which time, the whole and proper business of London goldsmiths was to buy and sell plate, and foreign coins of gold and silver, to melt and call them, to coin home at the mint, and with the rest to supply the refiners, plate-makers, and merchants, as they found the price to vary. This account of the matter we have from a scarce and most curious small pamphlet, published in 1676, intituled, "The Mystery of the new-fashion'd Goldsmiths, or Bankers discovered," in only eight quarto pages.

Bankers, on their first establishment, allowed to those who entrusted their money in their hands a moderate interest for the same, and hereby their business was very considerably increased, and rose to great reputation in the year 1667, when the Dutch burnt our ships at Chatham; but this event caused a run on the bankers, which hurt their credit, and in the year 1672, king Charles II. shut up the exchanger, and seized the money which the bankers had lent him at 8 per cent. interest, the whole sum amounting to 1,528,326l. The king was afterwards necessitated to pay six per cent. interest for this debt out of his hereditary excheque, but the principal was never paid. However, the parliament of 1720, cap. 12, provided for a large arrear of interest, and settled an interest of three per cent. for the future. The debt was hereby made redeemable, on paying one moiety of the principal sum, 1664, 261. farther confirmed by an act of 3 & 3 Anne, cap. 15, which moiety now became the proper debt of the public; and being reduced from six to five per cent. in 1717, was finally subscribed into the South-sea capital stock in the year 1720.

Bankers now allow no interest, and by investing a certain proportion of their capital in the funds, or laying it out on other sufficient security, and trafficking with it in the stocks, in discounts, &c. reap very considerable advantage from it; and by negotiating bills, &c. on the part of their creditors, greatly contribute to the convenience and dispatch of business.

When the people of any particular country, says Dr. Smith (ubi infra), have such confidence in the fortune, probity, and prudence of a particular banker, as to believe that he is always ready to pay upon demand such of his promissory notes as are likely to be at any time presented to him; those notes come to have the same currency as gold and silver money, from the confidence that such money can at any time he had for them.

A particular banker lends among his customers his own promissory notes, which are thus invested in all sorts of securities.
promissory notes, to the extent, we shall suppose, of a hundred thousand pounds. As those notes serve all the purposes of money, his debtors pay him the same interest as if he had lent them so much money. This interest is the source of his gain. Though some of those notes are continuously coming back upon him for payment, part of them continue to circulate for months and years together. Though he has generally in circulation, therefore, notes to the extent of a hundred thousand pounds, twenty thousand pounds in gold and silver may, frequently, be a sufficient provision for answering occasional demands. By this operation, therefore, twenty thousand pounds in gold and silver perform all the functions which a hundred thousand could otherwise have performed. The same exchanges may be made, the same quantity of consumable goods may be circulated and distributed to their proper consumers, by means of his promissory notes, to the value of a hundred thousand pounds, as by an equal value of gold and silver money. Eighty thousand pounds of gold and silver therefore, can, in this manner, be spared from the circulation of the country; and if different operations of the same kind should, at the same time, be carried on by many different banks and bankers, the whole circulation may thus be conducted with a fifth part only of the gold and silver which would otherwise have been requisite.

Let us suppose, for example, that the whole circulating medium of some particular country amounted, at a particular time, to one million sterling, that sum being then sufficient for circulating the whole annual produce of their land and labour. Let us suppose too, that some time thereafter, different banks and bankers issued promissory notes, payable to the bearer, to the extent of one million, referring in their different coopers two thousand thousand pounds for answering occasional demands. There would remain, therefore, in circulation, eight hundred thousand pounds in gold and silver, and a million of bank notes, or eighteen hundred thousand pounds of paper and money together. But the annual produce of the land and labour of the country had before required only one million to circulate and distribute it to its proper consumers, and that annual produce cannot be immediately augmented by these operations of banking. One million silver, therefore, will be sufficient to circulate it after them. The goods to be bought and sold being precisely the same as before, the same quantity of money will be sufficient for buying and selling them. The channel of circulation, if I may be allowed such an expression, will remain precisely the same as before. One million we have supposed sufficient to fill that channel. Whatever, therefore, is poured into it beyond this sum, cannot run in it, but must overflow. One million eight hundred thousand pounds are poured into it. Eight hundred thousand pounds therefore must overflow, that sum being over and above what can be employed in the circulation of the country. But though this sum cannot be employed at home, it is too valuable to be allowed to lie idle. It will, therefore, be sent abroad, in order to seek that profitable employment which it cannot find at home. But the paper cannot go abroad; because at a distance from the banks which issue it, and from the country in which payment of it can be exacted by law, it will not be received in common payments. Gold and silver, therefore, to the amount of eight hundred thousand pounds, will be sent abroad, and the channel of home circulation will remain filled with a million of paper, instead of a million of those metals which filled it before.

But though so great a quantity of gold and silver is thus sent abroad, we must not imagine that it is sent abroad for nothing; or that its proprietors make a pretest of it to foreign nations. They will exchange it for foreign goods of some kind or another, in order to supply the consumption either of some other foreign country, or of their own.

If they employ it in purchasing goods in one foreign country in order to supply the consumption of another, or in what is called the carrying trade, whatever profit they make will be an addition to the net revenue of their own country. It is like a new fund, created for carrying on a new trade; domestic business being now transacted by paper, and the gold and silver being converted into a fund for this new trade.

If they employ it in purchasing foreign goods for home consumption, they may either, first, purchase such goods as are likely to be consumed by idle people who produce nothing, such as foreign wines, foreign silks, &c.; or, secondly, they may purchase an additional flock of materials, tools, and provisions, in order to maintain and employ an additional number of industrious people, who re-produce, with a profit, the value of their annual consumption.

So far as it is employed in the first way, it promotes prodigality, increases expense and consumption, without increasing production, or establishing any permanent fund for supporting that expense, and is in every respect hurtful to society.

So far as it is employed in the second way, it promotes industry; and though it increases the consumption of the society, it provides a permanent fund for supporting that consumption, the people who consume, re-producing, with a profit, the whole value of their annual consumption. The gross revenue of the society, the annual produce of their land and labour, is increased by the whole value which the labour of those workmen adds to the materials upon which they are employed; and their next revenue by what remains of this value, after deducting what is necessary for supporting the tools and implements of their trade. Smith's Wealth of Nations, vol. i. p. 434, &c.

In Italy, the employment of a banker, especially in republics, does not derogate from nobility; and hence it is, that most of the cadets, or younger sons of persons of condition, undertake it for the support of their family. The nobility of Venice and Genoa were for a long time the chief bankers in the other countries of Europe.

The ancient bankers were called argentarii, and nummularii; and by the Greeks αργυροφόροι, κοσμολύται, and χρυσοποιοί. Their chief business was to put out the money of private persons to interest; they had their boards and benches for this purpose in all the markets and public places where they took in the money from some to lend it to others. The Romans had two kinds of bankers, though their office was much more extensive than that of the bankers among us, theirs being that of public officers, in whom were united the functions of a broker, agent, banker, and notary; managing the exchange, taking in money, affixing in buying and selling, and drawing up the writings necessary on all these occasions.

Bankers in the Court of Rome, are persons authorized, exclusive of all others, to solicit and procure by their correspondents at Rome, all bills, dispensations, and other acts dispatched at the papal curia, or in the legation of Avignon; they are dispersed in all the cities of France; where there is a parliament, or a presbytery; and were erected into a regular and hereditary office, by an edict in 1673. They owe their origin to the Guelphs, who took shelter at Avignon, and in other cities within the obedience of the pope, in the time of the civil wars in Italy. The favour they were in with the pontiffs, for having espoused the pa...
BAN

pi cance, occasioned their being employed in procuring expeditions of the court of Rome. But the heavy extortions they procured towards their clients, soon rendered them odious, and occasioned several denominations of reproach, as corrucci, corruccini, zaffazzini, carozzi, &c. from the city of Corfu, native place of Pope John XXII. in whose pontificate they were in their highest power. See Caracini. Bank, in Bricklaying, a piece of timber wherein they cut the bricks.

The banker is six feet long or more, according to the number of men to work at it, and nine or ten inches square; it is to be laid on two pieces of timber, three feet high from the floor they stand on.

Bank, in Sea Language, signifies a vessel employed in the cod-fishery on the banks of Newfoundland.

BANKES, Sir John, in Biography, lord chief justice of the common pleas in the reign of King Charles I., was descended from a good family at Keswick in Cumberland, and born there in the year 1632. In 1654 he removed to Queen's college, Oxford, and afterwards pursued the study of the law in Gray's inn. By his application and proficiency he acquired a reputation which recommended him to his Sovereign Charles I. who, in 1629, made him his attorney. In August 1634, he was knighted, and appointed to the office of attorney-general; from which office he was advanced, in 1640, to that of chief justice of the common pleas. In both these offices he acted with wisdom and integrity, and obtained universal approbation. So singular was his merit, that, though he decidedly took part with the king in his contest with the parliament, it was decreed by the latter, in 1643, that he might be continued in office. However, he soon after lost all his credit at Westminster; for he declared from the bench at Salisbury, that the actions of Essex, MancheSTER, and Waller, were treasonable, and the commons voted him and the rest of the judges who were of this opinion, traitors. Lady Bankes manifested extraordinary fortitude in the defence of Corr Castle in the isle of Purbeck, where Sir John and his family refided. When it was besieged by the parliamentary forces, she refused to surrender it, though she had about her only her children, a few servants and tenants, amounting at one time only to five and at most to no more than forty. When the town was obliged to surrender, and the besiegers became remiss under a notion that their business was completed, lady Bankes procured a supply of provision and ammunition, and was thus enabled to hold out till the siege was raised. Sir John remained with the king at Oxford, in the discharge of his duty as a privy-councillor, till his death, which happened in December 1644. By his will he bequeathed, besides other charities, an annuity of thirty pounds to the town of Keswick for the support of a manufacture of coarse cottons, which had been lately established, and which, without this aid, would have been lost. Sir John Bankes was distinguished for sound integrity, cool judgment, and an amiable temper. Biog. Brit.

BANKIANA, in Entomology, a species of Phalana (Lettius), named after Sir Joseph Bank; it inhabits the woods of England and Germany; is of a large size; and is distinguished by having the wings brown, with two very white bands, the posterior one undifferentiated. Fabricius.

Banking, in general, the making of banks to oppose the force of the sea, rivers, or the like, and secure the land from being overflowed thereby.

With respect to the water which is to be kept out, this is called banking; with respect to the land, which is hereby to be defended, imbanking.

Banking, in a Salt-works, the raising of a fence against the sea, whereby its waters may be kept out, excepting so much as is necessary for the preparation of the salt.

Bank, in Commerce. See Bank, and Banker.

BANKOK, or BANCO, in Geography, a town of Siam, at the mouth of the river Meamn, which discharges itself into the gulf of Siam.

Bankrupt, in Commerce and Law, a trader, who severs himself, or does certain other acts, tending to de-fraud, or injury, his creditors.

The word is formed from the ancient Latin bonens, a bench, or table, and ruptus, broken.

Bank, we have elsewhere observed, originally signified a bench, on which the first bankers had in the public places, in markets, fairs, &c. on which they told their money, wrote their bills of exchange, &c. Hence, when a banker failed, they broke his bank, to advertise the public, that the persons to whom the bank belonged was no longer in a condition to continue his business. As this practice was very frequent in Italy, it is said the term bankrupt is derived from the Italian banco rozzo, broken bench.

Cowell rather chuses to deduce the word from the French banque, table, and route, signification, trace, by metaphor from the sign left in the ground, of a table once fallen to it and now gone. On this principle he traces the origin of bankrupts from the ancient Roman messtarii, or argentarii, who had their tabernae or mensae in certain public places; and who, when they fled, or made off with the money that had been trusted to them, left only the sign or shadoe of their former station behind him. 4 Inf. 277.

And it is observable, that the title of the first English statute concerning this offence, 34 Hen. VIII. cap. 4, "Against such persons as do make bankrupt," is a literal translation of the French idiom qui font banque route.

A bankrupt was formerly considered merely as a criminal or offender (lat. 1. Jac. I. c. 15. § 17.) ; but at present the laws of bankruptcy are regarded as laws calculated for the benefit of trade, and founded on the principles of humanity as well as justice; and to that end, they confer some privileges, not only on the creditors, but also on the bankrupt himself:—on the creditors, by compelling the bankrupt to give up all his effects to their use, without any fraudulent concealment;—and on the debtor, by exempting him from the rigour of the general law, whereby his person might be confined at the discretion of his creditor, though in reality he has nothing to satisfy the debt; whereas the law of bankrupts, taking into consideration the sudden and unavoidable accidents to which men in trade are liable, has given them the liberty of their persons, and some pecuniary indemnities, upon condition of surrendering their whole estate to be divided among the creditors.

By the Roman law of the twelve tables, the creditors might cut the debtor's body into pieces, and each of them take his proportionable share: though some learned men have doubted whether the law " de debito in parte facendis," is to be understood in so very butcherly a light. There were also other laws, les inhuman, for imprisoning the debtor's person in chains, subjecting him to stripes and hard labour, at the mercy of his rigid creditor, and sometimes selling him, his wife and children, to perpetual foreign slavery " trans Tiberinam;" but this was an edification that produced many popular insurrections, and caused the " mons facer." In Pegu, and the adjacent countries in that nation, the creditor is entitled to dispossess the debtor himself, and likewise of his wife and children; infomuch that he may even violate with impunity the chastity of the debtor's wife; but then, by so doing, the debt is understood to be discharged.

In some places, bankrupts are condemned to wear
Our companionate and bankrupt. It is an advantage to the laws of bankruptcy—might be means of defending their landlords of the security which the laws have given them above all others, for the payment of their rents; wherefore also, upon a similar reason, a receiver of the king's taxes is not capable, as of a bankrupt, of setting aside the recoveries made against his debtors, which are put into his hands by the statutory. By the same statute, no person shall have a commutation of bankrupt awarded against him, unless at the petition of some one creditor to whom he owes £100; or of two, to whom he is indebted £50; or of more, to whom altogether he is indebted £200. For the law does not look upon persons, whose debts amount to less, to be traders considerable enough, either to enjoy the benefits of the statutes themselves, or to entitle the creditors, for the benefit of public commerce to demand the distribution of their effects.

In the interpretation of these several statutes, it hath been held, that buying only, or selling only, will not qualify a man to be a bankrupt; but it must be both buying and selling, and also getting a livelihood by it; as, by exercising the calling of a merchant, a grocer, a merchant, or, in one general word, a chapman, who is one that buys and sells any thing. But no handicraft occupation (where nothing is bought and sold, and where therefore an extensive credit for the stock in trade is not necessary to be had) will make a man a regular bankrupt; as that of a husbandman, a gardener, and the like, who are paid for their work and labour. Also an inn-keeper cannot, as such, be a bankrupt; for his gain or livelihood does not arise from buying and selling in the way of merchandize, but in a great degree from the use of his rooms and furniture, his attendants, and the like; and though he may buy corn and victuals, to sell again at a profit, yet that no more makes him a trader, than a schoolmaster or other person is, that keeps a boarding-house, and makes considerable gains by buying and selling what he buys and sells in the house; and such a one is clearly not within the statutes. But where a person buys goods, and makes them up into saleable commodities, as shoe-makers, smiths, and the like; here, though part of the gain is by bodily labour, and not by buying and selling, yet they are within the statutes of bankrupts; for the labour is only in embellishment of the commodity, and rendering it more fit for sale.

One single act of buying and selling will not make a man a trader; but a repeated practice, and profit by it. Buying and selling bank-stock, or other government securities, will not make a man a bankrupt: they not being goods, wares, or merchandize, within the intent of the statute, by which a profit may be fairly made. Neither will buying and selling under particular restraints, or for particular purposes; as, if a commissioneer of the navy uses to buy victuals for the fleet, and dispose of the surplus and surplus, he is not thereby made a trader within the statute. An infant, though a trader, cannot be made a bankrupt; for an infant can owe nothing, but for necessaries, and the statutes of bankruptcy create no new debts, but only give a speedy and more effectual remedy for recovering such as were before due; and no person can be made a bankrupt for debts which he is not liable at law to pay. But a feme covert in London, being a sole trade.
BANKRUPT.

And, first, there must be a petition to the lord chancellor by one creditor to the amount of 100l., or by two to the amount of 150l., or by three or more to the amount of 200l.; which debts must be proved by affidavit; upon which he grants a commissione to such discreet persons as to him shall seem good, who are then declared commissioners of bankrupt. The petitioners, to prevent malicious applications, must be bound in a security or bond to the lord chancellor of 200l., to make the party amends in case they do not prove him a bankrupt. And if on the other hand they receive any money or effects from the bankrupt, as a remuneration for fixing out the commissione, so as to receive more than their rateable dividends of the bankrupt's estate, they forfeit not only what they shall have so received, but their whole debt. These provisions are made, as well to secure persons in good credit from being damaged by malicious petitions, as to prevent knavery combinations between the creditors and bankrupt, in order to obtain the benefit of a commissione. When the commissione is awarded and issued, the commissioners are to meet, at their own expense, and to take an oath for the due execution of their commissione, and to be allowed a sum not exceeding 20s. per diem each, at every sitting. And no commissione of bankrupt shall abate, or be void, by the death of the bankrupt, subsequent to the commissione, St. 1 Jac. I. c. 15; nor upon any demise of the crown, St. 5 Geo. II. c. 33. The granting of a commissione of bankruptcy is not discretionary, but a matter of right. 1. Vern. 153. Stat. 13 Eliz. c. 7.

When the commissioners have received their commissione, they are first to receive proof of the person's being a trader, and having committed some act of bankruptcy; and then to declare him a bankrupt, if proved for; and to give notice thereof in the gazette, and at the same time to appoint three meetings. At one of these meetings an election must be made of almsmen. And at the third meeting, at farthest, which must be on the forty-second day after the advertisement in the gazette (unless the time be enlarged by the lord chancellor), the bankrupt, upon notice also personally served upon him or left at his usual place of abode, must surrender himself personally to the commissioners; which surrender (if voluntary) protects him from all arrests till his final examination is past; and he must thenceforth in all respects conform to the directions of the statutes of bankruptcy; or, in default of either surrender or conformity, shall be guilty of felony without benefit of clergy, and shall suffer death, and his goods and estate shall be distributed among his creditors. St. 5 Geo. II. c. 32.

I shall, by and by, speak of the effect of bankruptcy. In the case of bankruptcy abidings, or is likely to run away, between the time of the commissione issued, and the last day of surrender, he may by warrant from any judge or justice of the peace be apprehended and committed to the county gaol, in order to be forthcoming to the commissioners; who are also empowered immediately to grant a warrant for seizing his goods and papers. St. 5 Geo. II. c. 32.

When the bankrupt appears, the commissioners are to examine him touching all matters relating to his trade and effects. They may also summon before him, and examine the bankrupt's wife, and any other person whatsoever, as to all matters relating to the bankrupt's affairs. And in case of them all shall refuse to answer, or shall not answer fully to any lawful question, or shall refuse to subscribe such their examination, the commissioners may commit them to prison without bail, till they submit themselves and make and sign a full answer; the commissioners specifying in their warrant of commitment the question to be refuted.
BANKRUPT.

The bankrupt, upon this examination, is bound upon pain of death to make a full discovery of all his plate and effects, as well as in respect to any books and writings relating thereto; and is to deliver up all in his own power to the commissioners (except the necessary apparel of Linen, his wife, and his children); or, in case he conceals or embezzles any effects to the amount of 20l. or withholds any books or writings, with intent to defraud his creditors, he shall be guilty of felony without benefit of clergy; and his goods and estate shall be divided among his creditors. And unless it shall appear, that his inability to pay his debts arose from some lawful loss, he may, upon conviction by indictment of such gross misconduct and negligence, be set upon the pillory for two hours, and have one of his ears nailed to the fence and cut off. Stat. 5 Geo. II. c. 30.

After this affidavit is made to the bankrupt for such discovery is expired, any other person voluntarily discovering any part of his estate, before unknown to the affigees, shall be entitled to 5 per cent. out of the effects so discovered, and such further reward as the affigees and commissioners shall think proper. And any tradesmen, wilfully concealing the estate of any bankrupt, after expiration of the two and forty days, shall forfeit 10s. and double the value of the estate concealed to the creditors. Stat. 5 Geo. II. c. 30.

Hitherto every thing is in favour of the creditors; and the law seems to be pretty rigid and severe against the bankrupt; but, in case he proves honest, it makes him full amends for all this rigour and severity. For if the bankrupt hath made an ingenious discovery of the truth and fullness of which there remains no doubt, and hath conformed in all points to the directions of the law; and if, in consequence thereof, the creditors, or four parts in five of them in number and value (but none of them creditors for less than 20l.), will sign a certificate to that purport; the commissioners are then to authenticate such certificate under their hands and seals, and to transmit it to the lord chancellor; and he, or two of the judges whom he shall appoint, on oath made by the bankrupt that such certificate was obtained without fraud, may allow the same; or dismiss it, upon cause shown by any of the creditors of the bankrupt. Stat. 5 Geo. II. c. 30.

If no cause be shown to the contrary, the certificate is allowed of course; and then the bankrupt is entitled to a decent and reasonable allowance out of his effects, for his future support and maintenance, and to put him in a way of honest industry. This allowance is also in proportion to his former good behaviour, in the early discovery of the decline of his affairs, and thereby giving his creditors a larger dividend. For, if his effects will not pay one half of his debts, or ten shillings in the pound, he is left to the direction of the commissioners and affigees, to have a competent sum allowed him, not exceeding 3 per cent.; but if they pay ten shillings in the pound, he is to be allowed 5 per cent.; if twelve shillings and six-pence, then 7½ per cent.; and if fifteen shillings in the pound, then the bankrupt shall be allowed 10 per cent.: provided, that such allowance do not in the first effect exceed 200l., in the second 250l., and in the third 300l. Stat. 5 Geo. II. c. 30.

Besides this allowance, he has also an indemnity granted him, of being free and discharged for ever from all debts owing by him at the time he became a bankrupt; even though judgment shall have been obtained against him, and he be in prison upon execution for such debts; and, for that among other purposes, all proceedings on commitments of bankrupt are, on petition, to be entered of record, as a perpetual bar against actions to be commenced on this account; though, in general, the production of the certificate properly allowed shall be sufficient evidence of all previous proceedings. Stat. 5 Geo. II. c. 30.

The certificate, when allowed, will not discharge the penalties of a bankrupt; but if he obtains it before his bail are fixed, it will discharge them: whereas if not till after they are fixed, they will remain liable withstanding the certificate: and if the creditor prove his debt, with intent to obstruct the certificate, it does not preclude him from pursuing his legal remedies: and even if he had received his debt or part of it, under the commission, still he might proceed to fix the bail who would be entitled to the remedy, so far as they are approbated, by "audita querela," or by "motion." (1 Ath. 84. 1 Burr. 244. 2 Burr. 716.)

The certificate does not discharge a bankrupt from his own collateral contract, which does not run with the land (2 Burr. 2443.) nor from a covenant to pay rent. (4 Term. Rep. 94.) A bankrupt, after a certificate of bankruptcy is fixed out, may, in consideration of a debt due before the bankrupt, and for which the creditor agrees to accept no dividend or benefit under the commission, make such creditor a satisfaction, in part, or for the whole of his debt, by a new undertaking or agreement; and "assumpsit" will be upon such new promise or undertaking. (1 Ath. 67.) Although a creditor of a bankrupt under 20l. is excluded from affidavit or the certificate, yet as he is affected by the consequence of allowing the certificate, he has a right to petition and have any fraud against allowing the certificate. 7 Vin. Abr. 134. pl. 18.

No allowance or indemnity shall be given to a bankrupt, unless his certificate be signed and allowed; and also, if any creditor produces a fictitious debt, and the bankrupt does not make discovery of it, but suffers the fair creditors to be imposed upon, he loseth all title to these advantages. Neither can he claim them, if he has given with any of his children above 100l. for a marriage portion, unless he had at that time sufficient left to pay all his debts; or if he has lost at any one time 5l. or in the whole 100l. within a twelve-month before he became bankrupt, by any manner of gaming or wasting whatsoever; or, within the same time, has lost to the value of 100l. by block-jobbing. Also to prevent the too common practice of frequent and fraudulent or careles breaking, a mark is set upon such as have been once cleared by a commission of bankrupt, or have compounded with their creditors, or have been delivered by an act of insolvency. Persons who have been once cleared by any of these methods, and afterwards become bankrupts again, unless they pay full fifteen shillings in the pound, are only thereby indemnified as to the confinement of their bodies; but any future estate they shall acquire remaining liable to their creditors, excepting their necessary apparel, household goods, and the tools and implements of their trades. Stat. 5 Geo. II. c. 30. 24 Geo. II. c. 57.

By the statute 13 Eliz. c. 7, the commissioners for that purpose, when a man is declared a bankrupt, shall have full power to dispose of all his lands and tenements, which he had in his own right at the time when he became a bankrupt, or which shall descend or come to him at any time afterwards, before his debts are satisfied or agreed for; and all lands and tenements which were purchased by him or for him.
jointly with his wife or children to his own use (or such interest therein as he may lawfully part with), or purchased with any other person upon secret trust for his own use; and to cause them to be appraised to their full value, and to sell the same by deed indented and enrolled, or divide them proportionally among the creditors. This statute expressly included not only free, but customary and copyhold, lands; and the lord of the manor is then by bond to admit the assignee (Cros. Car. 558. 1 Atk. 96); but did not extend to estates-tail, further than for the bankrupt's life; nor to equities of redemption on a mortgaged estate, wherein the bankrupt has no legal interest, but only an equitable reversion.

Whereupon the statute 11 Jac. I. c. 19. enacted, that the commissioners shall be empowered to sell or convey, by deed indented and enrolled, any lands or tenements of the bankrupt, whereon he shall be holder of an estate-tail in possession, remainder, or reversion, unless the remainder or reversion thereof shall be in the crown; and that such sale shall be good against all such interests in tail, remaindermen, and reversioners, whom the bankrupt himself might have barred by a common recovery, or other means; and that all equities of redemption upon mortgaged estates, shall be at the disposal of the commissioners; for they shall have power to redeem the same, as the bankrupt himself might have done, and after redemption to sell them. And the commissioners may sell a copyhold entailed by custom. (Stone 127. Billing 135.) And also, by this and a former act, all fraudulent conveyances to defeat the intent of these statutes are declared void; but that no purchaser bona fide, for a good or valuable consideration, shall be affected by the bankrupt laws, unless the commissio be fixed forth within five years after the act of bankruptcy committed. 1 Jac. I. c. 15.

By virtue of these statutes a bankrupt may lose all his real estates; which may at once be transferred by his commissioners to their assignees, without his participation or consent. See Assignees.

The property vested in the assignees is the whole that the bankrupt had in himself, at the time he committed the first act of bankruptcy, or that has been vested in him since, before his debts are satisfied or agreed for. And therefore, if a commission is afterwards awarded, the commissio and the property of the assignees shall have a relation, or reference, back to the first and original act of bankruptcy. Inasmuch that all transactions of the bankrupt are from that time absolutely null and void, either with regard to the alienation of his property, or the receipt of his debts from such as are privy to his bankruptcy; for they are no longer his property or his debts, but those of the future creditor. If a banker pay the draft of a trader keeping cash with him, after knowledge of an act of bankruptcy, the assignees may recover the money. (2 Term Rep. 113. 3 Bro. C. R. 312.) And if an execution be fixed out, but not served and executed on the bankrupt's effects till after the act of bankruptcy, it is void as against the assignees. But the king is not bound by this fictitious relation, nor is within the statutes of bankrupts; for if, after the act of bankruptcy committed and before the assignment of his effects, an extent issues for the debt of the crown, the goods are bound thereby. As these acts of bankruptcy may sometimes be secret to all but a few, and it would be prejudicial to trade to carry this notion to its utmost length, it is provided by statute 19 Geo. II. c. 32. that no money paid by a bankrupt to a bona fide or real creditor, in a course of trade, even after an act of bankruptcy done, shall be liable to be refunded. Nor, by statute 1 Jac. I. c. 15. shall any debtor of a bankrupt, that pays him his debt, without knowing of his bankruptcy, be liable to account for it again. The intention of this relative power being only to reach fraudulent transactions, and not to disturb the fair trader.

Sale of goods by a bankrupt, after an act of bankruptcy, is not merely void; the contract is good between the parties; but it may be avoided by the commissioners or assignees at pleasure; so that they may either bring trover for the goods, as supposing the contract may be void, or may bring debt or assumpsit for the value, which affirms the contract. (3 Salk. 59. 21 T. R. 413. 4 T. R. 216. 7.) And so if a bankrupt on the eve of bankruptcy fraudulently deliver goods to a creditor. (4 Term Rep. 211.) The assignees after four, and within twelve months after the commission issued, must give twenty-one days notice to the creditors of a meeting for a dividend; at which time they must produce their accounts, and verify them upon oath, if required. And then the commissioners shall direct a dividend to be made, at so much in the pound, to all creditors who have before proved, or shall then prove, their debts. This dividend must be made equally, and in a rateable proportion, to all the creditors, according to the quantity of their debts; no regard being had to the quality of them. Mortgages indeed, for which the creditor has a real security in his own hands, are entirely safe; for the commission of bankruptcy reaches only the equity of redemption. So are also personal debts, where the creditor has a chattel in his hands, as a pledge or pawn for the payment, or has taken the debtor's lands or goods in execution. And, upon the equity of the statute 8 Ann. c. 14. (which directs, that, upon all executions of goods being on any premises demised to a tenant, one year's rent and no more shall, if due, be paid to the landlord) it hath also been held, that under a commission of bankrupt, which is in the nature of a statute-execution, the landlord shall be allowed his arrears of rent to the same amount, in preference to other creditors, even though he hath neglected to distrain, while the goods remained on the premises: which he is otherwise entitled to do for his entire rent, be the quantum what it may. But, otherwise, judgments and recognizances (both which are debts of record, and therefore at other times have a priority), and also bonds and obligations by deed or special instrument (which are called debts by specialty, and are usually the next in order), these are all put on a level with debts by mere simple contract, and all paid pari passu. Nay, so far is this matter carried, that, by the express provision of the statutes, debts not due at the time of the dividend made, as bonds or notes of hand payable at a future day certain, shall be proved and paid equally with the rest, allowing a discount or drawback in proportion. And informations, and obligations upon bottomry or respondentia, bona fide made by the bankrupt, though forfeited after the commission is awarded, shall be looked upon in the same light as debts contracted before any act of bankruptcy. Stat. 21 Jac. c. 19. 7 Geo. I. c. 31. 19 Geo. II. c. 32. Within eighteen months after the commission issued, a second and final dividend shall be made, unless all the effects were exhausted by the first. And if any surplus remains, after selling his estates and paying every creditor his full debt, it shall be restored to the bankrupt. This is a case which sometimes happens to men in trade, who involuntarily, or at least unwarily, commit acts of bankruptcy, by abjuring and the like, while their effects are more than sufficient to pay their creditors. And, if any fraudulent or malevolent creditor will take the advantage of such acts, and sue out a commission, the bankrupt has no remedy, but must quietly submit to the effects of his own imprudence;
BAN

3. the B. Flowers answered The few point Qu. the is a border separated is N. which fees it the the is B. declaring nil bankrupt, did. iv the: prefentatives. dttors, fworn, may at for that bankrupts (See Bankrupt.) The French make this difference be- between a bankruptcy and a failure, that the first is suppoed voluntary and fraudulent, and the latter confrined and neces- sary, by means of accidents, &c.

BANK'S ISLAND, in Geography, an island in the North Pacific ocean, near the west coast of North America, about 60 miles long and 3 broad. It is separated from Pitt's archipelago by the canal del Príncipe; and its north point is situated in N. lat. 53° 39'1. W. long. 130° 13'.

Banks's Island is also an island of the Southern Pacific ocean, about five leagues west of the coast of the northern branch of New Zealand islands. It is about twenty-four leagues in compass; its surface is irregular and elevated; and it may be seen at sea at the distance of twelve or fifteen leagues. Its south point is in S. lat. 43° 32'. W. long. 186° 30'.

Banks, Port, a harbour on the north-west coast of America, south-easterly from Cape Edgcombe, and north-westther from Sea Otter found.

BANKSAL POINT, a point of the river of Balfour, on the coast of Coromandel, known by the English ware- houys that are built on it, and by the tomb of a Dutchman who was there interred.

BANKSEA SPECIÓSÁ, Retz. in Botany. See Costus Speciósus.


Species, 1. B. ferráta, ferrate-leaved bankfa. White Voy. 223. fig. 1, 2, 3. B. concífera. Gért. fruct. 221. t. 48. f. 1. "Leaves linear, attenuated into the petiole, equally ferrate, truncate at the end with a point." This is the handfolièt species of the genus; trunk thick and rugged; leaves alternate, thick at the ends of the branches, on short pedioles, obuf. ferrate, bright green above, beneath opaque and whitish, with a strong rib running through their middle; each branch terminated by a large cylindrical spike of flow- ers; the capsules covered with thick down; the flowers and fruits collected into a large globular ament; the seed in each cell of the capsule fagie, rather large, winged and dark brown. 2. B. integérfolíá, entire-leaved B. B. ferráta. Gért. fruct. 221. t. 48. f. 2. "Leaves wedge-form, quite entire, white-tomentose underneath." The flowers and fruits are collected into a cylindric ament; and before they are ripe, are pubescent with a map of snowy white fistros; capsule coriaceous, orbiculate at top, turbidly lens-shaped, and continued at bottom into a conical, compressed back; within, black, two-celled, and gaping at the tip. 3. B. erícésfolia, heath-leaved B. "Leaves approximating, acerose, truncate-emarginate, smooth." The leaves are very small, but more abundant than those of the preceding species. 4. B. dentáta, tooth-leaved B. "Leaves oblong, attenuated into the petiole, curved, flexuose, toothed, teeth ending in an spindle, white underneath." The flowers of this species are smaller than in the others. 5. B. pyriformis, pear- fruited B. "Flowers solitary; capsules ovate, pubescent; leaves. 
leaves lanceolate, very entire, smooth." The capsules are larger than in any other known species, one-celled, and opening longitudinally on the lower side; there are two seeds of a rusby cinnamon colour, convex on one side and flat on the other, with a long membranaceous, vein-like wing.

6. B. gibbosa, gibbous-fruited B. B. dasyblatis, Gartn. 221. t. 47. f. 2. "Flowers solitary; capsules ovate, gibbous, wrinkled; leaves columnar." Leaves about two inches long, and one line in diameter, pale green, and smooth. Dr. Smith says that the B. dasyblatis of Gaertn and this are different species. 7. B. microphylla, microphyllous. "Flowers solitary; capsules ovate-conical, microphyllous, pointed, with tubercles on the outside; leaves oblong, emarginate." Leaves alternate, from six to eight inches long, and three broad; flowers in a short simple raceme, in which only one or two fruits ripen; the capsule from one to two inches or more in length, woody, with roundish tubercles, variegated brown and dull colour, one-celled; the seeds are two and dark bay. 8. B. spinulosa, prickly-leaved. "Leaves linear-obovate, with a little sharp point, and with spiny denticulation towards the top." Stem woody and branched; leaves irregularly parted, closely covering the branches, on very short footstalks, green and smooth above, white and downy beneath, ending abruptly, tipped with three small spines, and having several hooked upwards in the margin; flowers thick set in a cylindrical erect spike, coming out in pairs. It differs from B. crista-flos, in having leaves at least four times as long, oblong, but with a small central sharp point from the middle between two other terminal points, as well as in being a greater or less number of small sharp-hooked lateral teeth towards the end of each leaf. The inhabitants of New South Wales call it "Wattangre." All these plants are natives of that country, except the 7th, which Rumplius observed in Ambon, in 1693. This genus is nearly allied to Protoc and Embatoc, in appearance and character, but sufficiently distinguished from both in the fruit. It bores some of the most fiesious plants that have been discovered in the South seas, and even in the known world. Those with solitary flowers and one-celled capsules (5, 6, 7.) form a separate genus, which Dr. Smith names Salisbaria; which see.

Propagation and Culture. Some of the species have flowered and seeded here; they have been increased merely by seeds. Those, and the plants in general from the South seas, are hardy, confiding their climate, and may be treated much in the same manner with the Cape plants; they covet much air, and flourish best near the front of the dry side.

Banksia, Forsk. See Pimelea.

Banksia Alpina, or Cusgo, so called by Mr. Bruce after Mr. Joseph Banks, an inhabitant of the high country of Abyssinia, and indigenous there. Mr. Bruce, who has described and given a drawing of it, and who represents it as one of the most beautiful and useful trees, says, that he never saw it in the Kolla nor in Arabia, nor in any other part of Asia or Africa. It seldom grows above 20 feet high, and generally inclined; its leaf is about two inches and a quarter long, divided into two by a strong rib; its colour is a deep unvarnished green, very plesant to the eye, and the fore-part is covered with soft hair or down; it is much indented, and refembls a nettle leaf, only that it is narrower and longer.

The leaves grow alternately by pairs upon a branch terminating with a single leaf at the point; the end of the leaf is broad and strong, like that of a palm-branch; and it opens in the part that is without leaves, about an inch and a half from the bottom, and from this aperture proceeds the flower. The whole cluster of flowers has very much the shape of a cluster of grapes, and the leaf that supports it resembles the leaf of the grape; the flower itself is of a greenish colour, tinged with purple; when fully blown, it is altogether of a deep red or purple; the corolla consists of five petals, with a short pistil in the middle, having a round head, and surrounded by eight filaments of the same form, loaded with yellow farina. The calyx consists of five petals, which much resemble another flower; they are rounded at the top, and nearly of an equal breadth every way. The bark of the tree is smooth, of a yellowish white, interpersed with brown streaks which pass through the whole body of the tree. On the upper part, before the first branch of leaves let out, are rings round the trunk of small filaments of the confidence of horse-hair; these are generally 14 or 16 in number, and are a very remarkable characteristic belonging to this tree. The tree is always planted near churches for the use of the town or village; and it is very serviceable as an antidote to a disorder to which the Abyssiains of both sexes and at all ages are subject. Every individual once a month evacuates a large quantity of worms of the kind called all对应的；和the method of promoting the evacuations is by infusing a handful of dry Cuffio flowers in about two English quarts of bouza, or the beer that is made from teff; after it has been steeped all night, it is next morning fit for use. The seed of this tree is very small, fmer than the femen Santonicum; it is easily dried; and on this account no greater quantity of the seed is gathered, and therefore the flower is subsidized for it. It is bitter, but much less so than the femen Santonicum.

Mr. Bruce conceives that this plant may be found in latitudes 11° or 12° north in the West Indies or America; and having been found a gentle, safe, and efficacious medicine in Abyssinia, it is not doubted but the superior skill of physicians would turn it to the advantage of mankind in general, when used here in Europe.

Banksia, in Entomology, a species of Papilio (Nymph.) with angulated wings; above brown, with a yellowish diffuse, and a black ocular spot with a double pupil. Fabricius. This is a native of New Holland, and is the Papilio I. mene of Cranmer.

BANKSII, a species of Scarabceus (Melontha) decribed by Fabricius from a specimen in the museum of Sir Joseph Banks. The head and thorax are black; wing-cases violet, and with the legs talaaceous; abdomen short and retuse.

Banksia, a species of Cinex, (Reduvius) that inhabits India. It is rufous above, with black wings, abdomen deep black; border rufous. Fabricius.

Banksia, a species of Chrysonoea that inhabits Calabria. It is brightly coloured, and is not very necessary. Fabricius.

Banksia, a species of Carabinae (Latin). It is that found at the Cape of Good Hope. It is of a greyish colour; thorax slightly spinous; wing-cases speckled with ferruginous, and marked with two cinereous bands. Fabricius.

BANLEUGA, or Bannileuga, or Bannie, in Middle Age Writers, the territory within which the jurisdiction of municipal magistrates, or ordinary judges of a city, town, or the like, is confined.

It is thus called, because within this tract they may make their proclamations, prohibitions, and other acts of justice and policy, comprised under the name of Ban, or Ban-

BANN, in Geography, a river in Ireland, which rises in the
the northern part of the Mourne mountains, in the county of Down, and twilled by various little brooks, soon becomes a large stream. It takes a serpentine course to the north-west, having many bridges over it, till it comes to Portadown, where it is joined by the Newry canal, and a few miles farther it falls into Lough Neagh at Bannfoot ferry, after running about thirty miles. The waters of this river, which is distinguished by the name of the South or Upper Bann, are acclaimed superior to any other for the purpose of bleaching. After passing through Lough Neagh, out of which it breaks at Toome castle, where is a bridge over it, it again expands into a small lake called Lough Beg, the views in which are very pleasing. From this, still keeping a north-west direction, it passes through a country formerly overgrown with immense woods, then forces its way over a ridge of rocks called the Salmon-leap, and having again collected its scattered waters, rushes with an impetuous force into the sea at Banbavan, a few miles below Coleraine. It is certainly one of the finest rivers in Ireland; and if we include its passage through the lake, runs in the whole near ninety miles, with fo pure and limpid a stream, that it has acquired the name of "the fairer Bann." The lower or northern part of it, being the only outlet for seven rivers and innumerable streams that pour their tributary waters into Lough Neagh, is broad and rapid; but notwithstanding this, and the ridge of rocks already mentioned, it is thought that it might be rendered navigable, a measure from which great advantages are expected. The salmon caught in this river is very highly esteemed, and the fisheries is the greatest in the kingdom. (See COLENAINE.) Campbells Political Survey. Beaumont's Memoir. Young's Tour, &c.

Bann, the name of a river in the north-eastern part of the county of Wexford, Ireland, which falls into the Stoney near Ferna.

Bann, a township in the county of York, in Pennsylvania.

Bann, or Ban, Bannum, or Bannus, in the Feudal Law, a solemn proclamation, or publication of any thing.

The origin of the word is uncertain: some deduce it from the Britsh bann, clamour, noise; others from the Saxon pan, a thing spread; whence ban and band, used for a flag. Draxon mentions bannus regis for a proclamation of silence anciently made by the court, before the encounter of the champions in a combat.

Bann is also used for a solemn convocation of the nobility of a province, to attend the king in his army, conformably to their several tenures.

Bann, in this sense, differs from rear-bann; as the former respects those who hold medially of it. But the words are now confounded; and bann and rear-bann denote a summons to all the feudal tenants, mediate and immediate, to go to war in the king's service.

Bann also denotes the assembly, or body of nobility and gentry thus convocated.

In this sense, they say, the bann and rear-bann are long in getting into the field; the bann and rear-bann were assembled, &c.

The French nobility appear to have served the king, in the way of bann and rear-bann, from the beginning of the monarchy; though the usage was not regularly settled till the time of the infeudation of fiefs.

Bann is more particularly used to denote a procuration or beainment, for a crime proved; because anciently published by loud of trumpet; or, as Voltaire thinks, because those who did not appear at the above mentioned demumns were punished by procuration.

Hence, to put a prince under the bann of the empire, is to declare him divested of all his dignities.

The sentence only denotes an interdiction of all intercourse and actions of humanity with the offender, the form of which seems taken from that of the Romans, who banished perfons, by forbidding them the use of fire and water.

Sometimes also cities are put under the imperial bann; that is, stripped of their rights and privileges.

Bann also denotes a pecuniary mulct or penalty laid on a delinquent for offending against a bann.

Banns of Marriage are certain solemn notices of matrimonial contracts made, in the parish church, before the marriage; that if there be any objections to either party as to prior engagements, &c. there may be an opportunity of making them. The publication of banns (popularly called asking in the church) was intended as an expedient to prevent clandestine marriages; but a licence or dispensation is now easily procured, so that their use is defeated. By the laws of the church, banns are to be published thrice, on three distant days, in the places where the parties live; or pain of excommunication and excommunications are threatened against those, who knowing the banns, conceal them. (But see 26 Geo. II. cap. 23, and Marriages.) The use of matrimonial banns is said to have been first introduced in the Gallican church, though something like it obtained even in the primitive times; and it is this Tertullian is supposed to mean by trinunina promulgatio.

Bann is also used for a solemn anathema, or excommunication, attended with curses, &c.

In this sense, we read of papal banns, &c.

Bann of God, bannus Dei, or the judgment of God. Spelman takes it for excommunication.

Bann is also used for a prohibition.

In which sense, the ban of harrest or vintage, &c. in the French customs, imports a prohibition to reap, or gather the grapes, without the leave of the lord.

The former is now taken away, and the reaper may reap his corn when he pleases; but the latter still remains, perfons not being allowed to open the vintage till publication is made by the officer of the place for that purpose.

Bann-Vin, in the French Customs, a privilege enjoyed by lords, of selling the wine of their own growing, during a certain time, exclusive of all other persons within the compass of their fees or lordships.

The same right, in some places, extends also to other liquors; and even to hogs, cows, and other animals.

BANNALEC, in Geography, a town of France, in the department of Finisterre, and chief place of a canton in the district of Quimperlé; 21 leagues north-west of Quimperlé. The place contains 4750; and the canton 3950 inhabitants; the territory includes 195 kilometres, and four communes.

BANALIS MOLA, or Bannal-mill, a kind of feudal toll, whereby the tenants of a certain district are obliged to carry their corn to be ground at a certain mill, and to be baked at a certain oven, for the benefit of the lord.

The oldest account of such bannal-mills occurs in the eleventh century. Fulbert, bishop of Chartres, and chancellor of France, in a letter to Richard, duke of Normandy, complains, that attempts began to be made to compel the inhabitants of a part of that province to grind their corn at a mill situated at the distance of five leagues. Vid. "Maxima Bibliotheca Veterum Patrum." Lugdun. 1675, tom. xviii. p. 9. Other examples of this species of servitude, in the tenth and eleventh centuries, may be seen in Da Pufine, under "Moleculum Bannale," De la Mare "Traite de la Police," ii. p. 151.) gives an instance, where a lord in a
churing his subjects, A. D. 1248, required of them, in re-
membrance of their former submission, and that he might
draw as much from them in future as possible, that they
should agree to pay a certain duty, and to send their corn to
be ground at his mill, their bread to be baked in his oven,
and their grapes to be pressed at his wine-press. The origin
of these servitudes may possibly be accounted for thus: the
building of mills was at all times expensive, and undertaken
only by the rich; who, to indemnify themselves for the
money expended in order to benefit the public, stipulated
that the people in the neighbourhood should grind their corn
at no other mills than those erected by them.

BANNER, in Geography, a town of Hindooelan, in the
district of Coorg-wynaad, seated on the upper branch of
the Copyun river. N. lat. 11° 48'. E. long. 76° 26'.

BANNAT of Temeswar, a district of Upper Hungary,
in the circle on the farther side of the Thiès, bounded by
the rivers Mares, Theis, and Daruloe, and watered by the
Temes, which is joined by the Beg or Beno. In 1552,
the Turks became masters of it, and retained it at the peace
of Karlowitz, in 1699; but lost it, after a possession of 165
years, in 1716; and in 1718, it was formally ceded to the
emperor, at the peace of Passarowitz; which cession, one
district excepted, which was granted to the Turks, was rati-
fied in 1739, at the treaty of Belgrade. Its government
is divided into the civil and military jurisdiction. Its capital
is Temeswar. This banner prefaces many ridges of consid-
erable height.

BANN-BRIDGE, a market and post-town of the
county of Down, province of Ulster, Ireland, which takes
its name from a bridge over the river Dann. It is a pleasant
town on the road from Dublin to Belfast, and is remarkable
for its great linen fairs. Distance north from Dublin 60
Irish miles.

BANNER, in Heraldry, is a small square flag with fringe,
skirted by a lace or frill, similar to the standards now borne
by the regiments of cavalry, and was always borne in the field
before a prince, duke, marquis, earl, viscount, baron, knight,
of the garter, and knight-banneret.

Menage derives the word from the Latin bandum, a band,
or flag; and supposes banniere to have been first written for
bandiere; which is confirmed by this, that we meet with the
word banderia, used, in the same sense, by Latin writers of
the barbarous age.

In the reign of Henry VIII. the size of the royal ban-
er was an ell long, and a yard broad; in queen Elizabeth’s
reign, the length was two yards and a half, and the breadth
two yards, beside the fringe; the complement of men to
each banner in the field was always one hundred.

BANNERS, in Military Language. See Colours.

BANNEtets, an ancient order of knights, or feudal
lords, which, by permitting several large fees, led their vassals
to battle, under their own flag, or banner, when summoned
thereby the king.

The word seems formed from banner, a square flag, or
from land, which anciently also denoted a flag. — Bannerets
are also called in ancient writers, militae vexillarii, and vex-
illarii, bannerarii, bannerifs, &c.

Anciently there were two kinds of knights, great and
little, the first whereof were called Bannerets, the second
Bachelors; the first composed the upper, the second the
middle, nobility.

The banneret was a dignitary allowed to march under his
own flag, whereas the baccellarius eques followed that of an-
other. Knights bannerets were originally entitled to display
their banners in the field. A knight Banneret must be a gen-
tleman of family, and have land sufficient to enable him to
bring into the field fifty men at arms, with the archers and
cross-bowmen appertaining thereto, making in the whole
one hundred.

Banneret, according to Spelman, was a middle order be-
tween a baron and a simple knight; called sometimes also
vexillarius minor, to distinguish him from the greater, that is,
from the baron, to whom alone properly belonged the jus
vexilli, or privilege of the square flag.

Hence the banneret was also called bannaretus, quae horo
minor, a word frequently used by English writers in the same
sense as banneret was by the French; though neither of them
occurs before the time of Edward II.

Some will have bannerets to have originally been per-
sons who had some portion of a barony assigned them; and
enjoyed it under the title of baro proximus, and that with the
same prerogatives as the baron himself.

Some again find the origin of bannerets in France;
others in Britain; others in England. These last at-
tribute the institution of bannerets to Coman, lieutenant of
Maximus, who commanded the Roman legions in England
under the empire of Gratian, in 383. This general, say
they, revolted, divided England into forty cantons, and in
these cantons distributed forty knights, to whom he gave a
power of assembling, on occasion, under their several banners,
as many of the effective men as were found in their respective
districts: whence they are called bannerets.

However this be, it appears from Froissart, &c., that an-
ciently each of the military men as were rich enough to raise
and subdue a company of armed men, and had a right to
enjoy the privilege appertaining thereto, were called bannerets.
Not, however, that these qualifications rendered them knights, but only bannerets; the appellee
of knighthood being only added thereto, because they were
simple knights before.

At the ceremony of creation, the king, at the head of his
force, after a victory, is surrounded by all the field officers
and nobles at court, under the royal standard displayed to receive
the intended knight banneret, who is led to the soverign
by two renowned knights or valiant men at arms, having his
penon or guidon of arms in his hand, preceded by the heralds,
who proclaim his valiant achievements. The king then fays
to him, “Advance thy banneret, and commands the ends
of his penon or guidon to be torn off, which then becomes a
banner, being square (on which he has his arms and support-
ers embroidered). The new knight banneret then returns
to his tent, accompanied by martial music, and attended
by many nobles and field officers, where he is highly en-
tertained. A knight banneret has a right to display his
banner in the field. Neither the title nor supporters are
hereditary. In the 28th of Edward I. the daily pay of a
knight banneret was four shillings and their diet at court;
they take precedence of the younger sons of viscounts and
barons. The last knight banneret was Sir John Smith, by
Charles I. after the battle of Edge-hill, where he refused the
royal standard from the rebels.

Banneret is also the name of an officer, or magistrate of
Rome, towards the close of the fourteenth century.

The people of that city and throughout the territory of
the church, during the disputes of the antipopes, had formed
a kind of republican government; where the whole power
was lodged in the hands of a magistrate, called senator, and
twelve heads of quarters, called bannerets, by reason of the
banners which each raised in his district.

Banneret-rolls, in Heraldry, are small flags used at
funerals.
BAN

BANNIMUS, q. d. *see banis*, from the obsolete *bannis*, the form of expulsion of any member from the university of Oxford, by affixing the sentence up in some public place, as a denunciation or proclamation of it.

BANNOCK, in *Psalms*, is an oat-cake, hallowed only with water, and baked in the embers. These cakes are common in Iceland and some other countries.

BANNOCKBURN, in *Geography*, a village of Scotland, in the county of Stirling, where was fought a battle between the English and Scots on the 25th of June 1314, in which the English were defeated with great loss, and by which the independence of Scotland was secured, and Bruce on the throne of the kingdom; and where James III., king of Scotland, was in 1487 overpowered by his subjects, wounded, and soon after murdered by a priest taking his confession; two miles south of Stirling.

BANNOW, the name of a town which formerly existed in the county of Wexford, province of Leinster, Ireland, situated at the south-eastern extremity of a small haven of the same name, formerly called Bagganban. This is noted as the place at which Robert Howlett, and now the privy of Mountmarae, and Maurice of Pembrough, (not Earl Strongbow, as some accounts erroneously state), the first of the English adventurers, landed in A.D. 1170. It is said by Geraldus Cambrensis, to be a little creek lying in the county of Wexford, near to Feathard a fishing town, the open sea lying on the eazz, and not far from the haven the mouth of Waterford on the south. The same writer speaks of it as very unfit for a harbour, and says that it derived its name from that of one of the ships in which the Englishmen arrived. The name Bagganban is retained in an ancient rhyme: "At the creek of Bagganban, Ireland was lost and won."

And the place was so noted, that some old writers have even spoken of the whole island by the name of Bannow. Though the town seems never to have arrived at the fame consequence that its neighbour Feathard did, it was made a borough and continued to fend members until the union. "So late as the year 1626," says the writer of a letter to Dr. W. Hamilton, "Bannow is regimented in the common-houfe books of Wexford, as having four streets, which paid quit-rent to the crown, and some buildings surrounding the church." The name of one of these streets, Weavers' street, indicates some manufacture to have been carried on. "The only remains of it," continues the latter writer, "which stand visible at this day (1786) are the walls of its church. There is not in or near the site of the former town even one solitary hut. The election for the representatives of the town is held on the walls of an old chimney, adjoining to the church, which tumbled down piece-meal, and forms the council table of that ancient and loyal corporation. Towns like as men; the vestiges of Bannow are traced with difficulty amid heaps of barren land, on privileges which interred dome in its continuance having ceased, in a few years it may be entirely forgotten. Its distance south from Dublin is 761 Irish miles, long. 6° 50'. W. lat. 52° 12'. N. Hollinghead. Transact. of Royal Irish Academy.

BANNOCUM Capitis, was a mulct paid in cattle.

BANNUS, or Banus, a title anciently given to the governor or vicerooy of Croatia, Dalmatia, and Schauonia.

BANNUS Episcopalis, was a mulct paid to the bishop by theft guilty of sacrilege, or other crimes.

BANON, in *Geography*, a town of France, in the department of the Lower Alps, and chief place of a canton in the district of Pans-. The place contains 935 and the canton 4743 inhabitants; the territory includes 330 kilometres and 11 communes.

BANONSEUR, a town of France in the department of the Meuse, and chief place of a canton in the district of St. Mihiel, 14 leagues north of St. Mihiel.

BANOV, in *Ornithology*, the name given by the people of the Philippine islands, to a kind of hawk, somewhat larger than our sparrow-hawk, and of a yellowish colour on the back and wings, and white under the belly. It is the most common of all the kinds of hawk in that part of the world, and is a very voracious animal.

BANQUET, in *Manus*, denotes that small part of the branch of a bird under the eye, which, being rounded like a small rod, gathers and joins the extremities of the bit to the branch, in such a manner, that the banquet is not seen, but covered by the cap, or that part of the bit next the branch.

BANQUET-LINE, is an imaginary line drawn by the hatters along the banquet, in forging a bit, and prolonged upwards and downwards, to adjut the designed force or weight of the branch, in order to make it stiff or easy; for the branch will be hard and strong if the fevil-hole be on the outside of the banquet, with respect to the neck; and it will be weak and easy, if the fevil-hole be on the inside of the line, taking the centre from the neck.

BANQUETING-ROOM, or house. (See Xenia, Saloon, &c.) The ancient Romans lapped in the atrium of their houses: but, in after-times, magnificent saloons or banqueting-rooms were built for the more commodious and splendid entertainments of their guests. Lucullus had several of these, each distinguished by the name of some god; and there was a particular rate of expence appropriated to each. Phutarch relates (in Lucullum, apud Oper. t. i. p. 519.) with what magnificence he entertained Cicero and Pompy, who went with designs to surprize him, by only telling a slave who waited that the cloth should be laid in the Apollo. The emperor Claudius, among others, had a splendid banqueting-room, named Mercury. But every thing of this kind was outdone by the lube of that celebrated banqueting-house of Nero, called domus aurus, which by the circular motion of its partitions and ceilings, imitated the revolution of the heavens, and represented the different feasons of the year, which changed at every service, and flowered down flowers, fencies, and perfumes on the guests. Heligobals, nevertheless, is said to have improved as much upon Nero, as the latter had done on Lucullus. Senec. Ep. 90.

BANQUETTE, in *Fortification*, is a little foot-bank, or an elevation of earth forming a path which runs along the inside of a parapet; by which the musquetiers get up to discover the counterfeeps, or to fire on the enemies in the moat or in the covert-way.

The banquet is generally between two and three feet high, and as wide, and four feet and a half lower than the parapet, having two or three steps to mount it by. Where the parapet is very high, they make a double banquet one over the other. See Baserwork.

BANSTEAD, in *Geography*, a village of Surry in England, is celebrated for its pittance downs, and the delicate mutton they produce. The sheep bred here are of a small species, and being fed mostly on the short festrated herbage which abounds with wild thyme, juniper, &c. their flees is peculiarly rich, and is often sold in the London markets for lamb. (See Shee.) The foil of these downs consists of chalk, flints, and a thin stratum of blackish mould. Here is an annual horse-race, much frequented by the sporting people of London.

BANSTICKLE, in Ichthyology, a name synonymous with 4 E.
with prickel-bag, prickel-back, and flockel-back. See Gasterotis.

BANSWALEH, in Geographical, a district of Hindoostan, situated on the west part of Malwa.

BANSWARA, a town of Hindoostan, in the country of Telingana or Golconda, twenty miles from Indelovoy.

BANSWARAH, a town of Hindoostan, in the country of Malwa, 75 miles west of Oogein, and 105 E. N. E. of Amedabad. N. lat. 25° 25'. E. long. 74° 25'.

BANTAM, a sea-port town in the north-west part of the island of Java, and capital of a kingdom. It is situated at the bottom of the bay of the same name, about a quarter of an hour's walk from the sea-side; and lies between two branches of a river that descends from the mountains, in an extensive plain, behind which there is a range of high and rocky hills extending far to the southward. Its distance from Batavia is about 13 Dutch miles, each of which is about 31 English miles. The communication between these places by land is very difficult, and almost impracticable, on account of the thick forests and deep marshes which lie between them; whereas the passage by water, with the advantage of the land and sea-winds, in the light Indian vessels or proas, called flyers, is performed in four hours. The town of Bantam is large, but has no walls or fortifications towards the sea, nor any on the land side, except fort Diamond, in which the king's palace stands. Bantam resembles a grove of cocoa-nut trees rather than a city. The housetops are mere huts, walled up with reeds or canes, plastered with clay, and covered with thatch or leaves of palm-trees, and are confusely disordered, without any arrangement of streets; and round each of them is a plantation of cocoa-nut trees, the whole being surrounded by a paling of split bamboo, by which every family is wholly separated from its neighbours. The river of Bantam, at its mouth, is about 170 or 180 feet wide, and is very shallow. However, at high water and in spring tides, it is from five to seven feet deep. Above the town it divides into three channels, of which that just mentioned is the middle one; the other two branches run into the sea, about the distance of 14 leagues on each side.

The gulph or bay of Bantam, bounded by a point of the same name and that of Peatang, forms a commodious retreat for ships, where a great number may anchor in safety. Within this bay are several small islands which are all uninhabited, except Pulo-Panjang, or the Long island, which is the largest and in which some fishermen reside. Five are plentiful; and the inhabitants prefer one called the kaalkop or bald-head, which has some resemblance to our cod. This bay was formerly famous for being the principal rendezvous of the shipping from Europe in the east. Bantam was the great mart for pepper and other spices, from whence they were distributed to other parts of the world. The chief factory of the English as well as Dutch East India company was settled there. The merchants of Arabia and Hindostan were not allowed to it. Its sovereigns were so dexterous in encouraging trade, by giving subsidies to foreign merchants against the violent and revengeful disposition of the natives, that the crime of murder was never pardoned when committed against a stranger, but might be committed by a foreigner for a fine to the relations of the deceased. This place flourished for a considerable time; but the Dutch having conquered the neighbouring province of Jacatra, where they have since built Batavia, and transferred their principal business to it; and the English having removed to Hindoostan and China, Bantam was reduced to a poor remnant of its former opulence and importance. Other circumstances have also accelerated its decline. The bay is so shoaled up with daily accretions of new earth washed down from the mountains, as well as by coral shoals extending a considerable way to the east, that it is inaccessible at present to vessels of burden. A fire also destroyed most of the houses; and few have been since rebuilt. With the trade of Bantam the power of its foreign declined. In his wars with other kings of Java, he called in the assistance of the Dutch; and from that period he became, in fact, their captive. He resides in a palace, built in an European style, within a fort called the Diamond, situated in a large open field, denominating the Palacebaan, where three roads, leading from different quarters of the town, unite to the westward of the river, and garnished by a detachment from Batavia; the commander of which takes his orders, not from the king of Bantam, but from a Dutch governor, who lives in another fort, called Speywyk, adjoining to the town, on the east side of the river, and nearer to the sea side. The royal palace is an oblong square, 800 feet long, and nearly half as broad; it has regular balustrades at the four corners, and several semi-circular pieces of arms on the sides. Stavoriaus counted 60 pieces of cannon, most of them being brass, and heavy artillery, but old, and few of them fit for service. The Dutch garrison consists of a captain, three subalterns, 150 privates who guard the king's person, and keep him always in the company's power. None of his subjects, nor even his sons, are allowed to approach him without the knowledge of the captain of the Dutch military, who keeps up a regular intercourse with the commandant at fort Speywyk. No Javanese or Bantammer is ever allowed to pass the night within the walls of the fort. The approach to it is by a drawbridge, thrown over the moat; and at the gate of the fort an officer and 24 men mount guard night and day. The walls of the king's seraglio are raised higher than those of the fort, to guard it against the inspection of the curious. When the king's sons arrive at the age of puberty they are removed from their father, but have each their separate seraglio or harem. All the servants of the place are women, and even the king's attendant guards are females. However, when he appears in public, he is accompanied by his Bantam life-guards, though they are never admitted within the gates of the fortresses, who besides their side-arms, which are crisses or long daggers, are provided with pikes, having very long and broad iron heads; and when the king goes abroad he is likewise attended by a guard of Europeans from the garrison. Besides maintaining a body of native troops, his Bantamees majesty is allowed to keep several small armed vessels, by means of which he maintains authority over some parts of the south of Sumatra. His subjects are obliged to fell him all the pepper they raise in either island at a low price, which he has contracted to deliver to the Dutch at a small advance, and much under the marketable value of that commodity. The religion of the kingdom of Bantam is the same with that which prevails in the island of Java, or Mecometan; and the present king joins the spirituall to the temporal power, and is high-priest of this religion; with which, indeed, he blends some of the rights and ceremonies of the chief Hindu gods of Java; adoring, for instance, the great banyan or Indian fig-tree, which is likewise held sacred in Hindoostan, and under which religious rites may be conveniently performed; in the same manner as all affairs of state are actually transacted by the Bantamees, under some shady tree by moonlight.

In the middle of the plain, or Palacebaan already mentioned, is a large wings or tree, or castaneous equistifolia, which, by its spreading branches, affords an agreeable shade; and at the foot of it a grave, covered with a large blue stone, in which was buried one of the former kings of Bantam. This is regarded by the inhabitants as a very holy place, and held in great veneration. Near this is a building which is used as a place of circumcication for the children
BANTAM.

Children of the king; and on such occasions, it is hung round and richly decorated with costly tapestry and pieces of cloth. The Paisehman is likewise the scene of horse-races and similar exercises, in which the courtiers appear on horseback, magnificently appareled, to contend with the king or his sons; but they always take care to yield the palm of victory to their royal competitors. The large square temple stands at the end of a plain; it is of a square form, with five roofs above one another, decreasing in size and at last terminating in a point, and surrounded by a wall. The spires, like the minarets in Turkey, to announce the hours of prayer. Neither Christian nor Pagan may enter this temple upon pain of death.

The chief authority at Bantam, on behalf of the company, is vested in a few merchant, with the title of commandant, who manages the trade, confining chiefly in pepper and some cotton yarn. To the commandant of Bantam belong the two residences or factories which the Dutch company polices in the southern part of the island of Sumatra; whence they derive annually a considerable quantity of pepper. At Bantam all heavy goods are weighed by bharis, each containing three picunds, and these bills are estimated at 15 lb. Stavrinus and some of his companions were admitted to an audience by the Bantam king. His dress consisted of a long Moorish coat, made of stuff interwoven with gold, and manufactured at Surat, called foeces, which hung down almost to his feet, and the sleeves of which were fastened by a row of small gold buttons. Under this coat, he wore a white shirt, and a pair of drawers reaching down to his heels, of the same stuff as the coat. His head was covered with a round and somewhat sharp-pointed cap, of a violet colour, laced with silver. Behind his chair stood one of his female life-guards, armed with a large gold kris, in a sheath of mally gold, which she held in an elevated position: two female slaves were seated on each side of him on the ground; one held his tobacco-box and his hetel-box, both of which were of gold, and when he wanted either, it was handed to him, wrapped in a silk-handkerchief, the other presented a golden-fringed pot to his majesty, whenever he had occasion for it. Pipes and tobacco were presented to the guests, as soon as they were seated, and the table was furnished with all kinds of Indian foods variously prepared. One favourite practice is mentioned, which was that of the king's frequently beholding during his meal, and it was followed by all the company. This custom, which is an etiquette of the court of Bantam, was designed to shew that each person's appetite was good and the food agreeable, which was pleasing to the king. Bantam is situated in lat. 6° 20'. E. long. 105° 24'. Stavrinus's Voyages, vol. i. p. 57—89. Stavrinus's Embassy to China, vol. i. p. 296—329.

Bantam-Cock, in Ornithology, a variety of the Phasianus Gallus, or the gallus pullus, tibis pennatis, pennis pollibus elongatis, in the Linnean sytem. It much resembles, says Buffon, the rough-footed cock of France. Its feet are covered with feathers, but only on the outside; the plumage of the legs is very long, and forms a sort of boots which reach a considerable way beyond the claws. It is courageous, and resolutely fights with one stronger than itself. Its iris is red; and it is said, that most of this breed have no tuft.

Bantam-Work, a kind of Indian painting and carving on wood, resembling Japan work, only more gay, and decorated with a great variety of gaudy colours. Bantam-work is of less value among connoisseurs, though sometimes preferred by the unskillful, to the true Japan work. Formerly it was in greater use and esteem than at present; and the imitation of it much practised by our japanners.

There are two sorts of Bantam as well as of Japan work; as, in the latter, some are flat, lying even with the back, and others high, or embossed, as in Bantam-work, some are flat and others in-cut, or carved into the wood, as we find in many large screens; with this difference, that the Japan artists work chiefly in gold and other metals, and the Bantam generally in colours, with a small sprinkling of gold here and there.

As to the flat Bantam-work, it is done in colours, mixed with gum-water, proper for the thing designed to be imitated. The method of performing the carved or in-cut kind is thus described by an ingenious artist. The wood is first to be primed with whitening and size; so often till the primer lie near a quarter of an inch thick; then it is to be water-plained, i.e. rubbed with a fine wet cloth, and some time after, brushed very smooth, the blacks laid on, varnished up with a good body, and polished well, though with a gentle hand. This done, the design is to be traced out with vermilion and gum-water, exactly in the manner the wood is intended to be cut; the figures, trees, buildings, &c. in their due proportions. Then the graver is applied, with other tools of proper flanges, differing according to the workman's fancy. With these he cuts deep or shallow, as is found convenient, but never deeper than the whitening lies; the wood being never to feel the edge of the instrument. Lines or parts of the black are filled to be left, for the draperies and other out-lights, and for the diffusion of one thing from another; the rule being to cut where the white is, and leave the black untouched. The carving being finished, they use the pencil, with which the colours are laid into the cut-work. After this, the gold is to be laid into those places which the design requires; for which purpose, a strong thick gum-arabic water is taken, and laid with a pencil on the work; and, while this remains wet, leaf-gold is cut with a sharp smooth-edged knife, in little pieces, shaped to the figures and figure of the places where they are to be laid. These being taken up with a little cotton, they dab them with the same close to the gum-water, which affords a rich luster. The work thus finished, they clear up the black with oil, taking care not to touch the colours. The European workmen, in lieu of leaf-gold, ordinarily use brass-dull, which is less bright and beautiful. Park, Treat. of Japan.

BANTAYAN, in Geography, a small island of the East Indies, belonging to the group of Philippines, situate north-east of Zebu, near cape Buraleque. It is encompassed by four or five of a smaller size; and the inhabitants employ themselves in fishing and making cotton hose.

BANTEIA, or BANTIA, in Ancient Geography, a town of Italy, in Apulia. Plutarch, in his life of Marcellus, speaks of this place in his account of the march of this general against Hannibal; and Horace (Od. iv. lib. 3) calls the defiles in its vicinity "faltae Bantii." BANTON, in Geography, a town of Germany, in the circle of Lower Saxony, and principality of Calenberg, in which is a carpet manufacture.

BANTI, BRIGIDA, in Biography, a sooperfinger of the first class. In 1777, she was engaged by the proprietors of the pantheon, to supply the place of the Agurati; a measure adopted merely on speculation, upon hearing from Paris of the effects of her fine voice in that capital.

She was the daughter of a gondoliere at Venice, and for some time a piazza performer in that city. After this exercise of her natural vocal powers, she flung her way to Lyons, where she performed in coffee-houses for such small donations.
much Undying and 1786, England, in Sacchini 1794, year, town fame; BANZA, is 1802, and foon 1788, and which Milan 1 and tini, and 39'. fing and whether the own. li...
BANZA, in Geography, a town of Africa, in the kingdom of Congo, now called St. Salvador.

BANZKOW, a town of Germany, in the circle of Lower Saxony, and county of Schwedien.

BAOBAB, in Natural History, the name of an African fruit, described by Prosper Alpinus. It is of the size of a lemon, but it resembles a gourd, and contains several black seeds, whose extremities are a little crooked. Its substance also much resembles that of the gourd; and, when first pulped off, is moist, red, and of a grateful acid taste. The people of Ethiopia, where it is plentiful, are very fond of it, in the scorched heats of summer; and the richer sort add sugar to it, to correct its acidity. It is a great cooler, and very agreeably quenches thirst; and has also some medicinal use, as it is good in contagious and pelllicate fevers. The people of Cairo, where the fresh fruit is not to be had, use its pulp dried and powdered; and it is so used at Senegal in pellicate fevers, the dysterny, and bloody flux. The juice is a drachm, taken either in common water, or in an infusion of the plantain.

The baobab tree, the *Adansonia digitata* (see *Adansonia*), has been very minutely and accurately described by Mr. Adanson, in the Memoirs of the Academy of Sciences at Paris. It is found at Senegal in Africa; and its bulk is so enormous, that it has more the appearance of a forest than of a single tree. Its trunk, which seldom exceeds twelve feet in height, measures between seventy and eighty feet in circumference, and is crowned with a number of branches, remarkable for their thickness and their length, which is from fifty to eighty feet. They mostly shoot out in an horizontal direction, and give to the trunk the appearance of an hemisphere from sixty to seventy feet high, and about a hundred and forty feet in diameter. The bark is an inch thick, of an ash-coloured grey, greasy to the touch, bright, and very smooth; the outside is covered with a varnish, and the inside is green speckled with red; the wood is white and soft; the leaves are oval, pointed at the end, and about five inches long, and two and a half broad; seven of these are generally attached to one pedicle. The tree produces flowers much larger than any hitherto known; the calyx of the flower consists only of one piece, the lower part of which forms a short tube, which spreads into the shape of a fan, having its edge divided into five equal parts of a triangular figure. The petals are five in number, of the same length with the calyx. From the same centre, and within the petal, rises a cone, which spreads into about one hundred filaments, each having a small frill in form of a kidney at the end of it, the convex part of which opens into two cells, which shed a dust, confining of small white transparent particles. The pistil rises from the centre of the calyx, and consists of an ovary, a style, and several stigmata, in number from ten to fourteen. The ovary becomes a very considerable fruit. The tree flowers in July, and the fruit ripens in October and November. The bark and leaves are dried, and powdered by the negroes of Senegal, and used like pepper and salt. Mr. Adanson used it as a preservative from the epidemic fever of the country, and found it of great benefit in promoting perspiration, and attenuating the excessive heat of the blood. The woody bark of the fruit, and the fruit itself, supply the negroes with an excellent soap, which they prepare by drawing a key from the afhes, and boiling it with palm-oil that begins to be rancid. The decaying trunks are hollowed out into burning-places for perfumes most esteemed by the negroes; such as poöts, medicines, and perfumes; and their bodies that are used in these trunks become perfectly dry, without rotting, and form a kind of mummies, without the help of embalment. This is the largest tree in Abyssinia. The wild bees perforate the trunk, which is soft and spongy, and lodge their honey in the holes made in it; and this honey is preferred to any other in Abyssinia. It may be propagated by seeds, procured from the country where it naturally grows. These must be sown in pots and plunged in a hot-bed; and when in about six weeks the plants come up, they should be transplanted into separate pots, filled with light sandy earth, and plunged into a fresh hot-bed, fiding them till they have taken new root: after which they should have free air in warm weather, and be sparingly watered. As the plants advance in growth, they must be shifted into larger pots, and kept constantly plunged in the bark-bed, and remain in the flove with other tender exotic plants. In three years, many of them rise to the height of six feet, and cut out several lateral branches, and their stems are proportionable; but after four or five years' growth, they are almost at a stand, their annual shoots rarely exceeding two or three inches. Some seeds obtained from Mr. Adanson have succeeded here, and many of the plants grow upwards of twelve or fifteen feet high. Martyn's Miller. The African baobab has been sometimes confounded with the American casaba.

BAOL, or BAUL, in Geography, a kingdom of Africa, in the country of Senegal, about eighty leagues long and twenty-four wide.

BAOOM, or Aroom, one of the newly discovered islands in the Southern Pacific ocean. S. lat. 10° 26'. W. long. 185° 17'.

BAUNS, Lës, a town of France, in the department of the Lower Seine, 24 leagues north of Candebee.

BAPEAUME, a town of France, in the department of the Garms of Cabis, and chief place of a canton in the district of Arras; three polls south of Arras, and 19 1/4 north of Paris. The place contains 3145, and the canton 12,950 inhabitants; the territory includes 147 1/4 kilometres and 23 commons.

BAPHE, in the Writings of the Ancients, a word used to express that fine red colour, with which they used to illuminate the capital letters in manuscripts, at the beginning of chapters. It is also called, by some, *encaujium* or *einaia*; and, by others, cocca and *cinnabar*. It was a very elegant colour, and is said to have been prepared of the purple colour taken from the *mures*, and some other ingredients. It was called *encaujium* from its refmbling very much the fine bright red used in enamels.

BAPTACA, in Geography, a town of North America in the country of New Navrre, forty-five miles E.S.E. of Cape Grand.

BAPTE, in Antiquity, an effeminate voluptuous kind of priests at Athens, belonging to Cotys or Cotytto, the goddess of wantonness; thus called, from their blasted dippings and washings, by way of purification. It seems, they were to be made very clean and pure, that they might wallow and defile themselves with the left reserve; for their rites were performed in the night, and confin'd chiefly of lascivious dances.

Eupolis having composed a comedy to expose them, inti-

tled BAPTE; they threw him into the sea, to be revenged; and the fame fate is also said to have befallen Cratinus, another Athenian poet, who had written a comedy against the bapte, under the same title.

Others derive the denomination bapte, from the practice of dyeing and painting their bodies, especially their eyes, brows, and officiating at the service of the deity with the parade and demumis of women. Juvenal describes them in this light. Sat. ii. ver. 91.

"Tales legentur orphant orgia tradit

Cecropia folits bapte hifare Cotytto."

BAPTE.
BAPTISM.

BAPTISM, in Natural History, a name given by the ancients to a sojilable fubstance used in medicine. They have left us but very short descriptions of it. Pliny only tells us that it was soft and of an agreeable smell. Hence Agricola judges, that it was probably one of the bitu- men.

BAPTISM, in Theology, formed from the Greek *πεν*., of *πενερω*., *dip* or *plunge*, a rite or ceremony by which persons are initiated into the profession of the Christian religion; or, it is the appointed mode by which a person assumes the profession of Christianity, or is admitted to a participation of the privileges belonging to the disciples of Christ. It was by this mode that those who believed the gospel were to be separated from unbelievers, and joined to the visible Christian Church; and the rite accompanying it, or washing with water, was probably intended to repre- sent the washing away, or removing the impurities of some former state, viz. the sins that had been committed, and the vicious habits that had been contracted, and to this purpose it may be observed, that the profession of repentance always accompanied it, or was understood to accompany, the profession of faith in Christ. That our Lord instituted such an ordinance as baptism, is plain from the commiission given to the apostles after his resurrection, and recorded in Matt. xxviii. 19, 20. To this rite, there is also an allusion in Mark, xvi. 16. John. iii. 5. Acts, ii. 1. viii. 12, 36-38. xxii. 16. The design of this institu- tion, which was to express faith in Christ on the part of those who are baptized, and to declare their resolution of openly profefl his religion, and cultivating real and uni- versal holiness, appears from Rom. vi. 3, 4. 1 Peter, iii. 21. Ephes. v. 26. and Tit. iii. 5. Some have inferred from Acts, ii. 38. xxix. 16. Tit. iii. 4-7; that God did thereby give to believers a token of the forgiveness of their sins, according to the terms of the gospel covenant; and they have alleged, that there is a foine in which baptism may be called a seal of the covenant of grace.

We find no account of baptism as a distinct religious rite, before the mission of John, the forerunner of Christ, who was called the "Baptist," on account of his being commanded by God to baptize with water all who should hearken to his invitation to repent. Washing, however, accompanied many of the Jewish rites, and, indeed, was required after contracting any kind of uncleanness. Also, soon after the time of our Saviour, we find it to have been the custom of the Jews solemnly to baptize, as well as to circumcise, all their profelytes. As their writers treat largely of the reasons for this rite, and give no hint of its being a novel institution, it is probable, that this had always been the custom antecedent to the time of Moises, whose account of the right of circumcision, and of the manner of performing it, is by no means circumstantial. Or, baptism, after circum- scribing, might have come into use gradually from the natural propriety of the thing, and its easy conformity to Jewish customs: For if no Jew could approach the tabernacle, or temple, after the well triefd uncleannesses, with- out lathering, much less would it be thought proper to admit a profelyte from a state of impurity and unclean as heathenism was conceived to be, without the same mode of purification. On the other hand, it has been alleged, that none of the washings which were practiced among the Jews, bear the least resemblance to Christian baptism, except in the single circumstance of dipping; and this circumstance is a mere accident, and may as well be taken from Pagan rituals, as from the ceremonies of the Jews; or, in other words, it is so vague and far-fetched, that it deserves, in this point of view, no consideration at all. Accordingly, it is maintained, there was no baptism in the world among any people till John, and that the purification of a profelyte by dipping himself, which is called baptism, was a late practice, long after the time of John. The antiquity of this practice of profelyte-baptism among the Jews, has been a subject of considerable debate. It has been strenuously maintained by Lightfoot (Works, vol. ii. p. 120, &c.), Emlyn (Previous Question in Tracks, vol. i. p. 594), Wall (History of Infant Baptism, Intro.), and controverted by Dr. Benjon (On St. Paul's Erift, vol. i. Dife. viii. p. ii.), Gale (Reflections on Wall), Robinson (Hist. of Baptism, p. 37) &c. Dr. Benjon was at first an advocate for the Jewish custom of initiating heathen profelytes by baptism; but upon further inquiry he relinquished this opinion alleging, that he had not found any influence of one person's washing another by way of confession, purification, or sanctification; except that of Moses' washing Aaron and his sons, when he set them apart to the office of priests, Lev. viii. 6.; and that he cannot find that the Jews do at present practice any such thing as that of baptizing the profelytes that come to them, though they are said to make them wash themselves. He then asks, where is any intimation of such a practice among the Jews, before the coming of our Lord? If any one, he says, could produce any clear testimony of this kind from the Old Testament, the Apocalypse, John, &c., it would be of great moment. He adds, in former times, profelytes coming over from Heathenism to the Jewish religion, used to wash themselves, which is a very different thing from baptism, or one person's being washed by another. The genuine Targums, say Gill and Gale, written about the close of the first century, and the Mischeha, written about the middle of the second century, say nothing on this subject. The Christian writers, called Fathers, speak of Jewish profelytes, and washings, and purifications from ceremonial uncleannesses; but nothing of admitting profelytes into the community by baptism. The baptism of profelytes, it is said, came to light through the later Rabbies, and is chiefly to be sought in the writings of Maimonides, who flourished in the eleventh or twelfth cen- tury. In the Old Testament there are many precedents of admitting profelytes into the Jewish church, as Rahab, Ruth, and others; but not one word is said of the thing being baptized. Among the laws of admission given by Moses, Exod. xii. 48, 49, this is not mentioned. Dr. John Owen (Theologoumena) considers the opinion, that Christian baptism came from the Jews, as definite of all probability. On the other hand, Mr. Wall has made it highly probable, to lay the lead, from many testimonies of the Jewish writers, who without one dissenting voice allow the fact, that the practice of Jewish baptism obtained before and as, well as after, our Saviour's time. There is also a strong intima- tion, even in the gospel itself, of such a known practice among the Jews in the time of John the Baptist. John i. 25. The testimonies of the Jewish writers are of the greater weight, because the practice, reported by them to have been of so ancient a date, did still remain among them; for if it had not been of that antiquity to which it pretends, viz. before the time of Christ, it is not likely that it would ever have become a custom among the Jews afterwards. Would they begin to profelyte persons in their religion by Baptism in imitation of the disciples of Jesus of Nazareth, whom they held accursed? And yet if this profelyte baptism were adopted by the Jews since the time of Christ, it must have been a mere innovation in imitation of Christians, which is not very likely. See on this subject Maimon. in Mishchn. tom. ii. Horeh. c. 1. and c. 13. Selden de Jure Naturali, &c. l. ii. c. 2. Altingius de Profelyitis, diff. 7. § 46. VIR-
BAPTISM.

Hence it would follow, that "to be baptized unto, or upon Christ," was a public solemn profession of faith in him. However the baptism of the Ethiopian minister by Philip, in a scene so private, and before he knew of indeed before any instance seems to be inconsistent with the notion that baptism was a solemn public profession of faith in Christ; and the requisition of a previous oral declaration of such faith totally overthrows it. See Cippe's Dissertation on Baptism, in Crit. Rem. vol. ii. p. 102.

Baptism is not to be repeated, since it is a right of initiation into Christ's church. However, these persons might be baptized in the name of Jesus, as the Mifians already came, who had before been baptized by John and his disciples into the general expectation of a Messiah shortly to be revealed. Compare Acts, xix. 5. The Christians in Abyflinia repeat their baptism annually, on the festival of Epiphany. The naming of the baptized person is by no means any part of this institution; and when it is used, it to be considered as an address to the person, calling him by his name, rather than as the manner of giving a name to him: though it is probable, that the custom of naming a child at baptism might arise from the practice of the Jews at their circumcision. Luke, i. 59.—63. ii. 21.

A triple immersion at an early period appeared, and continued for a long time; this was to signify either the three days that our Saviour lay in the grave, or the three persons in the Trinity. But it was afterwards hid aside, because the Arians used it; it was then thought proper to plunge but once. (See Immersion.) Some are of opinion that sprinkling in baptism was begun in cold countries. It was introduced into England about the beginning of the ninth century. At the council of Celerith, in 816, it was ordered, that the priest should not only sprinkle the holy water upon the head of the infant, but likewise plunge it in the basin. Some have referred the introduction of sprinkling in the church of Rome to a canon of pope Stephen III., who, during his residence in France, in 754, was confounded by some monks of Crefly in Brittany with regard to several questions; one of which is laid to have given occasion to the first authentic law for administering baptism by pouring, which in time was interpreted to signify sprinkling. The question proposed was, whether in case of necessity occasioned by illness of an infant, it were lawful to baptize by pouring water out of the hand or a cup on the head of the infant? To which Stephen replied; that if such a baptism were performed in such a case of necessity, in the name of the holy Trinity, it should be held valid. This, says the learned James Balnage (Monum. vol. i. pref. c. v. 1. 4. de Canone Steph. III. Papæ), is accounted the first law for sprinkling, but it doth not forbid dipping; allowing it only in case of imminent danger. He adds, that the authenticity of this is denied by some Catholics; that many laws were made after this time in Germany, France and England, to compel dipping, and without any provision for cases of necessity; and therefore this law did not alter the mode of dipping in public baptisms, and that it was not till 557 years after, that the legislature, in a concil at Ravenna, in the year 1211, declared dipping or sprinkling indigent. It has been alleged, that this answer of Stephen is the true origin of private baptism and of sprinkling. The introduction of sprinkling instead of dipping, in ordinary cases, into this island, is said to have been effected by such English, or more strictly speaking Scots exiles, as were disciples of Calvin at Gencui, during the Marian persecution; and it is added, that the Scots Calvinists, who first introduced sprinkling in ordinary baptism into the northern parts of the island, were the importers of it into the southern. In the reign
BAPTISM.

reign of king Edward, the established church practised in ordinary cases trice immersion; and pouring or sprinkling was allowed, only in cases of danger, in private. It is further argued by those who maintain that in the primitive church there is no mention of baptizing by pouring, that the administration of baptism by sprinkling was first invented in Africa in the third century, in favour of clinics, or bedridden people; but that even African Catholics, the least enlightened and the most deprived of all Catholics, derided it, and reputed it no baptism. See Jo. Andreus Bofii de Clinics exercit. Hill. Jena, cited by Robinson in his "History of Baptism," p. 449. In the liturgy of the English church at Frankfort, king Edward's service book was used, and baptism was administered by trine immersion. In the Scots church at Geneva, the minister was directed to take water in his hand, and lay it upon the child's forehead, which was called pouring. About 100 years after, in the assembly of divines, Dr. Lightfoot caused dipping to be excluded, and sprinkling declared sufficient. In the Eastern and Greek churches, dipping is said to have been the invariable mode of administering baptism from the first introduction of it to this day. See Dr. King's Rites of the Greek church.

There are many ceremonies delivered by ecclesiastical writers, as used in baptism, which were introduced after the age of Juffin Martyr, but which are now diffused; as the giving milk and honey to the baptized, in the East; wine and milk in the West. &c. They also addedunction and the imposition of hands. Tertullian is the first who mentions the signing with the sign of the cross, but only as used in private, and not in public worship; and he particularly describes the custom of baptizing without mentioning it. Indeed, it does not appear to have been used in baptism till the latter end of the fourth or fifth century; at which time great virtue was ascribed to it. Lactantius, who lived in the beginning of the fourth century, says (Inf. I. iv. c. 27. p. 439.), the devil cannot approach those who have the heavenly mark of the cross upon them, as an impregnable fortress to defend them; but he does not say it was used in baptism. After the council of Nice, Christians added to baptism the ceremonies of exorcism and adjurations, to make evil spirits depart from the persons to be baptized. They made several signings with the cross, they used to light candles, they gave oil to the baptized person to taste, and the priest touched his mouth and ears with spittle, and also blew and spat upon his face. At that time also baptized persons wore white garments till the Sunday following. They had also various other ceremonies; some of which are now abolished, though others of them remain in the church of Rome to this day.

The Quakers (see Quakers) assert, that water baptism was never intended to continue in the church of Christ any longer than while Jewish prejudices made such an external ceremony necessary; which they argue from that passage, in which one baptism is spoken of as necessary to Christians; Ephes. iv. 5. which, as they say, must be a baptism of the spirit. But from comparing the texts that relate to this institution, which have been already cited, it will plainly appear that water baptism was instigated by Christ in more general terms than will agree with this explication. That it was administered to all the Gentiles converted, and not confined to the Jews, appears from Matt. xxviii. 19, 20, compared with Acts, x. 47; and that the baptism of the spirit did not supercede water baptism, appears to have been the judgment of Peter and of those that were with him; so that the one baptism spoken of seems to have been that of water; the communication of the Holy Spirit being only called baptism in a figurative sense. As for any objection which could be drawn from 1 Cor. i. 17, it is sufficiently answered by the preceding verses, and all the numerous texts, in which, in epistles written long after this, the apostle speaks of all Christians as baptized; and argues from the obligation of baptism, in such a manner as we can never imagine he would have done, if he had apprehended it to have been the will of God that it should be discontinued in the church. Compare Rom. vi. 3. &c. Col. ii. 12. Gall. iii. 27.

Baptism was also wholly rejected by the Valentinians, Marcionites, Paulicians, and many other sects.

Several of the Socinians have maintained, that baptism was only to be used by those who are converted to Christianity from a different profession; and that though the children of such profelytes were to be baptized with their parents, all who descended from them were to be considered as baptized in them; and they urge the practice of profelyte baptism among the Jews in support of this opinion. (See Evelyn's Previous Question, ubi supra). However, it has been alleged in reply, that the antiquity of this practice of profelyte baptism among the Jews has been doubted, and even disallowed by many; and if it be admitted, all the rules and circumstances relating to it might not be known even to the apostles themselves; and it is also probable, that some of the rules of profelyte baptism did not prevail among them so early, particularly that which supposed that all natural relations were annulled by it. Besides, although it be acknowledged that no instance occurs in the earliest primitive antiquity, in which the baptism of any child of Christian parents, whether infant or adult, is expressly mentioned; yet it is certain that Christians in general have always been spoken of by the most ancient fathers as baptized persons; and the apostles, when writing to Christian churches planted many years before the date of their respective epistles, argue with the members of them from the obligation which their baptism brought upon them, in such a manner as would lead us to conclude, that they were baptized in their own persons; and it is also certain, that as far as our knowledge of primitive antiquity reaches, no unbaptized person received the Lord's supper, which, nevertheless, was an ordination none will deny that the descendants of Christians partook. It is added, that on this supposition, genealogies would be of great importance in religion, contrary to what St. Paul intimates; nor can it be reasonably thought that our right to Christian communion should rest on a fact, the evidence of which might sometimes be so obscure, as the baptism of some remote ancestor. See Gale's Sermon. vol. ii. N° 9. Benson on 2 Tim. p. 134–136. Whit. Life, vol. i. p. 367; 368.

Theological authors distinguish three kinds of baptism: 1. Water baptism, which is that above-mentioned. 2. Baptism of fire, which is the perfect love of God, joined with an earnest desire to be baptized; called also the baptism of the Holy Ghost: on occasion this may supply the place of water baptism. 3. Baptism of blood, which is the martyrdom of a catechumen.

Baptism, in the primitive times, was only administered at Easter and Whitsuntide, except in cases of necessity. Adult persons were prepared for baptism by abstinence, prayer, and other pious exercises. It was to answer for them, says Mothein (Eccl. Hist. vol. i. p. 211.), that sponsors, or godfathers, were first instituted in the second century; though they were afterwards admitted also in the baptism of infants. This, according to M. Daille, was not done till the fourth century. Wall (Hist, Inf. Bapt. vol. i. p. 49.) refers the origin of sponsors, or godfathers, on the
authority of Tertullian, to the commencement of the 3rd century; who were used in the baptism of infants that could not answer for themselves. (See Godfathers.) The catechumenus were not forward in coming to baptism; St. Ambrose was not baptized before he was elected bishop of Milan; and some of the fathers not till the time of their death. Some deferred it out of a tender confidence; and others out of too much attachment to the world; it being the prevailing opinion of the primitive times, that baptism, whenever conferred, washed away all antecedent stains and sins. Accordingly, they deferred this sanctifying rite as long as possible, even till they apprehended they were at the point of death. Caesars of this kind occur at the beginning of the third century. Confinant the Great was not baptized till he was at the last gasp, and in this he was followed by his son Confinantius; and two of his other sons, Confinantine and Conflans, were killed before they were baptized. Divers of the fathers rallied this superfluous delicacy to such a degree, that they introduced a different extreme; the ridiculous zeal of some people carrying them to baptize even the dead, by proxy. Eiphaphianus, Chryfofom, and Thodoret, observe, that this custom prevailed in some places in their time. See Balnage Hist. des Elyfes Reformés, vol. i. p. 137.

The opinion of the necessity of baptism in order to salvation, is grounded on these two sayings of our Saviour: "He that believeth, and is baptized, shall be saved;" and, "Except a man be born of water, and of the spirit, he cannot enter into the kingdom of God." Mark xvi. 16. John iii. 5. In the age immediately following that of the apostles, we find that baptism and regeneration were used as synonymous terms; and whereas, originally, the pardon of sin was supposed to be the consequence of that reformation of life which was only promised at baptism, it was now imagined that there was something in the rite itself, to which that grace was annexed; and in general it seems to have been imagined that this sanctifying virtue was in the water, and in no other part of the ordinance as administered by the priest. Tertullian says, that the Holy Spirit was always given in baptism; and he says, that the spirit of God depends upon the water of baptism like a dove. Caryfofom affirms, that the water ceases to be what it was before, and is not fit for drinking, but is proper for sanctifying; and that the Christian baptism is inferior to that of John, as his was the baptism of repentance, but not the power of forgiving sin. Augustus says, that it unites the body, and purifies the heart. Balsagne (ubi supra), p. 138. And it appears by a passage in Auffin, that the African Christians usually called baptism salvation, and the eucharist life, preferring the former to the latter. Wickliffe thought baptism to be necessary to salvation. "The priest," he says, "in baptism administers only the token or sign, but God, who is the priest and bishop of our souls, administers the spiritual grace." Gilpin’s Life of Wickl. p. 64. It is also the language of the public forms of the Church of England, that baptism is necessary to salvation, and that by baptism an infant is regenerated, becomes a child of God by adoption, and is incorporated into God’s holy church. Similar to this is the doctrine of the church of Scotland; for, in their confession of faith, baptism is said to be a sign or seal of the covenant of grace, of perfrons ingrafting into Christ, of regeneration, of remission of sins, &c. As to the necessity of baptism, we may observe, however, that, throughout the same seem to have laid too great stress upon it, as if it were indispensably necessary in order to salvation; it must be allowed, that for any person to omit baptism, when he acknowledges it to be an institution of Christ, and that it is the will of Christ that he should submit to it, is an act of disobedience to his authority, which is inconsistent with true faith. Mr. Dodwell maintains that the ordinance of baptism, if administered by persons duly ordained, conveys an immortalizing spirit; whereas persons dying unbaptized are not immortal. Mr. Hallett also (Notes on Script. vol. ii. p. 392—311.), though he does not affirm it in express terms, seems to intimate something very like it, when he says, that circumcision was that which gave the infant a right to immortality; and that baptism in this respect comes in the room of circumcision; and yet that no infants are miserable in a future state.

Some have maintained that the commissi6n to baptize was addressed by Jesus only to the apostles; and hence they argue that none but apostles and apothegmatic men, their successors, have any right to administer baptism. But it has been affed to others, is it a true fact that during the lives of the apostles, none but they baptized? Philip the deacon baptized the Samaritans (Acts xvii. 14—15); there was an apostle at Damascus when Paul was baptized, but he was baptized by a certain disciple named Ananias. Acts ix. 18. Rom. vi. 4. See also Acts xviii. 2, &c. Acts x. 5—23. It is also inquired further by persons of this latter class, who are the successors of the apostles? and whether or not Jesus instituted a priesthood or any order of men to succeed the apostles? It is, however, a fact which cannot be controverted, that in the earliest age of the Christian church, the bishop only, or the priests by his permission, administered baptism; as with his leave, they also performed any other of his functions; but it appears from Tertullian, that in his time laymen had in some cases the power of baptizing. This baptism, nevertheless, seemed to have required the confirmation of the bishop, and would not be allowed but in case of necessity, as at the approach of death, &c. At a synod at Elvira, in 306, it was allowed, that a layman, provided he had not been married a second time, might baptize catechumens in case of necessity; but it was ordered, that if they survived they should be brought to the bishop for the imposition of hands. Afterwards, when the bounds of the church were much enlarged, the business of baptism was left almost entirely to the priests, or the country bishops; and the bishops of great fees only confirmed afterwards. It seems, however, to be decent and proper, that baptism should be administered only by the teachers and ministers of the church, where their attendance can be had; not only because it appears that these were the persons by whom it was administered in the New Testament, but because, easteri parvis, they must be most capable of judging who are the fit subjects of it.

Great doubts were raised in early times about the validity of baptism as administered by heretics. Tertullian, before he became a Montanist, wrote a treatise to prove that heretics, not having the same God or the same Christ with the orthodox, their baptism was not valid. Cyprian called a synod at Carthage, in which it was determined, that no baptism was valid out of the Catholic church, and therefore, that those who had been heretics should be re-baptized. But Stephen, the bishop of Rome, did not approve of this decision; and by degrees his opinion, which continued to be that of the church of Rome, became prevalent everywhere. Indeed, when so much stress was laid upon baptism itself, it would have introduced endless anxiety, if much doubt had remained about the power of administering it. For a further account of the subjects and mode of baptism, see Baptists, and Pseudobaptists; see also Ana-

BAPTISM OF THE DEAD; a custom which originally prevailed.
valued among some people in Africa. The third council of Carthage speaks of it as a thing that ignorant Chriftians were fond of. Gregory Nazianzen also takes notice of the same superfluous opinion prevailing among some who delayed to be baptized. In his address to this kind of men, he asks, whether they paid to be baptized after death? Philoſtius also notes it as the general error of the Montanills or Cataphrygians, that they baptized men after death.

The practice seems to be grounded on a vain opinion, that when men had neglected to receive baptism in their life-time, some compensation might be made for this default by receiving it after death.

Baptism of the Dead was also a fort of vicarious baptism formerly in use, where a person dying without baptism, was baptized in his stead, a practice founded on 1 Cor. xvi. 29, concerning the sense of which passages critics have been much divided. Several Catholics understand it of the baptism of tears, penance, and prayers, which the living undergo for the dead, and allege it as a proof of the belief of purgatory in the apostles' days. See Heiniius's Exerc. ad Nov. Teft. lib. vii. cap. 13.

Michaelis understands, with Grotius and Simon, by βαπτισμὸς τῶν νεκρῶν, or baptism for the dead, a vicarious baptism for the dead. Whether this vicarious baptism was practiced in the first century, and meant by the apostles, it is difficult to pretend to determine; and Dr. Teller, one of the most able expounders of the New Testament, candidly confesses, that he is unable to comprehend the meaning of the passage. It is, however, certain that the custom was not unknown in the fourth century, as appears from Chrysostom's 4th homily to the first epiftle to the Corinthians; and in the same century it was not unusual to defer baptism till the approach of death, and if the patient died suddenly, to baptize even the deceased. Michaelis's Introd. by Marth, vol. i. p. 359.

Others have suppos'd that the superfluous custom of baptizing a living person as the representative of one who had died unbaptiz'd, is more likely to have arisen from an erroneous interpretation of this passage than to have been fo early prevalent. Some conceive that ἀνέβαστος is here put for ἀνεβάζω, and refers to those who were baptized into the religion of Jesus, who on the hypothesis of the adversaries against whom the apostle reasons, is ζημίως and dead. Sir Richard Ellys, in his "Fortitudo Sacri," p. 137, interprets these words in the following manner: "what should they do, who are baptized, in token of their embracing the Christian faith, in the room of the dead, who are just fallen in the cause of Christ, but are yet supported by a succession of new converts, who immediately offer themselves to fill up their place, as ranks of soldiers that advance to the combat in the room of their companions, who have just been slain in their fight." Doddr. in loc. Wackfield (Translation, vol. ii. p. 83) renders the words: "Becides, what advantage above the other dead will they have, who are submitting consequently to baptism? Why indeed are they thus baptized, if the dead will certainly live no more? Why should we too expose ourselves to the danger of it every hour?" The apostle, says this critic, here begins a new argument of the resurrection, grounded on the practice of the apostles themselves, who had been eye-witnesses of their master's revival. What contributed not a little to obscure this passage, he adds, was the second ἀνέβαστος ἀνεβάζω, a clause not acknowledged by the Coptic and Ethiopic versions. For this sense of baptism, the reader may consult Matt. xx. 22. Luke xii. 50. Eus. Eccl. Hist. vi. 4. in ; and for an illustration of the argument, Rev. xx. 4.

Baptism, Lay, seems to have been allowed in the rubric of the English liturgy, till the time of king James I, though there were great disputes among the bishops at the Hampton-court conference in 1603, whether the words of the liturgy imported such allowance or not. The bishop of Worcester allowed them to be doubtful; but that the contrary practice of the church, which cenured men for conferring baptism, shewed, that the compilers of the book did not intend them as a permission: they had indeed propounded them ambiguously, because otherwise perhaps, the book would not have passed the parliament. The archbishop of Canterbury intituled, that the administration of private baptism by women and laymen was not allowed in the practice of the church, but, on the contrary, cenured by the bishops in their visitations. He even added, that the words of the liturgy do not infer any such meaning. To which king James excepted; urging and pleading the words of the book, that they could not but intend a permission of women and private persons to baptize. Till this time it had been customary for bishops to license midwives to their office, and to allow their right to baptize in cafes of necessity, under an oath which was preferred to them. At present, the English divines condemn it as invalid; and Burnet, bishop of Sarum, was severely handled by some of them, for departing that faith in the Trinity gives every man a right to baptize. Collins's Diff. on Free-Think. p. 72.

Baptism, Clinic. See Clinic.

Baptism is also applied abusively to certain ceremonies used in giving names to many inanimate things.

Baptism, in Sea Languages, is a ceremony in long voyages aboard merchant-ships; practiced both on persons and vessels which pass the tropic, or equinoctial line, for the first time.

That of vessels is simple, and consists only in the washing them throughout with sea-water; that of passengers is ludicrous: but neither the one nor the other is done without making the crew drunk; the seamen on churring the ship, pretending, to a right of cutting off the beard, heads allowed by the master or captain.

Baptism of Ills. See Bell.

Baptismal Font. See Baptistry.

Baptismal Pations are in use in Germany, made by the pious to the infant, consisting of money, plate, or even sometimes sheets of land: which, by the laws of the country, are to be kept for the child till of age, the parents having only the trust, not the right of disposing of them.

An anonymous author has published a discourse express on this occasion, intitled, "De Pecunia Lutricia."

Baptismal Vow, or Covenant, a profession of obedience to the laws of Christ, which persons, in the ancient church, made before baptism.

It was made by turning to the East, but for what mystical reasons is not well agreed.

Baptist, John, Monoyer, in Biography, an eminent painter of flowers and fruit, was born at Lille in 1635, and educated at Antwerp. The composition and colouring of this master are in a bolder style than those of Van Huyten, but his pictures are not so exquisitely finished. The disposition of his objects is so elegant and beautiful as to form a test by which his compositions may be distinguished from those of other masters. He was invited to England by the dukes of Montagu, and employed in conjunction with La Fosse and Roufféau, to embellish Montague house, which is now the British Museum, and in which they are preferred some of the finest performances of Baptist. A very celebrated work of this artist is a looking-glass preserved in the royal palace at Kensington, decorated with a garland.
BAPTIST, JOHN, GASPAR, a painter of history and portrait, was born at Antwerp, and was a disciple of Thomas Willeborts Bofchaert. During the civil wars he came over to England; and after the restoration was employed by Sir Peter Lely, to paint the portraits and draperies of his portraits, and distinguished by the name of Lely's Baptif. He made designs for tapestry, which were accounted good, and his drawing was generally correct. In the hall of St. Bartholomew's hospital there is a portrait of king Charles II. painted by this master. He died in 1691. Pilkington.

BAPTISTRY, in Ecclesiastical Writers, a place or edifice where water is preferred for persons to be baptized in. Anciently in the churches which baptized by immersion, the baptistry was a kind of pool where the candidates were plunged; though in many places the next river served for a baptistry, which was the cænus in the time of Julius Martyr and of Tertullian.

About the middle of the third century, they began to build baptisteries; but there were none that approached to churches till the year 496, and then they flood without the church, and of this kind the first was prepared for the baptism of Clovis king of France, who, with his iñter Audofledis was dipped three times by immersion. But there were none within the churches till the sixth century; and it is remarkable, that though there were many churches in one city, yet, with few exceptions, there was but one baptistery. This simple circumstance became in time a title to dominion; and the congregation nearest the baptistry, and to whom in some places it belonged, and by whom it was lent to the other churches, pretended that all the others ought to consider themselves as dependent upon them. When the fashion of dedication was introduced, the church that owned the baptistery was generally dedicated to St. John the Baptist, and assumed the title of St. John in fonte, or St. John ad fontis, that is the church near or at the baptistery. The noble and splendid cities of Florence, Pisa, Bologna, Parma, Milan, and many others in Italy, had but one baptistery in each; and these baptismal churches were usually built near rivers and waters, as was the cænus with respect to those of Milan, Naples, Ravenna, Verona, and many more. In later times, the bishop of the baptismal church, having obtained feudal power granted licences for other churches to erect baptisteries; taking care at the same time to maintain his own dominion over the people.

By a baptistery, which must not be confounded with a modern font, is to be understood an octagon building, with a cupola roof, resembling the dome of a cathedral, adjacent to a church, but forming no part of it. The whole middle part of this edifice was one large hall capable of containing a great number of people; the sides were parted off, and divided into rooms; and in some, rooms were added on the outside in the fashion of cloisters. In the middle of the great hall was an octagon bath, which, strictly speaking, was the baptistery, and from which the whole building derived its appellation. Some of these were erected over natural rivulets; others were supplied by pipes, and the water was conveyed into one or more of the side-rooms. Some of the surrounding rooms were vellaries, others school-rooms, both for transacting the affairs of the church, and for the instruction of youth. They were kept by men as baptistery was administered only twice a year, the candidates were numerous, and the spectators more numerous than they. In process of time there were baptisteries at most of the principal churches of Rome, as at those of St. Peter, St. Lawrence, St. Agnes, St. Pancras, and others. The most ancient is that at St. John Lateran. Baptisteries were also erected separate from the churches in all the principal cities of Italy, as Florence, Ravenna, Milan, Pisa, Parma, and the rest. The baptistery annexed to the spacious and splendid church of St. Sophia at Constantinople, resembled the convocation room of a cathedral; it was very large; councilis have been held in it; and it was called μην των τυχερων, the great illuminatory. In the middle was the bath, in which baptism was administered; and there were outer rooms for all concerned in the baptism of immersion, the only baptism of the place. The Lateran baptistery at Rome, belonging to the church of St. John Lateran, is an octagon edifice, the roof of which is supported by eight large polygonal pillars of porphyry; and under the cupola, in the centre of the floor, is the baptistery properly so called, lined with marble, with three steps for descent into it, and about five Roman palms, or 37½ inches, deep. Ciampini apprehends, after much investigation of the opinions of antiquarians, that this baptistery was originally a bath in the precincts of the imperial palace; that it was begun to be converted into a baptistery by the emperor Constantine; that the buildings were carried on by pope Xystus III.; and that they were completed and ornamented by pope Hilary. Baptisteries were in fashion in Italy from the reign of Constantine to that of Charlemagne, during a period of about 500 years; and within this interval they were amply adorned and endowed. The first gifts of the faithful were milk, honey, and wine, for the refreshment of the candidates and their attendants; the next were oils, unguents, and salts; along with these came cups, vases, plates, and utensils, marked with the initial letters of the name of John Baptist, I. B. or John the fore-runner, ΙΩΑΝΠΙΩΝ, which perhaps is the true origin of baptismal inscriptions; then came money for the poor, and for the support of those who spent their time in teaching and officiating; after these came habits, ornaments, pictures of John holding out his right hand, with a lamb lying in it, being a reference to his words, "Behold the lamb of God;" and these were followed by others more complex; the whole forming a large body of superfluous theology, glaring in practice, but cumbersome to virtue.

In the baptism of infants, it was unnecessary for the administrators to go into the water, and therefore they used cibors, which they called fonts, in which the children were dipped. These were at first small baths, erected on a platform, into which those who performed the ceremony plunged children, without going into the water themselves. In modern practice, the font remains, but a bason of water set in the font serves the purpose, because it is not thought necessary either that the administrator should go into the water, or that the candidate should be immersed. This in England was customary, but not law; for in the time of queen Elizabeth, the governors of the episcopal church did in effect expressly prohibit sprinkling, by forbidding the use of fonts in public baptism. See "A booke of certain canons, concerning some part of the discipline of the church of England," in 1571, by John Daye, p. 19. Fonts in parish-churches for the purpose of baptizing infants were introduced soon after the arrival of Anlin the monk; and each parish was enjoined to provide fonts of wood and stone for this purpose. In the old church of St. Peter at Oxford, built by Grynwald, who was brought over from Flanders into England by Alfred, in the year 885, there was till lately a very ancient baptismal font, of a circular form, and elegant sculpture.
eleven feet in circumference, and of proportionable depth, with the twelve apses represented in separate niches. After having kept its place about 500 years, it was ordered to be removed, and another much inferior put in its place. In the church of Bridekirk, near Cockermouth in Cumberland, there is a large open vessel of greenish bone, which antiquaries pronounce to be a Danish font. The chief characters on this baptismal font (see Gibbon’s Camden’s Brit. vol. ii. p. 1007.) are Runic, but some are purely Saxon. This is supposed to be the oldest font yet remaining in this kingdom, being of the ninth century, when the Danes first received the Catholic religion. Whether the font be Danish or Saxon, the baptism which it exhibits is that of the Catholics opposed to that of the old Pelagian Britons.

There were several fonts and altars in each baptistery, because then they baptized at once, all of whom received the eucharist immediately after.

The right of having fonts was confined to parishes alone; and if any monasteries were found with baptismal fonts, it was because they had baptismal churches in another place; though the bishops sometimes granted them to monks, upon condition that they would have a secular priest along with them to take care of the people; but they afterwards found means to throw off the priest, and make themselves masters of the church, and attach it, with its baptismal fonts, to their own monastery. For a copious account of baptisteries and fonts, illustrated by figures, see Robinson’s History of Baptism, p. 56—131.

Baptistery is also used for a baptismal or parochial church.

Baptistery is also used by the Armenians, for the feast of Epiphany, when the anniversary of Christ’s baptism is celebrated.

Baptistery is also used for a church-book, wherein the prayers and ceremonies of baptism were particularly described. Some take the baptisterium to have contained the order of all the sacraments, except the eucharist.

BAPTISTS, in Ecclesiastical History, from Baptist, a denomination of Christians, distinguished from other Christians by their particular opinions respecting the mode and subjects of baptism.

Instead of administering the ordinance by sprinkling or pouring water, they maintain that it ought to be administered only by immersion. Such, they insist, is the meaning of the word βαπτιστής; so that a command to baptize is a command to immerse. Thus it was understood by those who first administered it. John the Baptist, and the apostles of Christ, administered it in Jordan and other rivers and places where there was much water. Both the administrators and the subjects are described as going down into, and coming up again out of the water. And the baptized are said to be buried in baptism, and to be raised again; which language could not, they say, be properly adopted on supposition of the ordinance’s being administered in any other manner than by immersion. Thus also, they affirm, it was in general administered in the primitive church. Thus it is now administered in the Russian and Greek church; and thus it is, at this day, directed to be administered in the church of England, to all who are thought capable of submitting to it in this manner. With regard to the subjects of baptism, the Baptists say, that this ordinance ought not to be administered to children or infants at all, nor to grown persons in general, but to adults only of a certain character and description. Our Saviour’s commission to his apostles, by which Christian baptism was instituted, is to go and teach all nations, baptizing them: that is, say they, not to baptize all they meet with; but to instruct them—to teach all nations, or to preach the gospel to every creature—and whoever receives it, him to baptize in the name of the Father, and of the Son, and of the Holy Ghost. To such persons, and to such only, baptism appears to have been administered by the apostles, and the immediate disciples of Christ. They are described as repeating of their sins, as believing in Christ, and as having gladly received the word. Without these qualifications, Christians in general think it wrong to admit persons to the Lord’s supper; and, for the same reasons, without these qualifications, at least a profession of them, the Baptists think it wrong to admit any to baptism. Wherefore they withhold it, not only from the impenitently vicious and profane, and from infidels who have no faith, but also from infants and children, who have no knowledge, and who are incapable of every action civil and religious. They farther insist, that all positive institutions depend entirely upon the will and declaration of the initiator; and that therefore reasoning by analogy from previous abolished rites is to be rejected, and the express commands of Christ respecting the mode and subjects of baptism ought to be our only rule.

The Baptists in England form one of the three denominations of Protestant dissenters. They separate from the establishment for the same reasons as their brethren of the other denominations do, with whom they are united; and from additional motives derived from their particular tenets respecting baptism. The constitution of their churches, and their modes of worship, are congregational or independent: in the exercises of which they are protected, in common with other dissenters, by the act of toleration. Before this act, they were liable to pains and penalties as non-conformists, and often for their peculiar sentiments as Baptists. A proclamation was issued out against them, and some of them were burnt in Smithfield in 1558. They bore a considerable share in the persecutions of the 17th and of the preceding centuries; and as it should seem, in those of some centuries before; for there were several among the Lollards and the followers of Wickliff, who disapproved of infant baptism. There were many of this persuasion among the Protestants and reformers abroad. In Holland, Germany, and the North, they went by the names of Anabaptists and Mennonites; and in Piedmont and the South, they were found among the Albigenses and Waldenses. See the Histories of the Reformation, and the above articles in this Dictionary.

The Baptists submit under two denominations, viz. the Particular or Calvinistical, and the General or Arminian. The former is by far the most numerous. Some of both denominations allow of mixed communion, others disallow it; and some of them observe the seventh day of the week as the sabbath, apprehending the law that enjoined it not to have been repealed by Christ or his apostles. But a difference of opinion respecting these and other matters is not peculiar to the Baptists; it is common to all Christians, and to all bodies of men who think and judge for themselves. See Pseudo-Baptists, under which article an account will be given of the principal arguments in favour of infant baptism.

BAR, in Architecture, a long slender piece of wood or iron, used to keep things close and fast together. In this sense, we speak of bars of windows, of doors, and the like.
B A R

Bars of iron are made of the metal of the fows and pigs as they come from the furnaces.

These bars through two forges called the finery and the chafury; where, undergoing five several heats, they are formed into bars. Phil. Trans. No. 138, p. 954. See Iron, and Forge.

Bar Shot, in Artillery. See Shot.

To bar or strike a vein, among Farriers, an operation performed on the veins of a horse's legs, or other parts of his body, in order to close the course, and lessen the quantity of malignant humours prevailing there.

It is thus performed: the farrier opens the skin, after disengaging the vein, ties it above and below, and then strikes between the two ligatures.

1 Bar of a Port, in Marine Fortification. See Boom.

Bar, in Geography, is used for a heap of sand or mud, or a chain of rocks, which block up the mouth of a river or port, so that there is no entrance except at high water.

The bar of Stel is a remarkable bank of mud, gathered in the mouth of the river, which allows not above thirteen feet of water, when the tide is highest.

Bar, a town of Arabia, fifty-six miles south-east of El Catif, near the Persian gulf.

Bar, a town of Hindoostan, in the country of Bahar, fifteen miles north of Bahar, and thirty E.S. of Patna.

Bar, Le, a town of France, in the department of the Var, and chief place of a canton in the district of Graffe, four miles north-east of Graffe; the place contains 1,143, and the canton 6,255 inhabitants; the territory includes 177,511 kilometres and 112 communes.

Bar for Aube, a town of France, and principal place of a district in the department of the Aube. The place contains 4,000, and the canton 13,701 inhabitants; the territory includes 257,513 kilometres and 23 communes. N. lat. 48° 1', E. long. 4° 36'.

Bar for Seine, a town of France, and principal place of a district in the department of the Aube, situated at the foot of a mountain, on the Seine; it has three gates, a college, and a hospital; 5 leagues S.E. of Troyes. The place contains 2,209, and the canton 11,142 inhabitants; the territory includes 257,513 kilometres and 23 communes. N. lat. 48° 17'. E. long. 4° 16'.

Bar le Duc, a town of France, and principal town of a district in the department of the Meuse; and, before the revolution, the capital of the duchy of Bar. It is divided into the Upper and Lower town by a castle called the Bar, and was of a kind of barrier between France and Lorraine. The walls and towers of this castle were demolished by Louis XIV. The river Orne runs through the lower part of the town. It is seven leagues S.E. of St. Menehould, and 93 miles of Toul. The place contains 9,900, and the canton 14,217 inhabitants; the territory includes 77,511 kilometres and 8 communes. N. lat. 48° 47'. E. long. 4° 4'.

Bar, Duchy of, was, before the revolution, the name of a country of France, situated to the west of Lorraine, thirty-two leagues long and sixteen wide; the face of the country is irregular, presenting hills and plains; and it abounds with wood, wine, corn, game, and fish. Its name was derived from the castle of Bar, and it was erected into a county by the emperor Otho, but the time when it was raised to a duchy is not ascertained.

Bar, a district of Switzerland, in the canton of Zoug. See Zuc.

Bar, is also the name of a fortres of Poland, in Podolia. Bar, in Heraldry, denotes an ordinary nearly resembling the Phe: it consists of two lines drawn horizontally across the field, and contains a fifth part thereof. The Bar hath two diminitives: viz. a clofet, which is in breadth one-half; and a barulet, which is in breadth one-fourth of that of the bar. When the field is divided into four, five, eight, ten, twelve, or more equal parts, it is then blazoned, barry; and the number of pieces are to be specified, e. g. barry of eight pieces, but if it contains an odd number, the field must be first named, and the number of bars expressed; they are then called bars. See Plate of Heraldry.

Bars Gemel, or Bars-Gemelli, are diminutives of the bar, and are placed in pairs, or two and two on a shield. They derive their name from the Latin gemelli, twins. See Plate of Heraldry.

Bar, in a Court of Justice, denotes an inclosure made with a strong partition of timber, three or four feet high, where the counsel are placed to plead causes; and where prisoners are brought to answer their indictments, &c.

This the French call barre d'audience and in some places auditoire. It answers to what, among the Romans, was denominated canodia.

It is called bar, because included with a barrier, called also in Latin writers cancelli and caules, by a metaphor taken from deep-folds.

The denomination bar is also given to the benches where the lawyers or advocates are seated—The appellation arose hence, that anciently there was a bar, or barrier, to separate the counsellors and pleaders from the attorneys and others.

Hence our lawyers who are called to the bar, or licenced to plead, in other countries called licentiati, are termed barristers. 24 Hen. VIII. c. 24.

Bar, of Barr, Barra, in Common Law, denotes a peremptory exception against a demand or plaint.

The author of the "Tiusms de Ley" defines bar, a plea brought by the defendant in an action, whereby the action of the plaintiff is destroyed for ever. And it is divided into bar to common intendement, and bar special; the former is an ordinary or general bar, which is initially a bar to the declaration of the plaintiff; and the latter is that which occurs upon some special circumstance of the fact, as to the cafe in hand. Modern writers also divide bars into perpetual and temporary: bar perpetual, is that which overthroweth the action for ever, and bar temporary, or bar pro tempore, is that which is allowed good for the present, but may fail, or be set aside hereafter. Plowd. 26. A plea in bar not giving a full answer to all the matter contained in the plaintiff's declaration, is not good. 1 Litt. Abr. 211. If one be barred by plea to the writ, or to the action of the writ, he may have the same writ again, or his right action again: but if the plea in bar be to the action itself, and the plaintiff be barred by judgment, &c. it is a bar for ever in personal actions. 6 Rep. 7. And a recovery in debt is a good bar to action on the cafe, for the same thing; also a recovery on affimpt in cafe is a good bar in debt, 8th, 97. 7. 10 Rep. 94. In all actions personal, as debt, account, &c. a bar is perpetual, and in such cases the party hath no remedy but by writ of error or attainder; but if a man is barred in a real action or judgment, yet he may have an action of as high a nature, because it concerns his inheritance; as e. g. if he is barred in a foramen in def. yet he may have a foramen in the remainder, &c. 6 Rep. 7. It has been resolved, that a bar in any action, real or personal, by judgment upon demurrer, verdict, or confession, is a bar to that action, or any action of the like nature for ever; but, according to Pemberton, chief justice, this is to be understood, when it doth appear that the evidence in one action would maintain the other; for otherwise the court shall intend that the party hath mistaken his action; Skir. 57. 58.

Bar to a common intent is good; and if an executor be sued for his tate's debt, and he pleadeth that he had no goods
BAR

goods in his hands at the day, when the writ was taken out against him, that is a good bar to a common intendment, till it is shown there are goods; but if the plaintiff can shew, by way of replication, that more goods have fallen into his hands since that time, then, except the defendant allege a better bar, he shall be condemned in the action. Plow. 26. Kitch. 215. Bro. tit. Barre. See Plea.

Bar of Dozer. See Dower.

Bar, Trial at. See Trial.

Bar, in the Mange, denotes the ridge or upper part of the gums, between the tubules and grinders of a horse; the under and outward sides retaining the same gum.

The bars should be sharp-rigged and long; for since all the subjection a horse suffers, proceeds from those parts, if they have not these qualities, they will be very little, or not at all sensible; so that the horse can never have a good mouth; for if the bars be flat, round, and inelastic, the bit will not have its effect; and, consequently, such a horse can be no more governed by his bridle, than if one took hold of his tail. These ridges are always more prominent in young horses than in those that are old. See Lambs.

Bar, in Music, denotes strokes drawn perpendicularly across the lines of a piece of music, including between each two, a certain quantity or measure of time, which is various as the time is triple or common.

The use of bars in music is a modern invention. They cannot be traced higher than the year 1574, and seem not to have been in general use till about the middle of the 17th century. It is not easy to imagine how music in many parts could be composed without bars, or how the maxima, or large, equal to eight semibreves, could be divided into bars of one or two semibreves in each. See Battuta, and Time-table. A double bar implies the end of a strain. When double bars are dotted on both sides, thus,

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the dots imply a repetition of each strain; but if dotted only on one side, that strain only which precedes or follows the dots, is to be repeated.

Bar-Mijfer, in Mining, he who keeps the gage or diff, to measure all miners ore; he, or his servant, being always to be present when it is measured.

Bar, among Printers, denotes a piece of iron with a wooden handle, whereby the cover of the press is turned in printing.

BAR, in Ancient Geography, an island of Italy, in the vicinity of Brundusium. Felix says, that the inhabitants of this island built the town of Barium.—Alfo, a port of Astatic Sarmatia.

BARA, in Geography. See Bara.

BARABA, in Ancient Geography, the name of a metropolitan city of Arabia Felix, according to some copies of Ptolemy and Ammianus Marcellinus.

BARABA, in Geography, a fleppe or moor in the Russian empire, occupies the space between the Iryth and the Obi, southward of the mountain, northward to the farther side of the Tars, and beyond the river Tuy. This extensive region, in length from north to south exceeding six hundred versts, and full four hundred in breadth from west to east, is one continued flat, scarcely interrupted by a single hill, though containing many fresh water lakes, with some of bitter, and a few of common salt. This plain is for the most part of a good black soil, having the face of it elucidated by a number of pleasant forests of birch. All serving to swell, says Mr. Falk, that the Baraba muft have formerly been one general bed of waters, and since more marshy and replete with lakes than it is at present. Even within the memory of man, according to the affirmation of the Barabinzes, the diminution of the lakes, and the exsiccation of the pools, read plots, and marshes, have been very obfervable, as well as the acquisitions thus made by the firm land. See Tooke’s View of the Russian empire, vol. i. p. 149.

BARABALEMO, a river on the coast of Africa, six leagues east from the river of St. Barbara, east from Cape Ferrona.

BARABENSIS, in Entomology, a species of Gryllus (Locust) found about the pine trees in the sandy deserts of Baraba. The wing-cases are pale and sprinkled with brown dots; wings transparent and pale yellow; veins and dots at the margin, and tip brown. Pallas. Size of Gryllus tibiales.

BARABIANCO, in Geography, a town of Italy, in the Millanes, situate on the rive, four miles west of Milan.

BARABIELLO SIND, lies at the bottom of Bengal bay, within the river of Hughly.

BARABINIAN, a nation of the Russian empire. On entering the vall region of Siberia by the west, the first country we come to is that of the Barabines. The large fleppe, inclosed between the Oby and the Iryth, and reaching as far as the Altay mountains, is called Barama; this appellation the Russians have corrupted into Baraba, and the people who occupy that defect they call Barabinzi, or Barabines. The Barabinines, at the time of the conquest of Siberia, had already suffered too much from the turbulence and ferocity of their neighbours, for being able to raise themselves to a numerous population; and, remembering nothing but their misfortunes, they have forgotten whether they ever were governed by savages of their own. At length, successively oppressed by the Kirghizes and the Soongares, they at present enjoy tranquility under the protection of Russa, who, in consideration of an easy tribute, takes charge of their defence. A mixture of several nations is discernible among them. They have, in general, the Tartarian phylogonomy: but a flat face; the long eyes and little opened, and the hanging ears, are testimonies that some of them are of Mongolian race. The Soongares, their conquerors, at different times lived among, and probably are the progenitors of the Barabinines. The Barabinines live with Kalmuc countenances. The idiom of the Barabinines is a dialect of the Tartar language, and bears witness to their primeval origin. It is corrupted, but less than that of the Bashkirs. They live, however, in equal ignorance, and fearfully any of them know how to read. The humid vapours that arise in their fleppe, and give a density to the atmosphere, render the inhabitants fmall and phlegmatic; their indifference and their apathy border on stupidity. In respect to them we might be tempted to adopt the expression of Le Cat, and regard them, not so much as men animated by the heat of the blood, and the spirits fluid of the nerves, but as hydraulic machines. This machinal flate correpsonds with their misery, and enables them to endure it without pain. Temperate alike in their amours and in their diet, with defires fo feeble and fo confined as to be easily gratified, they know nothing of robbery or theft; they are even ignorant of lying, having no use for it except for covering a slight fault, in order to gain time for repairing it. They have stationary habitations for the winter; and sow a little barley or oats, sometimes a small matter of hemp; but their culture is always of scanty production; their fleppe, poor in game, ill requires the fatigue of the hunter. They derive a slender profit from their flocks and herds, and a great number of fishermen owe their subsistence to the lakes. It is not uncommon in winter for the snow to envelope their huts in such manner that they could not get out were they to neglect to make a passage through the roof. Their summer dwellings are covered only with mats. Their herds, by no means numerous, though forming their principal wealth, consist of herds and horne cattle; the humidity of the soil hardly allows
allows them to rear a few sheep. A great number of them poseffes not a single head of cattle; and a man poseffes for opul- 

cent who has from five to twenty horses, with fill fewer 

horncd cattle. It is not long since the richest man of the 

nation poseffed seventy horses. It should seem that their 

droves would inefcarce since they have no longer to dread 

the ravages of the Kirghifes; but a mortality among their cattle 

filled up the measure of their wretchednes, when they 

thought it drawing near to its end. Exempted from other 

cares than those of the pastoral life, all have leisure to follow 

the fisheery; they prefer the fish without fishing, by letting 

it dry on the ground. Awkward in the use of the bow, 

they are obliged to take the game in fnares, in nets, or by 

the aid of their dogs. These animals are excellent couriers, 

and their masters would not truck a good dog against a 

horse.

The women dress the skins of the birds that frequent the 

lakes, making them into pellices, which they sell. These 

pellices are very warm, last a long time, and are impenetrable 

to moifure. Every village has a chief, and each district its 
youta, who is a sort of prince. The nation grants them 

no revenue; all they get by their elevation is the pleafure 
of being refrained, and of feeming to be obeyed. Confufed 

lefs as judges than arbitrators, it is eafy for them to set-

tle disputes between pleaders, to whom it is almost the fame 

thing to gain or to lose their caufe, and they are fearely 

capable of conceiving a defire.

It has been faid, that the Mohammedans never attempt to 

make profeffes; this seems to be a miifake. Towards the 

middle of the late century, the Barbabinians were fill devoted 

to Shamamif, when they were converted to Mohomedan-

fim by the zeal of fome neighbouring Mohulfs, who came and 

preached in their fipples. At preient they have feveral futs 

which they call moqefes, fome men who cannot read, whom 

they call prieffes, and by changmg their faith they have only 

acquired a few additional fuperftitions.*

BARACE, a town of France, in the department of the 

Mayne and Loire, and chief place of a canton in the district 
of Chateauneuf, four leagues N. N. E. of Angers, and two 

E. E. of Chateauneuf.

BARAC, or Becar, in Ancient Geography, a town of India 
on this fide of the Ganges, in the gulf of Cantii, according 
to Ptolemy. It was situated at the mouth of the river, 

which pafled to Nelcordia, according to the author of the 

Periplus of the Erythrean Sea. It was a large, commodious 

port, and better floored with merchandise than Muziris, 

from which it was not fo dilant; and as the pepper of 

Cottonara was brought to this place in small boates, it may 

be concluded that Barace was within, or near to the country 
of Canara, which produces the bell pepper in thofe parts at 

the prefent day. Major Renell fays, that after much in-

evigation, he cannot apply to any particular spot thofe 

ports of Muziris and Barace; for the Malabar coafl abounds 

with ports of fimilar defcription; however, from the lights 

furnished by Pliny and Ptolemy, he conceives they were 

fitted between Goa and Tellicherry, and that the modern 

Meerzaw or Merjee is the Muziris of the ancient, and Bar-
celore or Baffnore, which is one of the principal pepper 

factories at prefent, their Barace. M. d’Anville informs 

Barace to be Nefyenda, which Renell takes to be Nef-


BARACK, or BARAC, BARACE, a hut or little 

lodge for soldiers in a camp.

The word comes from the Spanish barracas, little cabins, 

which ffaithmen make on the sea-fhore.

Thofe for the horse were formerly called baracks; and 

thofe for the foot, huts: but barack is now ufed indifferently 

for both.

Baracks are generally made by fixing four forked poles in 

the ground, and laying four others across them; afterwards 

they build up the walls with fods, wattles, or what the place 

affords; and the top is planked, thatched, or covered with 

turf, as they have convenience.

When the army is in winter quarters, the soldiers usually 

build baracks; in the summer they are content with their 
tents.

Baracks is also more generally applied to buildings 

to lodge soldiers in fortified towns, or others. Thus we lay 

the baracks of the Savoy, of Dublin, &c.

Baracks, when damp, are greatly prejudicial to the health 
of the soldiers lodged in them; occafioning dyfenteries, in-

termittent fevers, coughs, rheumatic pains, &c. For which 

reason quarter-masters ought to be careful in examining every 

barack offered by the captains of a place; rejecting all 

ground-floors in houfes that have either been uninhabited, or 

have any signs of moifure. See CASES.

Barack-Allowance, a specific allowance of bread, beer, 

coals, &c. to the regiments stationed in baracks.

Barack-Guard, the principal guard of a regiment in 

baracks; the officer of which is responsible for the regularity 
of the men, and for all prisoners duly committed to his charge 

while on that duty.

Barack-Maifer-General, a paff-officer at the head of the 

barack-department, who has a number of barack-maifers 

and deputies under him, that are stationed at the different 

baracks. He has an office and clerks for the dispatch of bui-

nels; and to this office all reports, &c. respecting the barack 

department are made.

BARACOA, in Geography, a fea-port town on the 

north-eaft end of the ifland of Cuba, having a good harbour 

for small vessels, but not for large ships; dilant about feven-

teen leagues north-eaft from St. Jago. N. lat. 21° 4'.

W. long. 76° 10'.

BARACUM, in Ancient Geography, a town of the inte-

rior part of Africa, which Pliny mentions among the con-

quests of Cornelius Balbus.

BARACURA, a commercial town of India, on the other 

fide of the Ganges. Ptolemy.

BARACUS, a river of India, in the fouthern part of the 

ifland of Taprobana. Ptolemy.

BARAD, a town of Palestine, in the southem part of 

the tribe of Juda, according to the book of Numbers.

BARADEUS, or ZANAULUS, JACOBUS, in Biography, 

an obilcre monk of the fifth century, who revived the fett 
of the Monophysites, when it was juft expiring, to its for-

mer prosperity and luftre. For this purpose, after having 

been ordained to the epifcopal office by a few captive bishops, 

he travelled on foot through the whole eft, eftablished bishops 

and prelates every where, revived the drooping fpirits of the 

Monophysites, and produced fuch an aftonifhing change in 

their affairs by the power of his eloquence, and by his 

incredible diligence and activity, that when he died bishop 
of Edea, A. D. 588, he left his fect in a moft flourifhing 

flate in Syria, Melopotamia, Armenia, Egypt, Nubia, Aby-

linia, and other countries. This poor monk had the will 

tion to convert the means ofucces, as well as activity to put 

them in execution; for he almost totally extinguifhed all the 

animosities, and reconciled all the fects, that had divided 

the Monophysites; and when their churches became fo nu-

merous in the eft, that they could not all be comprehended 

under the fake jurifdiction of the patriarch of Antioch, he 

appointed as his affitant, the primate of the eft, whose refe-

dance was at Tagritis, on the borders of Armenia. The labo-

rious efforts of Jacob were fecended in Egypt and the adjac-

ent countries by Theodofius, bishop of Alexandria; and he 
became fo famous, that all the Monophysites of the eft 

considered
considered him as their second parent and founder; and they are to this day called Jacobites, in honour of their new chief. Molheim Eccl. Hist. vol. ii. p. 145. See Monophysites, and Jacobites.

BARADERS, in Geography, a small bay on the north coast of the peninsula at the west end of the island of St. Domingo, or Hispaniola. It is almost land-locked, having a small island near the bottom in the south-east corner. N. lat. 18° 32'. W. long. 73° 37'.

BARADY, BARRADY, or BARRAD, a river of Syria, called by the ancients Chrysoforia, or the golden river; and by the Syrians, Pharpar; which, rising from Antilibanus, descends to Damascus, and is there divided into endless streams, for the supply and decoration of that city; but uniting again at some distance from it, they bore themselves in a serpentine. The rivers Abana and Pharpar, the names of which are lost among the Arabian geographers, Manneur, and those fables must have been branches of this river Barady, which issues out of the rock.

BARAE, in Ancient Geography, a people of India, placed by Ptolemy near the Ganges.

BARAFAT, in Geography, a town of Africa, in the kingdom of Fonia, seated on a peninsula formed by the river Gambia and two other rivers.

BARAGAZA, a town of Ethiopia, on the Red Sea, mentioned by Pliny.

BARALIPTON, a term in Logic, denoting the first indirect mode of the first figure of syllogisms.

A syllogism in baralipon is when the two first propositions thereof are universal affirmative, and the third a particular affirmative; the middle term being the subject of the first, and the attribute of the second. — For example:

| BA | Every evil ought to be feared; |
| RA | Every violent passion is an evil; |
| LIP | Therefore something that ought to be feared is a violent passion. |

See letters A and I, and Syllogism.

BARALLOTTI, the name of a sect at Bologna in Italy, who had all things in common, even their wives and children. They gave it, it is said, in all manner of debauchery, and were also termed compilers.

BARAMATIS, in Ancient Geography, a town of India, on this side of the Ganges. Ptolemy.

BARA-MAREKA, in Botany. See Dolichos.

BARAN, in Geography, a river of Hindoostan, in the province of Cabul, which is joined by the rivers Chugan, Alihung, and Alkar, in the district of Kameh, and runs eastward or south-eastward. But it is not absolutely certain whether these confluent rivers join the river of Cabul above Pahawur, or whether they form a separate river, and pass by Bajore and Sewad.

Major Rennell thinks the former to be the most probable, and that the confluent river receives the name of Kameh, from the district in which the junction takes place, and then communicates it to the Cabul river, during the remainder of its course. Rennell's Mem. p. 156.

BARANCA, or St. Jago, in Geography, a river belonging to Mexico, in North America, which directs its course to the west coast, and falls into the Pacific ocean about ten leagues west by north from Xatifico bay.

BARANCA del Malambo, a sea-port town of South America, in the country of New Cartific or Terra Firma, on the east side of the Rio Grande, at the mouth of the river Magdelana, with a good harbour. This is a place of considerable commerce; as the merchandise of New Granada is brought down either by boats, and conveyed to the bay about 40 miles below the town, or else directly to Santa Martha, by a branch of the great river; the chief article is

falt, which is produced in the neighbourhood of the town. It is distant 25 miles north-east from Cartagena. N. lat. 11° 40'. W. long. 73° 40'.

BARANCA-Las, a town of North America, in the province of New Mexico, 45 miles S.S.E. of Santa Fe.

BARANKE-STANITZ, a town or settlement in Siberia, on the Lena, 52 miles north-east of Votkinsoi. N. lat. 54° 50'. E. long. 113° 14'.

BARANGE, in Ancient Geography, a town of Aisia, in Hyrcania. Ptolemy.

BARANGI, officers among the Greeks of the lower empire, whose business it was to keep the keys of the city-gates where the emperor resided.

Codinus says, that the bargangi were those who fixed guard at the door of the emperor's bed-chamber and dining-room.

Codinus and Curiopata observe, that the name is English, formed from bar, to fast; and that the barangi were Englishmen by country; Anglo-Danes, who, being driven out of England, were received into the service of the emperor of Constantinople, and made guards or protectors of his person. Whence they are called in Latin, by Cujacius, protectores; and by others, securigers, as being armed with a battle-axe, securtir. Codinus adds, that they still spoke the English tongue. Anna Comnena says, the barangi came from the island Thule, by which is doubtless meant our island. Yet Nicetas makes them Germans; a mistake easy to be made at that distance, considering the relation the Anglo-Saxons bore to Germany. There were barangi as early as the emperor Michael Paphlagonius, in the year 1035; as appears from Cedrenus; but they were then only common soldiers, not a life-guard.

Their commander was called after them, as importing a person who always followed the emperor.


BARNILLO, in Geography, a town of Italy, in the kingdom of Naples, and convent of Molife, nine miles S.S.E. of Molife.

BARANOW, a town of Poland, in the palatinate of Sandomir, sixteen miles south of Sandomir.

BARANOWKA, a town of Poland, in the palatinate of Volhynia; 40 miles N.N.E. of Constantinople.

BARANZANO, Redemptus, in Biography, a Barnabite friar, was born in 1550, at Sarawile, a town of Vercelli, in Piedmont, and obtained eminence at the commencement of the seventeenth century, by daring to abandon the Aristotelian method of philosophy. That he coincided in his ideas with those of the illustrious Lord Bacon, appears from a letter written to him on this subject, by this referrer of philosophy, in June 1622, and preferred in the third volume of "Nichelle's Memoirs." Having taught mathematics and philosophy at Ameghi, he went to Paris, and formed an intimate friendship with Le Mothe Le Vayer, who speaks of him (Ovwr. 12mo. tom. iv. p. 172.) as one of the first wits of the age. He adds, that this honest Barnabite had several times affur'd him, but always with submission to the good pleasure of God, that he would appear to him, if he should depart first out of this world. However his promise was not fulfilled, and he verified the sentence of a Latin poet, Catullus, Epigr. iii.

"Qui nunc ita per iter tenebricous
Ille, unde negant redire quamquam."

"He paused the dark and dreary way
From whence there's no return to the bright genial day."

He died at Montargis in 1622. His works are "Urano-

scopia."
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BAR

feputia," or the universal doctrine of the heavens, printed in folio, in 1617; *Campus Philosophicus," the first part of his Summary of Philosophy, as taught at Ancie, printed at Lyons, in 8vo, in 1619; and "De Novis Opinionibus Physicis," printed at Lyons, in the same year. Gen. Dict.

BARAO, in Geography, a town of Spain, in Arragon, two leagues from Jaca.

BARA-PICKLE, bread made of fine flour kneaded with barn, which makes it very light and sponge: *bara being the Welsh for bread.

BARAQUICIMITO, in Geography, a town in Terra Tinn, South America, in the province of Caracas, and in the head waters of Oroonoko river, about 85 miles south from Valencia, and 175 north-west from Calabaza. N. lat. 3° 55'. W. long. 66° 55'.

BARASA, in Ancient Geography, a town of Paleline, according to Josephus.

BARASZE, in Geography, a town of Poland, in the palatinate of Yolluvia, 26 miles N.N.W. of Zytonomiers.

BARATHIER, Bartelamy, in Geography, an Italian lawyer of the 15th century, was born in Placentia, and taught the Roman feudal law at Pavia and Ferrara, which he ranged anew, and then formed a text book for the school. The work was printed at Paris in 1611, under the title "De Feudis Liber Singularis;" and in 1695, by Schiller, under its true title "Libellus Feudorum reformatus." Mo- roni.

BARATHRUM, from Beathrum, signifying the fame, among the Ancient Athenians, a deep pit belonging to the tribe Hippothoennesis, into which condemned criminals were cast headlong.

The barathrum was a dark noisome hole, having sharp spikes at the top, to prevent any escape, and others at the bottom to pierce and lacerate the offender.

From its depth and capaciousness, the name came to be used proverbially for a mifer, or a glutton, always craving. In which sense, the word barathrum is used among the Latin poets.

Thus Horace, Epil. i. i. ep. 15. v. 631.

"Perrucies, et tempestas, barathrumque Macelli,
Quiequisqueque, ventrini donaret avaro."

It is also used for a common prostitute, by Plautus (Bacchid. i. 2. 445), thus:

"O barathrum, ubi nunc es? ut ego te ufarper libens!"

Barathrum is also used, in Phylology, to denote certain baleful caverns, inaccessible on account of their fetid or poisonou s fumes.

Thefe amount to the fame with what others call falle charameri.

BARATIER, John Philip, in Biography, a learned German, was born in 1721, at Schwobach near Nuremberg. Under the instruction of his father he is said to have understood the Greek, Latin, German, and French languages, when he was five years old; and he acquired also the knowledge of the Hebrew in one year, so as to be able to read the historical books of the bible: and at the age of nine years, he could not only translate the Hebrew text into Latin or French, but also re-translate these versions into Hebrew. At this age he could also repeat memoria the Hebrew psalter, in consequence of merely reading it with his father. Before he had completed his tenth year, he composed a Hebrew lexicon of rare and difficult words, with curious critical remarks. In 1731, he was matriculated in the university of Altdorf; and in this year he wrote a French "letter to M. le Maitre, minister of the French church at Schwobach, on a new edition of the bible, Hebrew, Chaldaic, and Rabbinical," which letter is preserved in the twenty-sixth volume of the "Bibliotheque Germanique." In 1733, the margrave of Anspach granted him a pension of fifty florins a year, and allowed him the free use of books from the library at Anspach. As the fruits of his application to study, he translated from the Hebrew, with historical and critical notes and dissertations, of "The Rabbi Benjamin's Travels in Europe, Asia, and Africa, containing an account of the state of the Jews in the twelfth century," was published, in two volumes 8vo. at Amsterdam, in 1734; the author being at this time in his thirteenth year; and the whole work is said to have been finished in four months. Notwithstanding the extent of his philosophical pursuits, this astonishing youth applied to the study of mathematics and philosophy with such success, that he devised a method of finding the longitude at sea, which was laid before the Royal Academy of Sciences at Berlin, in a long letter, dated Jan. 21, 1735, the day in which he completed his fourteenth year. His letter being well received, he determined to visit Berlin, with a view of enforcing his project: but in his way thither he passed through Hall, where Ludewig, the chancellor of the university, offered to confer upon him the honorary degree of doctor of arts. Flattered by this proposal, Baratier immediately, in the presence of many professors, drew up fourteen theses in philology, ecclesiastical history, and philosophy, which were printed the same night, and which he supported for three hours the next day with great applause; upon which he was admitted master of arts in philosophy. He then pursued his journey to Berlin; and, in the presence of the mathematical chaf, replied in French to some objections that were urged by M. de Vigneoles, the rector, against his scheme; and he then proposed, in Latin, the plan of an astronomical instrument, which he offered to execute. M. Jabloniki, the prefect, reported, that he had examined Baratier, in the king's presence, and that he had found him well acquainted with rabbinical learning, the oriental languages, and ecclesiastical history; and he was then, with the ufual form, admitted a member of the society. Upon his return to Hall with his father, he directed his attention to theology, and wrote an answer in Latin to Celsius, who, under the assumed name of Artemonius, had published a Socinian interpretation of the introduction to the gospel of St. John. This was intitled "Anti-Artemonius," and published at Nuremberg, in 1735. It was accompanied with a "Dissertation on the three dialogues, commonly attributed to Theodoret," intended to invalidate their authenticity. In 1735, he defended this piece against the attacks of the journalists of Treves, in another dissertation, which was printed in the forty-eighth volume of the "Bibliotheque Germanique." In the fortieth volume of the same journal, there is another dissertation of Baratier "On two works attributed to Athanasius." Baratier being obliged to confess his ignorance of the public law, in reply to the inquiry proposed to him by the king of Prussia, was commanded by the king to go and study it, before he called himself a learned man. Such was his literary ambition, that he applied immediately to the study of it, and after fifteen months he supported a thesis on the subject with great credit. The uninterrupted exertion of his faculties soon impaired his constitution, which was naturally delicate and feeble; and after languishing in a decline for several months, Baratier died at the age of nineteen years, eight months and seven days. His attainments were surprising; and yet it is said that, before he was ten years of age, he was accustomed to lie in bed twelve hours, and ten hours from that time to his death. The facts above adduced may seem truly astonishing; but they are founded upon unquestionable testimony. Some few ex-amples
a similar kind have occurred; however they should by no means be contemplated as patterns of imitation or as models of perfection. "The popular, which foundation a lofty tree, will soon decay: the strong and sturdy oak, whose majestic trunk stands uninjured through centuries, requires a century to bring it to maturity." Forney's Life of Baratier. Now. Dict. Hiftor.

BARATO, Cape, in Geography, lies on the coast of Italy, on the north side of the peninsula of Piombino, and about S.S.E. from Leghorn. It has a small bay on the S.W. before which is anchorage.

BARATUR, in Antiquity, denotes, according to Hefychius, sacred games, celebrated at Thebapton, in which the most notable of the combatants was crowned.

BARATRY, BARETRY, or BARETRY, in Law, signifies the moving and maintaining of suits in disturbance of the peace; and the taking and detaining of hones, lands, &c., by false inventions. 8 Rep. 257. 1 Hawk. P.C. 343. The word baretry, in French, signifies mischievous frauds; it is derived from the old word barat, which signifies any imposition; whence also tley said Baratier, to impose on any one.

The punishment for this offence, in a common person, is by fine and imprisonment; but if the offender belongs to the profession of the law, a barrister who is thus able as well willing to do mischief, ought also to be disabled from practising for the future. However it seems clear that no general insinuation, charging the defendant with being a common oppressor and disturber of the peace, and stirrer up of strife among neighbours, is good without adding the words "Common Barrister," which is a term of art appropriated by law to this purpose. 1 Mod. 358. 1 Sib. 251. 2 Cro. Jac. 326. 1 Hawk. P.C. 81, § 9. No man can be a barrister in respect of one act only; and it hath been holden, that a man shall not be adjudged a barrister for bringing any number of suits in his own right, though they are vexations, especially if there be any colour for them; for if they prove false, he shall pay the defendant costs. 1 Rol. Abr. 355. 3 Mod. 98. A common solicitor who solicits suits, is a common barrister, and may be indicted thereof, because it is no profession in law. 1 Danv. Abr. 175.

It is enacted by statute 12 George I. c. 29, that if any one, who has been convicted of forgery, perjury, subornation of perjury, or common barratry, shall practise as an attorney, solicitor, or agent, in any suit, the court upon complaint, shall examine it in a summary way; and, if proved, shall direct the offender to be transported for seven years. To this head may also be referred another offence of equal malignity and audacity, that of suing another in the name of a fictitious plaintiff; either one not in being at all, or one who is ignorant of the fact. This offence, if committed in any of the king's superior courts, is, as a high contempt, to be punished at their discretion. But in courts of a lower degree, where the crime is equally pernicious, but the authority of the judges not equally extensive, it is directed by statute 8 Eliz. c. 2, to be punished by six months imprisonment, and trouble and damages to the party injured. Black. Comm. v. iv. p. 134.

BARATRY, in a Marine Sense, is the master of a ship, or the mariners, cheating the owners or insurers, whether it be done by running away with the ship, flinking her, defecting her, or embezlling the cargo.

Baratry of mariners is so epidemic on ship-board, that it is rare if the master, be his industry ever so great, can prevent it, by reason of the encouragement one knavish sailor gives another; yet the law, in such cases, imputes the offences of the mariners to the negligence of the master, and from him the merchant is to leck for remedy for all goods or merchandise lost, embezzled, or otherwise damaged.

By the French ordinances, insurers are not obliged to make good the loss or damage accruing to a vessel, or its holding, by the fault of the master or crew, unless by the forms of the policy, they may be made accountable for the baratry of the partners. A master, who, without necessity, takes up money on the bond, provision, or tackling of a ship, or sells the effects on board, or, in his account of average, sets down fictitious expenses, shall pay the value, be declared unworthy of being master, and banished the port where he ordinarily resided. In some cases, he is also subject to corporal punishment, and even to death, where it appears he willingly threw away their ship.

Baratry is also used for bribery or corruption in a judge, giving a false sentence for money.

BARATRY is also used in Middle Age Writers, for fraud or deceit in making of contracts, sales, or the like.

BARATTA, or BARATTA, in Ancient Geography, a town of Lucania, mentioned by Ptolemy.

BARAVEL, St., in Geography, one of the Ladron islands, lies south of the island of Guam, and was one of those discovered by Magellan, and described by Pignetta. Besides this, there were also between 10th and 13th N. lat. the islands of Ban and Botu, and the shalow of Santa Rosa. N. lat. 120° 44'. E. long. 142° 28'. See LADRONES.

BARAVOE, a bay and village, on the north-east coast of the island of Shetland.

BARAWNY, a town of Hindooftan, in the country of Candehil, forty miles N.E. of Burlham, and seventy-four S.S.E. of Indore.

BARAZA, in Ancient Geography, a town of Armenia Major. Ptolemy.

BARAZA, St., in Geography. See St. BARABA.

BARB, in Ornithology, is used for the Barbary pigeon, the COLOMBA NUMIDICA of Moore.

BARBA, in Ancient Geography, a town of Spain, in Betica, placed in the Itin. of Antoninus, twenty miles from Olippo, and twenty-four miles from Antiquaria.

BARBA, in Geography, a town of North America, in the country of Mexico, and province of Costa Rica, twenty-two miles S.S.W. of Cartago.

Barba Aron, in Botany, a name given by some authors to the common great houfe-leeke.

Barba Caprae. See SPIRAEA.

Barba Jovis. See AMORPHA, ANThYLLIS, CYTISUS, EBEUS, and PSEORAE.

BARBACAN, or BARBACAN, in the History of our Ancient Fortifications, was a fort of advanced work which frequently covered the drawbridge at the entrance of a caile.

In which sense, barbarcan amounts to the same with what is otherwise called, antemural, promurals, murus exterior, or outer wall. In towns and large fortresses the barbarcans were large and strong, frequently having a ditch and drawbridge of their own. (See Grofe's Hist. Eng. Army, II. 2.) The term is still preferred in the ruins of several of our cailes; a small stone work covering the gate of Bodham caile in Suffux, is still called the barbarcan; and some work of a similar kind undoubtedly gave its name to one of the streets at the north-west end of ancient London. Barbarcans are also mentioned in Framburgh and Canterbury cailes. For the repairing of this work, a tax called barbarcaneage was levied on certain lands. Grofe Antiq. Pref. i. 5.

Barbacan is also used for a fort at the entrance of a bridge, or in the outlet of a city, having a double wall with towers. Such is that at one end of the wooden bridge at Rouen, which is still called by some Barbacana.

Barbacan
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BARBADIAN is also used for an aperitif in the walls of a city, through which to fire with minnits on the cuemy.

See EMBASEMENT.

BARBACAN, in Architecture, denotes a long narrow canal or opening left in the walls for water to come in and go out at, when edifices are raised in places liable to be overflowed; or to drain off the water from a terrace, or the like.

BARBACAO POINT, in Geography, the eold point of St. Pedro's channel, at the south-euth end of the island on which the city of Cadiz is situated.

BARBACOS, a river on the coast of America, in the Pacific ocean, nearly east of the island of Gallo. Barbaco point is situate ten leagues from the river Tellembier, in N. lat 2° 45'. W. long. 5° 38' 55'.

BARBADIENSIS, in Conchology, a species of VOLUTA that inhabits the American ocean. The length of this shell is an inch and a half; shape tapering; colour reddish, with very fine transverse daxies; aperture oblong-oval; spire obtuse. Figured only by Lillie, 1819, t. 33: Gmelin.

BARBADIENSIS, in Ornithology, a species of PHITACUS, the ask-fronted parrot of Latham. This bird is about the size of a pigeon, and inhabits Barbadoes; the general colour is green; orbits and front cinereous; crown, chin, cheeks, throat, and leffer wing-coverts yellow; greater ones bluish; many of the primary quill-feathers violet on the outside; the red from the back, and the red blue. Gmelin. The legs are all; claws black.

BARBADOES, in Geography, one of the most important of the Caribbee islands in the West Indies, standing somewhat detached from the rest, about thirty-five degrees from the African islands of Cape Verd. This island was probably first discovered by the Portuguese in their voyages from Brazil, and from them received its present name. It had then neither occupants nor claimants; the Charaibes or Caribbees having deserted it. The Portuguese thought it not of sufficient importance for a settled; and having furnished it with a breed of swine for the use of future navigators, they left it as they found it. The English, in 1605, finding it without inhabitants, took possession of the country by fixing a cross on the spot where James-town was afterwards built, with this inscription: “James king of England and this island;” but they formed no settlement. At this time it was overgrown with woods; but yet it furnished them with a supply of fresh provisions. They found here pigs, pigeons, and parrots, and the caa abounded with fish. Some years after this, a favourable report having been made of its soil, the king, by the warthe of the master and seamen of a ship of Sir William Courteen, lord Ley, afterwards earl of Marlborough, obtained from king James I. a grant of the island to himself and his heirs in perpetuity. Accordingly Courteen, probably under the patronage of Marlborough, projected the establishment of a colony, and sent about 30 planters to plant and fortify the island, who, in 1624, laid the foundation of James-town; and this was the first English settlement on the island. About this time, James Hay, earl of Carlisle, establisht a colony in the island of St Christopher, and obtained from Charles I. a grant of all the Charibbee or Caribbee islands, including Barbadoes. This grant was confirmed by earl Marlborough; but at length a compromise took place; and on the earl of Carlisle's undertaking to pay the annual sum of 300l. to the earl of Marlborough and his heirs for ever, the latter waved his claims; and in 1627 the patent of the former passed the great seal, and he became the sole proprietor. However the earl of Pembroke obtained a re-vestation of Carlisle's patent, and a grant to himself in trust for Courteen, who had projected the first settlement in the island. This grant was afterwards annulled, and the earl of Carlisle was restored to the possession and privileges of which he had been for a short time deprived. Accordingly he proceeded to divide lands to such persons as chose to comply with his laws; and a society of London merchants purchased 15,000 acres, on condition which promised great benefit to the proprietors. These merchants foot over 64 persons, each of whom was authorized to take up 100 acres of land; and thus, in 1628, they established a new colony, which soon overpowered the settlement, and annihilated the interest of Courteen. In 1629, sir William Tufton was sent out by lord Carlisle as chief governor, and he distributed land, amounting to 15,872 acres, into 140 grants; and in 1630, passed several laws; among which was one, for dividing the island into six parishes. During the civil war, the emigrations from the mother country was so great, that in 1650 it was computed there were 20,000 white men in Barbadoes, half of them able to bear arms, and furnishing a regiment of horse to the number of 1000. It seems that about this time the existing governor granted lands to all who applied, on receiving a gratuity for himself; and the claims of the proprietor, whether disputed in the island, or disdained amidst the confusions of war, was at length tacitly relinquished.

The colony, enjoying an unlimited freedom of trade, flourished in a singular manner by its own efforts. In 1646, the son and heir of the earl of Carlisle, the original patentee, revived his claims as hereditary proprietor, and by treaty with lord Willoughby of Parham, conveyed to him all his rights by a lease of 21 years, on condition of receiving one-half of the profits. Lord Willoughby obtained a confirmation as chief governor; and was received by the inhabitants, who were warmly attached to the king's interest, with respect and obedience. But soon after his arrival, the regal authority in England was abolished.

Barbadoes, in 1651, was reduced to the obedience of the new republic, who appointed another governor. Upon the restoration of Charles II., lord Willoughby applied for leave to return to his government of Barbadoes; against which the inhabitants, now apprized of his connection and contract with the earl of Carlisle, and apprehending that they were regarded by these lords as mere tenants at will of their possessions, remonstrated. They pleaded that they were the king's subjects, and solicited his major's support and protection. They objected to the claims of the earl of Carlisle, and insisted that the charter granted to him was void in law. The several allegations and claims of the parties concerned were referred to a committee of the privy-council; and it was finally ordered, that lord Willoughby should repair to his government, and demand the grant and establishment by the assembly of a permanent and irrevocable revenue of 44 per cent to be paid in specie, on all kinds of comodities, the growth of the island, shipped to any part of the world; and the money arising from this revenue was to be applied towards making provision for the earl of Kimboul, the legal representative of lord Carlisle with respect to his rights in the West Indies, who had on this condition promised to surrender the Carlisle patent to the crown, towards paying the annuity of the earl of Marlborough, and towards the discharge of the creditors of both these noblemen. After the extinction of these incumbrances, it was stipulated, that the revenue, subject to the charge of 1200l. per annum to the governor, should be at the disposal of the crown. With these instructions, lord Willoughby returned to his government in 1663. The planters were dissatisfied, and preferred complaints, which, however, were unavailing. At length, finding resistance vain, the assembly paid an act for the purposes that were required, dated Sept. 12, 1663. Thus the proprietary
government was dissolved, and the legislation of the island vested in the crown. The island of Barbadoes is about 21 miles in length and 14 in breadth, and contains 160,470 acres of land, most of which is under cultivation. The soil in the low lands is light, formed of reddish in the shallow parts; on the hills of a chalky mud, and near the sea generally sandy. Of the variety of soil, the black mould is best suited for the cultivation of the cane, and, with the aid of manure, has produced as great returns of sugar in favourable seasons, as in any in the West Indies, the prime lands of St. Kitt’s excepted. About the year 1670, we are assured that Barbadoes could boast of 50,000 whites, and upwards of 100,000 black inhabitants, whose labours are said to have given employment to 60,000 tons of shipping. This account may probably have been exaggerated; but it is certain that the inhabitants of this island have decreased with a rapidity well known in any other country. It appears by authentic returns, that the number of its whites, in 1724, amounted to no more than 18,295, and that of its negroes in 1753 was no more than 69,870. In 1768, the numbers were 16,167 whites, 8,838 free people of colour, and 62,115 negroes. It appears also that the annual produce of this island, particularly of sugar, has decreased in much greater proportion than in any other of the West Indian colonies. Pollethwate calculates the crop of sugar, in 1736, at 22,769 hogheads of 15 cwt. which is equal to 19,800 of 15 cwt.; and the author of the “European Settlements,” published in 1761, calculates the average crop at 25,000 hogheads. If this statement be just, the island has fallen off nearly one-half in the annual growth of its principal staple. In an average of eight years, from 1740 to 1748, the exports were 13,948 hogheads of sugar of 15 cwt.; 12,884,000 pounds of 100 gallons; 60 hogheads of molasses; 4,667 bags of ginger; 600 bags of cotton; and 327 gourds of aloe. The exports on an average of 1784, 1785, and 1786, had fallen to 9,554 hogheads of sugar; 5,448,000 pounds of rum; 6,320 gourds of ginger, 8,331 bags of cotton; exclusively of some smaller articles, as aloes, sweetmeats, &c., of which the quantities are not ascertained. The dreadful destruction of hurricanes, which had occurred within the last twelve years, has, without doubt, contributed to this great defalcation. The capital of this island was fiercely riven from the ashes to which it had been reduced by two dreadful fires, when it was torn from its foundations, and the whole country made a scene of desolation by the storm of the 10th of October in 1780; in which 4,326 of the inhabitants, blacks and whites, miserably perished; and the damage to the country estimated at 1,320,564l. 15s. In the year 1792, the produce of sugar was 11,073 hogheads, 125 tiers, 2,698 barrels; of molasses 188 hogheads; of rum 5,664 hogheads, 512 barrels; of ginger 3,046 bags and barrels; of aloe 515 gourds; and of cotton 67,478 pounds. From the great increase in the export of sugar in this year compared with several of the preceding years, and decrease in that of the minor staples, it seems probable that the advanced price of that article in Europe has encouraged the cultivation of it in plantations which had been formerly abandoned or appropriated to a different kind of culture. The average of the number of negro slaves in Barbadoes for seven years, from 1786 to 1793, was 63,271; of slaves imported 4363, and the average amount of taxes, during the famine period, was 9,530l. 14s. 1d. The taxes consist of a capitation tax on negroes; a tax on sugar-mills, dwelling-houses, and carriages, together with an excise, &c. on wines imported. Besides which there is a parochial tax on land, amounting on an average throughout the island to about two shillings per acre, and an assessment in labour for the repair of the highways. The whole is altogether exclusive of the heavy duty of 4s per cent to the crown. Barbadoes is divided into 5 districts and 11 parishes; and contains 4 towns: viz. Bridgetown, Oils or Charles-town, St. James's formerly called the Hole, and Speight's-town. Bridgetown is the capital, and the residence of the governor, whose annual salary is 2000l per annum, paid out of the exchequer, and charged to the account of the 4s per cent duty. The form of the government of this island resembles that of Jamaica, except that the council is composed of 12 members, and the assembly of 22. The most important variation respects the court of chancery, which in Barbadoes is constituted of the governor and council, whereas in Jamaica the governor is sole chancellor. On the other hand, in Barbadoes, the governor sits in council, even when the latter are acting in a legislative capacity, which would be considered, in Jamaica, as improper and unconstitutional. It may also be observed, that the courts of grand seions, common pleas, and exchequer, in Barbadoes, are distinct from each other; and not, as in Jamaica, united and blended in one supreme court of judicature. The heat of the climate is moderated by the trade-winds, and the air is pure. Its products, besides what we have already mentioned, are the palm, tamarind, figs, bananas, cedars, mahogan, cacao, papas, guavas, and pamplemousses. Barbadoes is situated in N. lat. 13° 10'. W. long. 59°. See Edwards's History of the West Indies, vol. p. 321—320. Barbadoes Buffard-Cedar, in Botany. See Cedrela. Barbadoes Cherry. See Malphigia. Barbadoes Flower-square. See Poinciana. Barbadoes Gooseberry. See Cactus Pereskia. Barbadoes Wild-Orange. See Bontia. Barbadoes Tur. in the Materia Medica. See Petroleum Barbadiano. Barbador, Barbadera, or Cape Barba, in Geography. See Cape Bara. Barbalis, in Entomology, a species of Phalena, that feeds on the trifolium pratense. The antennae pectinated; feelers shorter; anterior thighs with a projecting beard. Barbalissus, in Ancient Geography, Belus, a considerable town of Asia, in Syria, near the Euphrates, E.S.E. of Hierapolis. This is the Barbarissus of Polyeon, according to M. D'Anville. Barbana, or Barrana, a river of Illyrium, which sprang from the Labeatid Marth, according to Livy. Barbana, in Geography, a town of Iliria, seven miles N.N.E. of Pola. Barbano, a small island in the northern part of the Adriatic, near the coast of Friuli. N. lat. 45° 45'. E. long. 13° 28'. Barbalona, Cape, is the south of Smyrna gulf, on the coast of Asia, at the east extremity of the Mediterranean, and nine leagues S. by W. from Porto Gero. Barbao, a province of Abydania, separated from Atbara by the river Tezazz; the capital of which is Gooz, which see. Barbara, in Conchology, a species of Helix, with an oblong, coarse, imperforated shell, with eight whorls, and a subround lunate aperture. This kind inhabits Algiers. Somewhat resembles helix papu, but is not above half the size, being usually about the bigness of a barley-corn. Gmel. &c. Barbara, in Entomology, a species of Formica that inhabits Africa, and is as large as F. herculanea. It is black, with the head, antennae, and extremity of the legs ferruginous.
BAR

**Bartholomew Rofa,** in Geography, are situated three leagues west from the river Turiones; the bay of Triflo lies W.S.W. from them, on the Spanish main; and their islands are between the main and Venezuela, nearly west from the latter.

**Bardaeum.** See **Calypso.**

**Barbarian,** in Zoology, the name given by Buffon to the Barbary squirrel; *sciurus granivorus* of Schreiber and Gmelin.

**Barbaria,** in Ancient Geography, the name given in the Periplus of the Erythraean sea to the kingdom of Alhibinia, now called *Adel,* the coast of which extends from the straits of Babelmandel to cape Garfenced, about 450 geographical miles, and contains, according to the Periplus, four principal ports or anchorages, called by the general name of Tapera, the precise situation of which is not ascertained.

**Barbarian,** in Antiquity, a name given by the ancient Greeks to all those who were not of their own country, or who did not speak the Greek language, or who did not speak it so well as themselves. In which sense the word signified with them no more than *foreigner,* and did not carry that odium with it which it does now. Strabo derivs the word *βαρβαρος* from *βαρβαρος, bulbinus,* because foreigners coming to Athens used to flammer, or speak coarsely; others derive it from *βαρβάς,* a word that foreigners frequently stumbled on, which yet had no meaning.

The Greeks had such an high opinion of the pre-eminence to which they were raised by civilization and science, that they looked hardly to have acknowledged the veil of mankind to be of the same species with themselves. To every other people they gave the degrading appellation of Barbarians; and, in consequence of their own haughty superiority, they affected a right of dominion over them, in the same manner, to use their own expression, as the soul has over the body, and men have over irrational animals. Extravagant as this pretension may now appear, it found admittance, to the disgrace of ancient philosophy, into all the schools. Aristotle, full of this opinion, in support of which he employs arguments more subtle than solid (Polit. i. c. 3—5) advised Alexander to govern the Greeks like subjects, and the Barbarians as slaves; to consider the former as companions, and the latter as creatures of an inferior nature. But the sentiments of the pupil were more enlarged than those of his master; and his experience in governing men taught the monarch what the speculative science of the philosopher did not discover. See Plin. de Fortun. Aleth. Orat. i. Strabo, lib. i. p. 116. A.

The Greeks gave the denomination of Barbarians in a peculiar manner, and with a contempt blended with animosity, to the Phrygians, on account of the enmity that had subsisted between them since the wars of Troy. This appears in the "Orphics" of Euripides, and in the scholia upon the "Ajax Malignophorus" of Sophocles. The Roman
BAR

Barbarians also, in imitation of the Greeks, called all other people, the Greeks excepted, barbarian; and the complaint was returned to them by the inhabitants of other nations. Timis Ovid, who was considered at Rome as a polished courtier, was treated in his exile as a barbarian by the Cetara, who did not understand his language, which was the idiom of Rome. Tril. i. v. cl. x. v. 37.

"Barbarus hic ego fui quae non intelligor ulli: Et ridendo fulvus virga Latine Cetar." [1]

Under the lower empire, the appellation of barbarian became almost synonymous with that of stranger or foreigner. The Burgundians and Franks, who were established in Gaul, were there called barbarians; and in Italy this name was given to the Goths. The term was also applied by the 52d canon of the African church to the inhabitants of those provinces which had not submitted to the Roman empire; and the denomination is frequently extended by Gregory of Tours, and also by other writers, to Pagans as contradistinguished from Christians.

BARBARIANA, in Ancient Geography, a town of Spain, placed in the Anton. Hist. between Asturias and Grecucris.

BARBARIC PHILOSOPHY, comprehends that of all ancient nations among whom the Greek language was not spoken. It has long been a subject of dispute, whether philosophy first appeared among the barbarians or among the Greeks. The inhabitants of Greece, who were at an early period remarkable for literary and philosophical vanity, and who soon acquired the use of an artificial method of philosophizing, were unwilling to allow that philosophy had any existence in other countries, except where it had been borrowed from them. They could not persuade themselves, that the mere communication of precepts of wisdom in the simple form of tradition, and in languages harsh and different compared with their own, could deserve to be called philosophizing. On the other hand, the barbaric nations in their turn treated the Greeks as barbarians, and looked upon them as children in philosophy. Plato, in his Timeus, introduces a barbarian as instructing the wife Solon, and saying, "You Greeks are always children; there is not an old man amongst you; you have no such thing as grey-headed wisdom." In this peroration they were the more confirmed, when they understood that the most learned men, and the most ancient philosophers among the Greeks, had either been Barbarians by birth, or instructed by Barbarians (see Clemen. Alex. Stromata, l. i. p. 302, 303.; that Pythagoras, for example, was a Tuscan. Antiphenes a Phrygian, Orpheus a Thracian, Thales a Phoenician; and that Thales, Pythagoras, Plato, and others, had derived their knowledge from Chaldæan and Egyptian priests. Many of the Christian fathers expounded, in this dispute, the cause of the Barbarians, and maintained, with great vehemence, and with all the learning they could command, that the Barbaric philosophy was the fountain of all the wisdom which had appeared among the Greeks, except so far as they had been indebted, in the way of tradition, to divine revelation. This dispute, however, was owing to the want of distinct ideas, and an accurate use of terms; and can in reality be considered as nothing more than a logomachy. For no one can contend that the barbaric nations were wholly inattentive to wisdom, or strangers to every kind of knowledge, human or divine; and, on the other side, it cannot be questioned, that they acquired their knowledge rather by simple reflection than by scientific investigation, and that they transmitted it to posterity rather by tradition than by demonstration. Whereas the Greeks, as soon as they began to be civilized, discovered a general propensity to inquiry, and adopted scientific rules and methods of reasoning. Hence it is easy to perceive, that though the improvement of philosophy is to be ascribed to the Greeks, its origin is to be sought for among the Barbaric nations. Tatian, in Proem. Clem. Alex. Strom. 1. i. p. 302. Orig. adv. Colum. l. i. Brucker's Hist. d. Philosoph. ii. p. 204; Hackert Ant. Phil. Barb. ed. Lind. Bat. 1650.

The Barbaric philosophy, in the most extensive sense of the term, and in its reference to the state of philosophy, from the earliest times to the decline of the Roman republic, comprehends that of the eastern nations, including the Hebrews, Chaldeans, Persians, Indians, Arabs, and Phoenicians; that of the southern nations, or Egyptians and Ethiopians; that of the western nations, to which we may refer the Celts, the Etrurians, and the Romans; and that of the northern nations, including the northern Scythians, Thracians, Getæ, &c. among whom Abaris, Amazanis, Toxaris, and Zamoëtis, obtained the praise of wisdom. See Brucker's Hist. of Philosophy by Enfield, vol. i. Introduction.

BARBARICA, in Entomology, a species of Buprestis, found in Barbary. It is a small insect; colour above brassy; with coppery wings; with annexed very entire and slightly lirate. Fabr. 1775. p. 265.

BARBARICA, a species of Chrysomela, of a brassy-green, with five red lines on the wing-cases; wings fuscous. Inhabit. Barbary. Salzer, Gmelin.

BARBARICARII, in Antiquity, a kind of artist, who, with threads of divers colours, expressed the figures of men, animals, and other things; or, as others describe them, those whose business was to gild and decorate shields and helmets with gold and silver.

The barbaricarii were so called, because they learned this kind of painting from the Phrygians, who were particularly denominated barbarians, in regard of their opposition to the Greeks; though the name is sometimes also written branbaricarii.

BARBARICARII seem also to have been used for soldiers or officers, who wore marks and insignia thus adorned with gold and silver.

BARBARICARII, in Ancient Writers, is used for a military host, raised by the followers on point of engagement. This is called barbaricarum from the barbarians, in whose armies this method of hounding much obtained. The same appellation was given to a war or expedition undertaken against the barbarians.—"Quonque ad ipsum tempus quo barbaricum extorquum eft inter nos & eos." [2]

BARBARICUS was also used for an armoury, or magazine, wherein the Greek emperors kept the spoils and donaries taken from the barbarians in the time of war or peace.

BARBARICUS, in the Materia Medica, is also an appellation given by the modern Greeks to rhubarb. It is thus called from the Sinae Barbaricus, by the way of which this root was first brought to them.

BARBARICUS, in Entomology, a species of Cimex (Reduvius), of a black colour; thorax and wing-cases obtusely ferruginous, and a little white line on the middle of the scutellum. A native of Barbary. Gmelin.

BARBARICUS, in Ornithology, a species of Rallus which inhabits Barbary. It is ferruginous, with a black bill; wings spotted with white; rump white, flecked with black; white below; legs obscure brown. Gmelin. This is the Barbary rail of Latham.

BARBARICUS, a species of Turdus, of a green colour, with the breast spotted with white; rump and tip of the tail

[1] The passage is translated from Latin to English.

BAR

tall yellow. Gmelin. This is the Barlery thryso of La-tham, and grive bofette de Barlary of Buffon. Inhabit Barlary, and is about the fafe of the millet thruf.

BARBARISM, in Grammar, denotes an offence against the purity of style or language.

A barbarism is, according to Iphorus, from a barbarous term, as the former, for influence, is Latin, though corrupt or mutilated; whereas the latter, which this writer calls barbarologia, is a word merely foreign intruded into Latin speech.

In general, under barbarisms are comprehended things written, spoken, declined, or conjugated wrong; or used in a wrong quantity, or in an unusual sense; as when a word is used which is foreign to the language, and not received by the better and purer fort of writers therein. Such are liber for liber, fiella for jeulla, patri for patris, lexi for legi, banus for prosperius, &c.

Barbarism is often charged, with great justice, on modern writers in the learned languages. The Latin books of late ages are full of Anglicisms, Gallicisms, Germanisms, &c. according to the country of the author. But what shall we say of such, as, 1 Corinthians, who accuses Cicero himself of barbarisms in his own language?

There are great disputes among critics concerning barbarisms in the New Testament.

Divers pious persons are startled at the apprehension of any thing like a barbarism in the inspired books, as supposing it an objection to the inspiration of them; yet this does not hinder but many of the Jews, after Abarbanel and others, still maintain barbarisms in the Old Testament; in which they are fecnded by M. Simon, Le Clerc, and others. The latter of these writings abound with Zaldastins; and the books of Moles are not free from Egyptian words.

If we consider that among native Greeks a barbarous idiom could only mean such as was not conformable to the rules of their grammarians and rhetoricians, and to the practice of their writers of reputation, it may be conceded that the style of the New Testament is of this kind, without derogating from the character of the apostles and evangelists, without impeaching their inspiration, and without injuring the authenticity of their writings. This conception, the most learned and oratorical of the Greek fathers, as for instance Origen and Chrysostom, did not scruple to make: and, in such cases, it must be acknowledged that a native of common fens is a much better judge than any learned foreigner. Nevertheless many have contended that the Greek of the New Testament is as purely classical as that of the Attic writers, and they have even condemned as impious rhetorics those who have dared to differ. It has been asserted, that the contrary implies an imperfection inconsistent with divine inspiration, and that men capable of such a doctrine were not only impious, but were guilty of the sin against the Holy Ghost. And yet this doctrine was maintained by Erasmus, Calvin, Melanthon, Camerarius, Beza, Drefitus, Catenon, Gaffius, Gatakes, Solanas, Olearius, and Vor- flius; though it has been denied by Ptochianus, Stolberg, Schmid, Georgi, and Blackwall. See Erneli Instituio Interpretis N. T. p. 41. ed. 31a. Lipfex, 1775. But the advocates for this divine purity have not only betrayed their ignorance of the Greek language, but a high degree of pedantry in estimating the accuracy of language beyond its proper value. This last mistake has happened not only to the warm and partial friends, but likewise to the enemies of Christianity, who, from the time of Celsus to the 18th century, have maintained, that a book written in such language is neither divinely inspired, nor deserving attention and respect. Both parties have carried their zeal and their sentiments to too great a length; and they would hardly consider an absolute purity of style, and a total absence of foreign words, of such importance as to make the contrary a crime, if they would confende to quit the language of the schools for that of common life, or turn their attention from the language of the chaff to the wheat that are in common use. All foreign idioms, such as Hebraisms in Greek, Grecisms in Hebrew, or Latinisms in either, may be comprehended within the definition of barbarism, and sometimes even of fossilism; but these words, it should be recollected, have always something relative in their signification; that turn of expression being a barbarism or fossilism in one language, which is strictly proper in another, and to one class of hearers which is not so to another. The apostle Paul does not hesitate, by implication, to call every tongue barbarous to those who do not understand it. 1 Cor. xiv. 11. Nor does it make any difference, as appears from the whole of the apostle's argument, even if what is spoken be spoken by the Spirit. With equal reason we may say of those foreign idioms in any tongue, which render what is said unintelligible or even obscure to the natives, that in respect of them they are barbarisms. Nor will any judicious person deny, that there are some idiomatical expressions in the New Testament, which must have puzzled those who were absolute strangers to the language of holy writ. Such idioms the writers of the New Testament would naturally adopt. They occurred in the Septuagint, which they were in the habit of using; and these would co-operate towards infecting their style with the tendency, which, as natives of Palestine, they would derive from conversation, to intermix Hebraisms and Chaldaisms in their writings. If we would enter thoroughly into the idiom of the New Testament, we must familiarize ourselves with that of the LXX; and if we would enter thoroughly into the idiom of the LXX, we must accustom ourselves to the study, not only of the original of the Old Testament, but of the dialect spoken in Palestine between the return of the Jews from the Babylonish captivity and the destruction of Jerusalem by the Romans; for this last, as well as the Hebrew, has affected the language both of the old Greek translation and of the New Testament.

Besides, it is proper to consider in relation to this subject, that vulgarisms and foreign idioms, which may obtain among strangers, and those of the lower ranks, have no more natural unifomes to convey the ideas which they use than intend to convey by them, the terms and phrases which, in consequence of the preference given by their superiors, may be regarded as elegancies. It may be as reasonably objected against our religion, that the persons by whom it was propagated were chosen from a class which men in high life account the dregs of the people, as that the Holy Spirit should accommodate himself to the language of those who were actually chosen. Nay, language as well as deeds being in fact no more than a species of mode, it may with as good reason be maintained that the ambassadors whom Christ deputed to promulgate his doctrine, should have been habituated like gentlemen and men of fashion, as that they should have spoken the dialect of fuch. Should it be asked, why did the Holy Spirit chuse to deliver such important truths in the barbarous idiom of a few obscure Galileans, and not in the polite and more harmonious strains of Grecian eloquence? The answer is obvious:—That it might appear beyond contradiction, that the excellency of the power was of God, and not of man. Moreover, the writings of the New Testament carry, in the very exprefion and idiom, an intrinsic and irrefutable evidence of their authenticity. They are such as, in respect of style, could not have been written but
BAR

by Jews, and hardly even by Jews superior in rank and education to those whose names they bear; and the argument is strengthened by considering that under their voluntary garb we find the most exalted sentiments, the closest reasoning, the purest morality, and the profoundest doctrine. In the diffusion of this subject, we should likewise consider the situation and character of the persons for whose benefit the New Testament was more immediately written. They were mostly either native Jews, or pious persons who were professedly to the doctrine of Moses, and who, by continual intercourse with native Jews, and the constant reading of the LXX., were accustomed to Jewish Greek. It is highly probable therefore, that if the New Testament had been written with Attic purity, it would have been unintelligible to many of its earlier readers, who had never read the doctrines of religion in any other dialect than Jewish Greek. We shall only observe further in this place, that a classical or uncritical style has no more influence on the divinity of the New Testament, than the elegance or inaccuracy of the hand in which it is written, and the accuracy or inaccuracy of the pronunciation with which it is uttered. Whoever is accustomed to write a bad hand would certainly not improve it by his inspiration, but admitting there, it would have this unfortunate consequence, that no one accustomed to the hand would in its improved state believe it to be genuine. There is no reason to believe, that inspiration would amend a faulty pronunciation; and the writers of the different parts of the Bible have undoubtedly spoken in the same manner, both before and after the effusions of the Holy Ghost. If these failings then are consistent with supernatural endowments, “I can see no reason,” says Michaelis, “for drawing an argument against the divinity of the New Testament from its vulgarisms, or even from its grammatical errors.” A particular account of the writings of those authors, who have engaged in the controversy relating to the purity of the language of the New Testament, may be seen in Walchii Bibliotheca Thologica, t. iv. p. 270—289; See also Fabr. Bibl. Græc. t. iv. p. 224—227. Michaelis’s paper on the Introduction to the New Testament by Mark, vol. i. ch. 4. 34. p. 116, &c. Campbell on the Four Gospels. Prelim. Diff. vol. i. p. 13, &c. See more on this subject under the articles Inpiration, and Language of the New Testament.

BARBARISM, Barbaries, is also used for that rudeness of mind, wherein the understanding is neither furnished with useful principles, nor the will with good inclinations. BARBARISSOS, in Ancient Geography, a town of Asia, in Syria, in the Chalybonntie country. Ptolemy.

BARBARIUM Promotorium, a promontory of Sutherland, placed by Ptolemy south of the city of Omos-Hippon, or Oloepion, Oléope, or Libon, in 39° 45 N. latitude.

BARBARO, Francis, in Biography, a noble and learned Venetian, was born in 1508, and distinguished by his love of literature, and his talents for public business. Under the learned Greek Chrysologus, he acquired that profound knowledge both of the Greek and Latin languages, of which he gave specious in his translutions of Plutarch’s lives, of Aristides, and Cato, and in his elegant moral work, written in Latin, intitled “De Re Uxoria,” and first published without his name, in 450. at Paris, in 1515. This work furnishes useful instructions with regard to the choice of a wife, and the duties of wives and mothers. He was also the author of some orations and letters, which manifested good taste and an amiable temper. In all the public offices which Barbaro fulfilled, he displayed eminent virtues. Whilst he was governor of Brescia, he had occasion for the exercise both of courage and discretion. The city was divided into two violent factions, which he prevailed upon to unite, and to act in concert for the public good; and though at the same time it was besieged by the Milanese forces under the great commander Piccinino, and suffered much by famine and disease, he at length, after a protracted siege of three years, obliged the enemy to retire. He died which regretted by his countrymen, in 1554, at the age of fifty-six years. His letters were collected and printed at Brescia in 1743. (Gen. Dict.)

BARBARO, Ernolao, the elder, was the nephew of the preceding, and distinguished by his early acquaintance with the Greek language, inasmuch that at twenty years of age he translated many of Alop’s fables into Latin. He was advanced, at the age of thirty years, by pope Eugenius IV. to the episcopal see of Treviglist; and ten years afterwards he was translated to that of Verona, where he died in 1470, aged sixty years. He left translatons of Greek authors.

BARBARO, Ernolao, of Hermolaus Barbarus, the younger, was the grandson of Francis Barbaro, and born at Venice, in the year 1554. In very early life he was eminently distinguished by his genius, application, and piety; and at the age of fourteen years he received from the hand of emperor Frederic the poetic crown. At sixteen, he undertook the translation of Themistius, which was published seven years afterwards. Having graduated in the school of Padua in jurisprudence and philosophy, he returned to Venice, and devoted himself entirely to affairs of state. However, after an interval of twelve years, he returned his studies with fresh ardour; and, particularly attached to the Greek language, he read lectures without gratuity, in his own house, upon Demochines, Theocritus, and Aristotle, which were very numerously attended. At the age of thirty-two years, he was sent ambassador to the emperor Frederic, who conferred upon him the honour of knighthood; and in consequence of a subsequent embassy to pope Innocent VIII. that pontiff created him patriarch of Aquileia. This office he accepted, though the laws of Venice had prohibited its ministers from accepting any dignity from any foreign prince, without the consent of the republic; and for his opposition to this order, the Venetians pronounced upon him a sentence of perpetual exile. For preventing his execution he wished to relinquish the patriarchate; but the pope refused to accept the renunciation. From this time, he retired at Rome; but upon the access of the plague, he returned into the country, which, however, afforded him no asylum; for he was seized with this malady, and died in the year 1493.

Betrudes the translation of Themistius, Hermolaus published versions of Dioecides, and of the rhetoric of Aristotle, an abridgment of the moral and physical doctrine of that philosopher; two large works upon Pliny, one intitled “Constitutions Pliniae,” the other “Constitutions Secundo”; “Corrections of Pomponius Mela;” and an “Explanation of the more difficult words in Pliny.” He boasted that he had corrected 5000 errors in the text of Pliny, and 300 in that of Mela. Although he is charged with having been too free in his conjectural emendations, he exercised great ingenuity and industry in these labours. The illustrious Lorenzo de’ Medici treated him with great respect, and when he was at Florence on an embassy from the republic of Venice, entertained him very liberally, and offered him the use of his villa and library to the prosecution of his studies. “Hermolaus is certainly entitled to rank in the first clays of learned men, at a period when classical learning was the first and almost the sole object of attention: nor is it any depreciation of his merit as a scholar, whatever it may be of his character as a philo-

BAR
phes, if the whimsical story he be true, that, being exceedingly perplexed concerning the meaning of Ariketo's book, a term which has perhaps never been understood, he endeavoured, or pretended to consult the devil upon the subject." Gefner in Bibliothec. Gen. Dict.

BARBAROSSA, so called from the red colour of their beard, Arie or Horace, and Hayradin, were the sons of a potter of the island of Lefbos, or some fay, of a Sicilian renegado; who, by the advice of reftles and enterprising spirit, forsook their father's trade, and joined a crew of pirates. They soon distinguished themselves by their valour and activity, and becoming masters of a small brigantine, carried on their infamous trade with such conduct and success, that they assembled a fleet of twelve galleys, besides many vessels of smaller force. Of this fleet, Horace, the elder brother, was admiral, and Hayradin second in command, but with almost equal authority. They called themselves the friends of the sea, and the enemies of all who fall upon it; and their names soon became terrible to the frights of the Dardanelles to those of Gibraltar. Whilft they were acting as Corsairs, they adopted the ideas and acquired the talents of conquerors. They often carried the prizes which they took on the coasts of Spain and Italy, to which they extended their depredations about the year 1524, into the ports of Barbary; and enriching the inhabitants by the sale of their booty, and the thoughtless prodigality of their crews, they were welcome guests in every place at which they touched. The convenient situation of these harbours, lying near to the greatest commercial states at that time in Christendom, made the brothers with for an establishment in that country. An opportunity occurred for this purpose, which they eagerly seized and improved to their own advantage. Eutemis, king of Algiers, having made several unsuccessful attempts for taking a fort which the Spanish governors of Oran had built not far from his capital, fought the assistance of Horace, whose valour the Africans considered as irresistible. The active corsair gladly accepted the invitation, and leaving his brother Hayradin with the fleet, marched at the head of 5000 men to Algiers, where, in the year 1516, he was received as their deliverer. Such a force gave him the command of the town. The ambitious conqueror, having secretly murdered the monarch whom he came to assiil, caused himself to be proclaimed king of Algiers in his stead. He then proceeded to establish the authority which he had usurped, by acts suited to the genius of the people whom he had to govern; by unbounded liberality to those who favoured his promotion; and by cruelty as unbounded towards all whom he had any reason to distrust. Having detected and defeated a conspiracy formed against him by the Arabs, and obliged the king of Tunis, who marched to their succour with a powerful army into the territory of Algiers, to seek refuge in the mountains; Barbarossa laid siege to Tunis, made himself master of it, and was acknowledged as sovereign. He then attacked the neighbouring town of Tremecen, vanquished him in battle, and added his dominions to those of Algiers. At the same time he continued his depredations on the coast of Spain and Italy; and the devastations which he committed obliged Charles V., at the beginning of his reign, to furnish the marquis de Comares, governor of Oran, with troops sufficient to attack him. That officer, affiiald by the dethroned king of Tremecen, executed the commination of such spirit and success, that Barbarossa's troops being defeated in several encounters, he himself was shut up in the citadel of Tremecen. After defending it to the last extremity, he was reduced by the apprehension of famine to the necessity of attempting an escape by a subterranean passage; and in order to delay the pursuit, he scattered his treasures upon the road. At length the Spaniards overtook him on the banks of the Ilissus, eight leagues from Tremecen; and here Barbarossa with his Turkísh followers fought for some time with an obstinate valour, but they were at last totally defeated, and the conqueror himself was slain, in the forty-fourth year of his age, A.D. 1518.

His brother Hayradin, known likewise by the name of Barbarossa, assumed the sceptre of Algiers with the same ambition and abilities, but with better fortune. His reign being undisturbed by the Spaniards, who were fully engaged in the wars among the European powers, he regulated with admirable prudence the interior police of his kingdom, carried on his naval operations with great vigour, and extended his conquests on the continent of Africa. For his greater security, he put his dominions under the protection of the Grand Signior, and received from him a body of Turkísh soldiers sufficient for his defence against domestic as well as foreign enemies. Solymans at length A.D. 1553, offered him the command of the Turkísh fleet in opposition to Andrew Doria, who was the greatest seafarier of that age. Barbarossa, proud of this distinction, repaired to Constanffupole, and with a wonderful versatility of mind, combined the addresses of a courtier with the boldness of a corsair, and thus gained the entire confidence of the sultan and his vizier. To them he communicated a scheme which he had formed of making himself master of Tunis, the most flourishing kingdom, at that time, on the coast of Africa; and as they approved the scheme, they furnished him with everything he demanded for carrying it into execution. Avoiding himself of the intertinted divisions of the kingdom, and making pernicious use of the name and interest of Abrahichid, an exiled prince, whom he deceived and imprisoned, he was supported by a powerful fleet and a numerous army. His fleet consisted of 250 vessels, with which he fell towards Africa; and after ravaging the coasts of Italy, he appeared before Tunis. Having landed his men, he announced his intention of affording the right of Abrahichid, whom he pretended to have left sick on board of the admiral galleys, but who was in reality confined in the seragli at Constantinople, and who was never heard of more. The fort of Golosta, which guards the bay, soon submitted, and the inhabitants of Tunis declared unanimously in favour of Abrahichid; so that the gates were open to Barbarossa, whom they considered as the restorer of their lawful sovereign. But as Abrahichid did not appear, they soon began to suspect their corsair's treachery; and with arms in their hands, surrounded the citadel into which Barbarossa had led his troops. Their attack, however ardent and impetuous, was of no avail; and they were forced to acknowledge Solymans as their sovereign, and to submit to himself as his viceroy. Having put the kingdom into a proper posture of defence, he extended his depredations to the Christian states, so that complaints of his outrages were conveyed to the emperor Charles by his subjects both in Spain and Italy. The emperor concluded a treaty with Muley-Hafcen, the exiled king of Tunis, who implored his assistance; and made preparations for invading Tunis. His fleet consisted of nearly 500 vessels, and they had on board above 30,000 regular troops. The armament failed from Cagliari, and after a prosperous navigation, landed within sight of Tunis. Barbarossa assembled at Tunis for opposing the imperial army.

Vol. III.
force, a force composed of 20,000 horse, together with a
cavalry body of foot. By the reduction of the Genoese, after
an obstinate defence by the Turkish soldiers under the
command of Sinan, a renegade Jew, the bravest and most
experienced of all Barbarossa's corsairs, the emperor became
master of the fleet, confining of eighty-seven galleys and
galliots, together with the arquebus, and 300 cannon mostly
of brass, that were planted on the ramparts. In these
circumstances, however, Barbarossa, neither lost his courage,
nor abandoned the defence of Tunis. But as the walls were
extremely weak as well as extensive, he determined to
advance with his army, amounting to 50,000 men,
towards the imperial camp, and to decide the fate of his
kingdom by the issue of a battle. Having communicated
his resolution to his principal officers, he proposed to provide
against the danger of a mutiny among the Christian slaves,
during the absence of the army, by massacring 10,000 of
them before he began his march. The barbarity of the
proposal filled his officers with horror; and Barbarossa,
dreading their resentment, contented to spare the lives of
the slaves. The emperor's army which suffered inconceivable
hardships in their march over burning sands, soon
came up with the Moors and Arabs under the command of
Barbarossa, who were so completely routed, that, notwithstanding
all his efforts to rally them, he was hurried along
with them in their flight back to the city. This was found
a scene of confusion; some of the inhabitants were flying
with their families and effects; others were opening
the gates to the conquerors; and the Turks were retreating;
and the citadel was in possession of the Christian slaves.
Barbarossa, disappoinited and enraged, fled precipitously
to Bone; and Tunis surrendered to the victorious army of the
emperor. But the squire of this victory was tarnished by the
excesses of the soldiers: who sacrificed more than 30,000
of the innocent inhabitants, and carried away 10,000 of them
as slaves. Barbarossa escaped first to Algiers, and then
repaired to Constantinople, where he was received again
into favour, and sent with a fleet to ravage Calabria. Having
persuaded Solymans to make war on the Venetians, he
committed great devastations in the isle of Corfu, and afterwards
made an expedition to the coast of Arabia Felix,
when he reduced all Yemen under the Turkish dominion.
In a subsequent war between the Turks and Venetians, he
took many islands in the Archipelago. In 1538 he crossed
over to Candia, and made an unsuccessful attempt on
Canea. From thence he retired to the Ambracian gulf,
where he was overtaken by the Christian fleet under the
famous Andrew Doria. By his skilful maneuvres he not
only avoided the danger that threatened him, but gained
some partial advantages, and caused Doria to make a hasty
retreat to Corfu. In 1539 he recovered Caffo Nuovo
from the confederates. In 1542, Barbarossa left Constantinople
with a powerful fleet; and proceeding to the Faro
of Messina, took Reggio, and sacked the coast of Italy.
He then besieged and took Nice; but when Doria
approached with his fleet, Barbarossa avoided him; and
remaining in those quarters during winter, he next spring ravaged
the coasts and islands of Italy, and then returned with
many prisoners to Constantinople. During the remaining
period of his life, he superintended the naval affairs of
the grand signor, and perused that voluptuous course
to which he had been habituated, amidst a number of fair
captives; and died at the age of eighty years, in 1547,
leaving his son Hassan in possession of the vicereignty
of Algiers, and heir to all his property. With the ferocity of
a Turk and Corsair, Barbarossa pillaged some generous
sentiments, and obtained a character for honour and fidelity

Barbarossa, in Entomology, a species of Scarabaeus,
described by Fabricius as a native of New Holland. The
anterior part of the thorax is fucarous; horns of the head
receded and short.

BARBAROUS, in a general sense, denotes something
that partakes of the quality of Barbarism: and in this
sense, the term is applied to a nation, age, writer, word,
or the like. Barbarous Latin words are innumerable;
the schoolmen abound with them; the chemists, physicians,
and lawyers can scarcely write intelligibly without them.
Du Cange has given two large volumes in folio of barba-
rous Latin words, and as many of barbarous Greek words.
The modern or vulgar Greek is sometimes called barbarous
Greek, "barbaro-Greca," or "Greco-barbaro lingua." Langius has published "Philologin Barbaro-Greca," "Gram-
matica Barbaro-Greca," or "Glossarium Barbaro-Grecum."

Barbarus, in Entomology, a species of Papilio. (Pllb. Kur.) The wings are without tails, and blueish;
beneath spotted all over with brown, and two spots behind.

Barbarus, a species of Tenbriggs, of a black colour,
and very glossy; thorax orbiculated; anterior margin of
the shield of the head elevated. This is about the middle

Barbarus, a species of Cryptoccephalus that inha-
bits Barbary. The antennae are serrated: body hairy,
black or brown, found on composite flowers. Fabricius.

Barbarus, in Ichthyology, a species of Synagnathus,
found in European seas. It has neither caudal nor anal
fin, body fuscolated. Gmelin. In the dorsal fin are about
forty-three rays; and in the pectoral fin ten rays; body
olive with faint blueish transverse lines.

Barbarus, in Ornithology, a species of Vulgar that
inhabits Barbary, and some other parts of Africa. It is of
a blackish brown; beneath white, inclining to brown;
legs woolly; toes head colour; claws brown. Gmelin.
This is vulgar barbatus, Brull. Orn. and bearded vulture
of Edwards and Latham.

Barbarus, a species of Falco, called by the English
writers Barbary falcon; the cere and legs are yellowish;
body blueish, spotted with brown; beak immaculate.
Tail banded. Gmelin. The length of the bird is seventeen
inches, and, as its name implies, it is a native of Bar-
bar.

Barbarus, in Geography, the northern tract of Africa,
is one of the three distinct parts of North Africa, accord-
ing to the distribution of major Rennel, and lying along the
Mediterranean. See Africa.

As to the origin of the name of Barbary, we have a
variety of conjectures. Some suppose, that the Romans
after they had conquered this large tract, gave it the name
by which of contempt or dislike of the rude and barbarous
manners of the natives. Marmol deduces it from the
Arabic word "Barber," a name given by the Arabs to the
ancient inhabitants, and which they retain to this day in
many parts of this tract, especially along the ridge of the
Great Atlas, where they are very numerous, and which was
given to them by their new invaders on account of the bar-
barisms of their country. Leo Africanus says that it was
given to these people on account of their strange language,
which appeared to them an inarticulate murmur, the Arabic
word "barbar," signifying "a murmuring sound or noise."
Barbary derive it from "barb," once repeated [sic], which signifies a "desert," which was its ancient name; accordingly, they say that the fugitive king Ithik, from whom it is pretended that the whole African continent derived its name, when closely pursued by his enemies in his flight out of Arabia Felix, and halting what course to pursue, was directed by none of his retainers by these words, "Bar, Bar," that is "To the Desert." To the Desert.
ichoeneumon or tezerde; the frett or nimfe; and the weefel
or fett-el-heile. The mole, likewise, the rabbit, the hare,
and the wild boar, which is the chief prey and food of
the hons, are every where numerous. Among the oviparous
quadrupeds, Dr. Shaw enumerates the land and water tor-
toises, the former being very palatable food, but the latter un-
whollyome; the warral or guara; the dhah or daf; the zem-
mounah; the flink or femeus; and the neje-daimah or
booka-flain. Of the ferpentine kind, besides the flow-sworn
and the snake, which are common, the moft remarkable spe-
cies are the thabanne, the zurweike or jucule, the leffiah or
difpas. These are the only species of the viper kind which
Dr. Shaw discovered; and he adds, that the northern parts of
Africa do not produce above five or fix diflinct species among
the many that are decribed by Lucan and Nicander.
Among the birds, he enumerates, besides the eagle kind, the
karbunro, about the fize of our buzzard, the red-legged
crow, or pyrrhocor; the emfeefy or ox bird; the boof-unk
or long-neck; the burou-rou, one of the larger fpecies of the
horned-owls; the varourou; the fhamarg; the houbarra or
houbaary; the rhand or fat-fat; the kitawiah or African
lagopus; the Barbary parachute, or red-legged quail; the
green thrush; and the Capia fparrow. The infects of this
part of Africa are more numerous than curious. The moft
curious fpecies of the butterfly kind is the lappet butterfly,
about four inches from one tip of the wing to the other,
beautifully flecked with murrey and yellow, and having
near the tail a fpot of a carafion colour. The rareft fpecies
of the libell or adderbolts is one, 55 in his long, broad-
tailed, of a ruby colour, with bright fpotted wings. The
leaffent of the beetle kind, is a fpecies with one horn,
of the colour and fize of a chefunt. In the hotter months
of the fummer, the cicade, 714. § or gralfhopper, as we falfely
translate it, is perpetually flamings the ears with its flirli
and ungrateful noffe, from mid-day, to the middle of the after-
noon. The locufs are very numerous, first appearing to-
wards the latter end of March, and in the middle of April
forming large fwarmes, which even darken the fun, and
beginning gradually to disappear in May. Of the acrab or
fcorpion there are feveral fpecies. For other particulars
relating to the productions, commerce, cuftoms, &c. of the
flates of Barbary: See Algiuers, Morocco, &c.

The coal of Barbary was probably firft planted by the
Egyptians. The Phoricians afterwards fer fent colonies thither,
and built Utica and Carthage. The Carthaginians from
then gave power and weathy by trade, and finding the country
divided into many little kingdoms and flates, either infiubed
or made the princes on that coal their tributaries, who,
being weary of their yoke, availed themselves of the oppor-
tunity of affifting the Romans in fubduing Carthage.
The Romans remained sovereigns of the coal of Barbary, which
indeed was almofl the whole of their poiffefion, Egypt ex-
cepted, on the continent of Africa, until the Vandals in the
fifth century reduced it under their dominion. The Roman,
or rather the Grecian emperors, having some time after
recovered the coal of Barbary from the Vandals, retained the
dominion of it till the Saracen califh made an entire conqul
of the north of Africa in the feventh century, and divided
the country among their chiefs, of whom the fovereign of
Morocco was the moft confiderable, poiffefling the north-west
part of that country, which, in the Roman division, obtained
the name of Mauritia Tangitania, or Tunis or Tar-
gier the capital; and is now flyled the empire of Morocco,
comprehending the kingdoms or provinces of Fez and Mo-
rocco.

In the eight century, their ancers made a con-
quell of the great part of Spain; but after the lofs of
Granada, about the year 1492, they were dispoiffefl of this
country, and compelled by Ferdinand and Isabella to re-
nounce their religion, or transport themselves to the coal of
Africa. The exiles confederated with the Mahometan
princes on the coal of Barbary, and fitted out little fleets
of cruisers, which made depredations on Spain, brought away
many of its inhabitants, and made flaves of them. The
Spaniards aflembled a fleet of men of war, invaded Barbary,
took Oran and other places on the coal of Algiers, and were
proceeding to make an entire conqul of the country. In this
difficulty the African princes bought the affilience of the
famous Turkih rover called Barbarossa (see the article Bar-
Barbary, sregard the Christians. When he had repulfed their
enemies, he unfurfed the government of Algiers, and treated
the people who called him to their faccour as flaves. His
brother Hayradin pursufr the fame fmeafures with regard to
the people of Tunis; and a third by fimilar means obtained
the government of Tripoli. In these aflurations they were
supported by the grand fignior, who claimed the fovereignty
of the whole coal, and for fome time they were confidered
as the fubjefts of Turkey, and governed by Turkih backaws
and viceroyes; but each of thefe flates, or rather the military
men, at length elected a fovereign out of their own body, and
rendered themselves independent of the Turkih empire.
The grand fignior has not now fo much as bafaw or officer
at Algiers; but the day acts as an absolute prince, and is
only liable to be depofed by the foldiery that advanced him.
At Tunis and Tripoli he has full bafaws, who are some
check upon the days, and receive a fmall tribute. All of
them, however, in cafe of emergency, claim the protection
of the Ottoman court; and they still continue to pray upon
the Spaniards, having never been at peace with them since the
lofs of Granada. They make price alfo of all other Chrifti-
fanfs hips that have Spanih goods or passengers on board, and
indeed of all others that are not at peace with them. The
Turks of Algiers, Tunis, and Tripoli, are an abandoned
race, conflifting of pirates, banditti, and the refufe of Turkey,
who have been forced to have their fccurities to avoid the
punifhment of their crimes. See Algiuers, &c. and
also Africa.

Barbary is chiefly inhabited by three forts of people ;
namely, Moors, who are the native natives; the Arabs,
who have overran this country; and the Turks, who have
fince made themfelves masters of fome of its belt provinces,
and the feveral kingdoms of Tripoli, Tunis, and Algiers,
being under a kind of tribute to, or dependence upon the
Ottoman porte. The Moors, or natives, are for the moft
part Mahometans; as there are few who have not been in-
duced or compelled to embrace Mahometanfimine their fub-
jection to the Turks. They are even more ferupulous ob-
servers of the Mahometan law than the Turks fhemselves;
and as they are generally even more ignorant, they have
adopted every absurdity of fuperfition. Among the cor-
fairs of Barbary, no charm, or magic spell, no expedient,
thoug hun to fome feelefs, monftrous, and feemingly diabolical,
can be invented, to which they will not have recourse,
preferably to any of a more rational nature and efficacy,
in fights, forms, or other emergencies attending their hazardous
profeflion. Their condition is abject and miferable to the
extreme, being cruifed with a heavy load of taxes, and
freated with the umoft cruelty by their infulting masters, or
expofed to the continual invads of the plundering Arabs.
Such is the flate of thofe who live at large in the country
upon their agriculture and cattle. As thofe who inhabit
the fea-ports along the coal, they are allowed to follow a
variety of handicraft trades and manufactures, and even to
carry on some commerce by land and sea. But they are no
lfs oppreffed with taxes and other exactions.
BAR

The Arabs of Barbary are like those of other parts of Africa; they follow the same mode of living, are governed by their own despotic checks, and all of them, except those of the wandering kind, and such as live under the domination of the emperors of Morocco and Fez, are in some sort tributary to the Turks, ever since they have made themselves masters of the remainder of the Barbary coast. They are often obliged, by the oppression they suffer, to abandon their habitations, and to seek shelter among the most rocky and inaccessible mountains, whether the Turkish forces cannot pursue them. Such is the condition of those who live in the country, and along the ridge of mount Atlas; but there is another and more civilised class of them, who are, like the Moors, settled in some of the towns and villages, and apply themselves to agriculture, and especially to the breeding of that race of horses so much esteemed, known to us by the name of barbs, for which their country has been famous all over Europe. The wild, or wandering Arabs, who range along the great Atlas and other parts of Barbary, are warlike, bold, and even desperate in all their plundering excursions; especially in their attempts on the large and rich caravans, which go from Morocco into Egypt. The Arabs of each class are addicted to the study of astronomy and astrology, to which they are disposed by their pastoral life, which affords much leisure, their clear sky, and natural superstition. They neither few reap, plant, travel, buy, or sell, nor undertake any expedition, without previously consulting the stars, or in other words, their almanacks, or some of the makers of them, whether they be Mahometans or idolators.

The Turks are of all the inhabitants of Barbary the fewest in number, and in all respects the worst of all the three classes; being originally no better than a wretched crew of indifferent, loose, idle, and thriftless fellows, infested in and about Constantinople, and sent from thence once in three years to recruit the foldiery. They are wanton and sanguine in the exercise of their tyranny over both the Moors and Arabs. They make ostentatious professions of Mahometanism; but in practice they neglect and violate its precepts in the most licentious degree, and are so notorious for the dissoluteness of their manners, that they are abhorred by all true Mahometans.

The whole tract of Barbary from one end to the other is so excellently situated for navigation and commerce, so fertile of every necessary of life in its variety of soils and climates, so rich in its mines of gold, silver, and other metals and minerals, so healthy, and so populous, that it might defy the whole force of Europe or Asia to reduce it, were its inhabitants as indolent as they are indolent and knavish, and were the several nations that inhabit it, or the several powers to which it is subjected, united in one common interest. Shaw's Travels, passim. Mod. Un. Hist. vol. xi. p. 256. &c. vol. xiv. p. 288. vol. xxxvii. p. 186. &c.

BARBARY Point, the western point of the entrance into the river, &c. of Senegal, on the coast of Africa. N. lat. 15° 38'. W. long. 15° 30'.

BARBAS, Cape, lies on the coast of Africa, west from Cyprino river, and 26 leagues north from cape Blanco. N. lat. 22° 15° 30'. W. long. 16° 20'.

BARBASOTE, a sea-port town of Africa, in the kingdom of Fez, a little to the west of Ceuta.

BARBASTELLUS, Avespertilio, in Zoology, the so-called bat, with elevated hairy cheeks, and large ears, angulated on the lower part. (Linn. Syst. Nat. Gmelin, p. 48.) Barbysilette of Buffon and Pennant. Its length is about two inches from nose to tail; extent about ten inches; 100 part of the body dusky-brown; under part ash-coloured; forehead fawn; ears broad and long, lower parts of the inner side touching each other, and thus concealing the face and head when viewed in front; nose short; cheeks full; end of the nose flattened; found in France. Shaw.

BARBATA, in Entomology, a species of CANTHARIS that inhabits Germany. It is of a brown colour; antennae and cheeks pitchy. Oliver. The down on the body is changeable to a golden hue.

BARBATA, a species of CICADA (Dysca) of a brown colour, with greenish abdomen, and a snowy-white woolly tuft at the vent. Fabreius, Gmelin.

BARBATA, a species of PHALÉNA that inhabits Barbary. The wings are greyish, with a brown spot in the middle, and an oblique band behind. Fabreius, &c.

BARBATA, a species of PIMELIA (Helops Fabr.), of a black colour; feathers advanced, and with the legs yellowish. Inhabits Saxony. Fabricius.

BARBATA, in Natural History, a species of CORALLINA, about three inches in length, that grows on the shores of Jamaica. Ellis, in his work on coralline, calls it the rotatory or head-coraline of Jamaica; it is the head-band of Flusknat, and corallina major, nerve craffieri fuciform intermedia bivertex necente of Swane. (Hist. Jam.) This kind is specifically distinguished according to Dallas, Solander, and others, by being dichotomous, with cylindrical joints, the extreme ones bearded at the tips.

BARBATA, a species of NAIS, about one third of an inch in length, that is found in wet places, in woods, and sometimes adhering to the bellus planeris and other fresh-water snails. The lateral bristles are disposed in tufts, and it has no probosces. (Miller, Bonnet, &c.) The body is hairy beneath, and each segment furnished on both sides with four divergent bristles: eyes two, and of a black colour; length, four lines.

BARBATA, in Ornithology, a species of Fringilla that lives in the mountainous parts of Chili. This bird is about the size of a Canary bird; of a pale yellow colour, with green wings, spotted with black and red; and has the chin bearded. It is said to sing delightfully, and to be capable of imitating the notes of other birds with the greatest facility. The bill is white at the base, and black at the tip; head black; chin in the young bird yellow, in a few months this changes black, and appears, when full grown, bearded; this is only in the male bird, for the female has no beard, and is of a cinerous colour, with a few spots of yellow on the wing. Molin. Hist. Nat. Chili. Gmelin. &c.

BARBATA, a species of Musikata, of an olive-brown colour above; beneath greenish-yellow; crown yellow; rump yellow. A native of Cayenne; called by Buffon barbichon de Cayenne; and by Latham the whistled fly-catcher.

The length of this bird is five inches; bill broad, deflexed, and shorter than the whickers. Female greenish-black, yellowish beneath; breast brownish; on the crown an oblong yellow spot.

BARBATED LEAF, in Botany, is a leaf terminated by a bunch of strong hairs.

BARBATELLI, Bernardino, called Pochetti, in Biography, a painter of history, fruit, animals, and flowers, was the disciple of Ridolfo Ghirlandaio at Florence; and from his school he went to Rome, where he applied with such industry, and his mind was so engaged by the objects of his contemplation, that he neglected the necessary refinements of sleep and food. In painting the subjects, to which his attention was principally directed, he not only imitated but equalled nature. His touch was free, light, and delicate, and the colouring of his objects inexpressibly true; and
and holds his merit in his appropriate style of painting; his botanical figures, from laced red picture authors, were much acquired. He was born at Florence in 1542, and died in 1622, at Paukington.

BARBATIA, in Ancient Geography, a town of Asia, towards the Tigris. It belonged to the Arabs, according to Pliny.

BARBATINA, or Berberina, in the Materia Medica, a seed which is efficacious in extinguishing worms from the human body, to which children are chiefly liable; it comes from Peris, and the borders of Mulczow. This seed, when good, is plumy, of an agreeable taste, and very green. Special care must be taken that it be not dyed green, and that the seed of southern wood be not sold instead of it.

BARBATISSUS, in Ancient Geography, a town of Asia, near the western bank of the Euphrates, on the small river Darados, south-west of Nisphorium, about 35° 40' lat.

BARBATO, in Geography, a river of Spain, which runs into the Atlantic, between Cadiz and the rocks of Gibraltar, about 9 leagues south of Cadiz.

BARRATO, or Puerto Barbato, a sea-port town of Spain, in Andalucia, on the coast of the Atlantic, near the mouth of the river Barbata.

BARBATULA, in Ichthyology, a species of Cobitis with fix cinn; head unarmed and compressed. (Linn.) This is the bearded loche of English writers; enchelyopus, &c.

Klein; cobitis flaviolaturn, Ray; fundulus, Marfil.

The bearded loche is a native of Europe and Asia; and is most frequent in fresh-water streams and lakes in mountainous countries. From its habit of lurking at the bottom of the water, on the gravel, it has been called the groundling; but the latter name is now given to the slippery loche, a fish distinguished from the present by having a forked spine under each eye, and its that species of cobitis which Ginelli calls tenia.

This is a fertile creature; it spawns in the month of March and April, and grows to the length of three or four inches, but seldom larger. It feeds on aquatic insects; and, we are told by Mr. Pennant, is frequent in the streams near Amelbury in Wilts, where the sportmen, through frolic, swollow it down alive in a glass of wine.

The loche is found in greater abundance in France, and other parts of Europe, than in England; and these fishes are in such high estimation for their exquisite delicacy and flavour, that they are often transported with considerable trouble from the rivers they naturally inhabit, to waters more contiguous to the estuaries of the great. This is usually performed in winter; and it is necessary to keep the water in continual agitation the whole way, as the fish would otherwise die. Frederic I., king of Sweden, had them brought in this manner from Germany into his country, where they have been since naturalized; a circumstance that leads us to conclude they were either scarce, or not originally native of that country.

In the dorsal fin of the specimen described, are nine rays; in the pectoral eleven; ventral eight; anal seven; and in the tail nineteen.” Donov. Brit. Fishes, vol. i. p. 22.

BARBATUS, in Entomology, a species of Cerambix (Prionus), of a large size, that inhabits South America. The thorax is entire; jaws ferruginous, and very hairy; antenna of a moderate size. (Fabricius.) Antennae rough, extreme joint smooth and compressed; shell pithy; abdomen villous white; legs black.

BARBATUS; a species of Scarabeus; that is unarmed, smooth, and black; vest banded. (Fabricius.) A native of India.

BARBATUS, in Ichthyology, a species of Gobius, with gland-shaped pectoral fins; twelve rays in the first dorsal fin, and thirteen in the second. Its native country is unknown.

BARBATUS, a species of Lophius, of a deformed form, with the lower jaw bearded. (Montic. act. facs. 1779.) Inhabits the seas in the northern parts of Europe, is about three inches and a half in length, and is extremely rapacious. Perhaps not distinct from lophius Vesperidus. Ginelli.

BARBATUS, in Ornithology, a species of Falco, of a whitish red colour, with the back brown; and a black stripe above and beneath the eyes. Ginelli, &c. Vultur barbatius Linna. "ultrixine eagle Albin.

Of this bird there is a variety of a rufous colour, with the back black; head and neck above rufous white; quill and tail feathers brown. Vultur aureus Brill. Vultur buticus Ray. Golden vulture Willughby and Latham. A third variety occurs, falco magnus Ginelli. It, in which the cere is blueish; legs and body beneath chestnut, intermixed with white; tail cinctures.

The first kind inhabits the Alps; the two latter the mountainous parts of Peris. It is larger than the golden eagle, measuring rather more than four feet in length; is very daring, flies in flocks, and will attack men as well as animals.

BARBE, or BARR, in Zoology and Commerce, a kind of horse brought from Barbary, much esteemed for its beauty, vigour, and swiftness. Barbis have a long fine neck, not overcharged with hair, and well divided from the withers; the head is small and beautiful; the ears are handiform and properly placed; the shoulders are light and flat; the withers are thin and well raised; the back is straight and short; the flank and sides are round, and the belly not too large; the haunch bones are properly concealed; the crupper is somewhat long; and the tail placed rather high; the thigh is well formed, and rarely flat; the limbs are fine, handiform, and not hairy; the tendon is prominent, and the foot well made; but the pattern is often long. They are of all colours, but generally greyish. In their movements they are apt to be careless; and require to be checked. They are swift, nervous, light, and make very fine hunters. These horses appear to be the most proper for improving the breed.

The stature, however, is not so large as could be wished. They are seldom above four feet eight inches, and never exceed four feet nine inches, or 14½ hands. It is confirmed by repeated experience, that in France, England, &c. they produce foals which grow larger than their parents. Of the Barbary foals, those of the kingdom of Morocco are said to be the best, and next to these are the Barbis from the mountains. The horses of Mauritania are of an inferior quality, as well as those of Turkey, Peris, and Armenia. (Buffon’s Nat. Hift. vol iii. p. 357.) It is a maxim, that barbs grow ripe, but never grow old, because they retain their vigour to the last, which makes them prized for flations; their mettle, according to the duke of Newcastle, never ceases but with their lives. It is said, they were anciently wild, and ran at large in the deserts of Arabia; and that it was in the time of the cheq Ikhmael, that they first began to tame them. It is also affirmed, that there are bars in Africa that will outrun orriches; such have been ordinarily fold, according to Dapper, for 1000 ducats, or 100 camels. They are fed very sparingly, and, as Dapper says, with camel’s milk. It is added, that in Barbary they preserve the genealogy of their Bars with as much care as the Europeans do that of their noble families; and that in the
the sale of them, they always produce their titles of nobility. The race of horses is much degenerated in Numidia; the Arabs having been discouraged from maintaining it by the Turkish officers, who are fure to become masters of them. The Tingitamans and Egyptians have had the reputation of preferring the best breed both for size and beauty. Some of these are fifteen hands high, and all of them shaped, according to their profile, like the antelope. The good qualities of a Barbary horse, besides the suppoped one of never lying down, and of flitting full when the rider drops his bridle, are to have a long walk, and to flop short if required, in a full career. The Barb is very lazy and negligent in all his motions; he will stumble in walking upon the smoothest ground; his trot is like that of a cow, and his gallop very low and very cay to himself. This sort of horse, however, is for the most part sinewy, nervous, and excellently winded; it is therefore good for a course, if not overweighted. The mountain barbs, which are the largest and strongest, are much esteemed; they belong to the Albarbes, who value themselves much upon them, and are as fond of them as older nations are, so that they are not easily procured. The common barbs have been usually bought in Provence and Languedoc in France, at a moderate price; and many of our persons of fashion in England have them from thence. Barbs, as taught us, fall short of the swiftness attributed to them in their native country; this may be accounted for, partly from the smallness and lightness of their riders, and partly from their not being loaded with heavy saddles and bridles, as in Europe, nor even with shoes. An Arab saddle is only a cloth girt round with a pair of light flippants, and a sort of pommel to fasten them.

Barbard-Barbes, those depending from the English mares, covered by barb stallions, are, by experience, constantly found both better shaped and fitter for the saddle, and stronger for service than their fires. Phil Trans. No. 105.

Barbe, St. in Geography, a town of Mexico, in New Biscay, in the vicinity of which are very rich silver mines; distant 500 miles N. W. from the city of Mexico. N. lat. 26° 10'. W. long. 110° 5'.

Barbes, St. Islands of, lie off the mouth of Green bay, and to the east of Cape Deno, or the south point of White bay in the Marchigian river; on the east coast of Newfoundland, and to the north of Cape Bonavista.

Barbe, or Barbet, in the Military Art. To fire an Barbe, is to fire the cannon over the parapet, instead of through the embrasures; in which case the parapet must not be more than three feet and a half high.

Barbe, or Barde, is also an old term for the armour of the horns of the ancient knights and soldiers, who were accustomed at all points. Della Crufa says, the barde is an armour of iron or leather, wherewith the neck, breast, and shoulders of the horse are covered.

Barbeau, in Geography, a river of Canada, which runs into the Utws. N. lat. 45° 15'. W. long. 76° 20'.

Barbed, in Heraldry. The five petals or leaves which appear on the outside of a full blown rose are called barbed; and are emblazoned thus: a rose gules barbed and seeded proper, the rose is red, the barbed green, and the seeds yellow or grey.

Barbed Arrow, signifies an arrow whose head is pointed of an angular form, and jagged. See Plate of Heraldry.

Barbed Horse is a horse barbed at all points, that is, a war-horse completely armed, furnished, and accoutered.

Barbed and Crufed, a term used in blazoning to express the comb and gills of a cock. The usual term in the English blazon is combed and wattled.

Barbee, or Barben Cross, is by some called cross companion and tournce. See Plate of Heraldry.

Barbel, in Ichthyology. See Cyprinus Barbus.

Barbela, or Verbeia, in Geography, a river of Africa, in Congo, which joins the Zaire near its mouth.

Barbellotize, in Ecclesiastical History, an ancient form of Gnostics, spoke of by Theodoret. The doctrine of the Barbellotize was, that one of the gnos, possession of immortality, had commerce with a virgin spirit named Barbelis, who demanded of him, first presence, then incorruptibility, and lastly eternal life, all which were granted to her: that being one day in a gayer humour than ordinary, she conceived, and afterwards brought forth high, which being perfected by the union of the spirit, was called Christ: the child Christ desired to have understanding, and received it; after which, understanding, reason, incorruptibility, and Christ united together; and from their union arose autogenes, so to. To these fables they add divers others. They were also denominated Barbarian.

Barbella, Emanuel, of Naples. It would be unjust not to belove a few words on this pleasing and peculiar player on the violin of the old school. The father of this singular but worthy and inoffensive character, was an eminent performer on the violin, and leader of the opera band at Naples in the beginning of the last century, during the life of Corelli, when his fellow Geminiani arrived in that city from Rome. (See Corelli, and Geminiani.) On the first hearing of the younger Barbella, he was surprised no one who had heard Giardini and other famous violinists of the new schools. He was not young, indeed, when the parallel was drawn, and solo playing was disregarded at Naples, where vocal composition and singing were chiefly cultivated in the conservatories, and patronized by the public, so that teaching and orchestra playing were Barbella's chief employment and support; and for the latter he was ill qualified by the softness of his tone, and the shortness of his bow. He performed, however, most admirably the famous Neapolitan air, which the common people contantly play at Christmas to the virgin. Barbella executed it with a drone kind of bagpipe bale, in a very humorous though delicate manner. But as a solo player, though his tone was very even and sweet, it was somewhat languid and inferior in force to that of Nardini of the same school, and indeed to that of several others then in Italy; but he knew music well, had much fancy in his compositions, with a tincture of not disagreeable rudecs.

He was most remarkable for his sweet and invonating manner of playing Calabrese, Loccuse, and Neapolitan airs, and among the rest a humorous piece composed by himself, which he calls Tinna Nomia; it is a nursey tune, or Lullaby, excellent in its way, and with his expresion, was extremely captivating.

Barbella was the most obliging and self-satured of mortals; his temper has been said to be as soft and sweet as the tone of his violin.

In a correspondence with the author of this article, who had requelled him an account of the Neapolitan school of music, and above all, of his own studies; as his answer concerning himself was short and characteristic, we shall here insert a translation of it.

"Emanuele Barbella had the violin placed in his hand when he was only six years and a half old, by his father Francesco Barbella. After his father's decease he took lessons of Angelo Zega, till the arrival of Dafquindo Bini, a scholar.
BARBERINO, Francis Da, an Italian poet, was born in 1564 at Barberino, a castle of Valdelsa, and educated for the profession of the civil and canon law at Padua and Elogna. Upon his removal to Florence in 1594, he served two bishops in the way of his profession, and made frequent journeys to the papal court at Avignon. He was honoured with the degree of doctor of laws by Clement V.; and attended the general council at Vienna in 1311. Amidst professional pursuits, he cultivated poetry, and published a work, intitled, "Documenti d'Amore," which treats of moral philosophy, and consists of twelve parts, each of which has for its subject some virtue and its rewards. His style is not disfigured by coarse or elegant, but favours too much of Provencal poetry; and yet the author has been reckoned among the good writers and founders of the language. This poem was first printed at Rome in 1640, adorned with fine figures. Another work, in verse, on the Manners of Women, is prefixed in MS. in the Vatican. Barberino died of the plague in Florence in the year 1348.  

Barberino, in Geography, a town of Italy, in the duchy of Tuscany, seated on a mountain, 16 miles south of Florence. Barberino is also a town of Italy, in the duchy of Tuscany, runneth at the foot of the Apennines, on the side of the river Sieve, four miles west of Scarperia. N. lat. 43° 30'. E. long. 11° 15'.

Barberina, or Blanc, Cape, lies on the coast of Aix, in N. lat. 38° 19', and E. long. 26° 27'.

Barberry, in Botany and the Materia Medica. See Barberis.

Barbereux, in Geography, a town of France, and principal place of a district in the department of the Charente. It has a manufacture of linen cloth, and near it is a medicinal spring. The place contains 1584 and the canton 12,720 inhabitants: the territory includes 235 kilometres and 21 communes. N. lat. 45° 28'. W. long. 0° 15'.

Barbesola, or Barbeusula, in Ancient Geography, a river of Spain, in the country of the Baftulp, Prolemy and Pliny.

Barbesola, Barbeola, or Barbeuf, a town of Spain, in the country of the Baftulp, situated on the rive between Carteia and Transchilda. Prolemy, Pliny, and Mela.


Barbet, in Ornithology, the English name of a genus of birds in Lamth's Synopses, corresponding with that of buco, Linn. See Buco.

Barbeticum Jugum, in Ancient Geography, a principal city of Spain, in Britania.

Barbets, in Geography, the name of the inhabitants of several valleys in Piedmont, particularly those of Lucerna, Andora, Perua, and St. Martin.

Barleyrag, Charles, in Biography, an eminent physician of France during the seventeenth century, was the son of a gentleman of Cerelles in Provence. He studied physic at Aix and Montpellier, and in 1649 took his doctor's degree in the university of the latter place, where he settled; and in 1658, became a candidate for the medical professorship, but on account of his being a protestant, he was ineligible. In the disputations on this occasion he acquired great reputation, and his advice was sought in difficult cases by periphs both in his native country and also in foreign kingdoms. He declined the office of being physician to Madame d'Orleans, preferring liberty to the shackles of a court; and at Montpellier, where he resided, he was attended in his visits by many students to whom he gave clinical instructions. His practice was distinguished by its simplicity,
simplicity and energy; and he introduced many valuable reforms into the state of medicine in that country. He was no less eminent for his condescension and liberality than for his medical reputation, and he alike visited the poor and the rich. The celebrated Mr. Locke was particularly acquainted with him at Montpellier, and testified to his honour, that he never knew two men more similar in their manners and opinions than Barbevrae and his friend Sylvius. After an uninterrupted course of practice for 50 years, he died of a fever in 1669, in his 76th year, leaving a son of his own profession, and two daughters. The only works he published were "Tractatus de Medicina, continens Maladies de la Poitou des Femmes, et autres Maladies selon les nouvelles Opinions," 1670; and "Quoestiones Medicinae medicinae," 1678. A work, intituled, "Medicamentorum Constitutione," &c., published in 1751, is ascribed to him upon uncertain authority, according to the editor M. Farjon. Haller. Bib. Med. Pract. Gen. Histo.

Barbevrae, John, the nephew of the preceding, was born in 1674 at Beziers, whence he withdrew to Lau- fane in 1686. His father designed him for the profession of theology, but his own inclination led him to the study of jurisprudence; and he became eminent in that particular branch of it which comprehended the law of nature and nations. After teaching the Belles Lettres in the French college at Berlin, he was appointed in 1710 to the new pro- fessorship of law and history founded at Lauflane by the magistrates of Berne, which he occupied seven years. In 1717 he was removed to the chair of law at Groningen, and this station he long occupied with general applause. His works are numerous and valuable. His French translation of Puffendorf's "Law of Nature and Nations," and his treatises "On the Duties of a Man and a Citizen," and on "Grotius on the Rights of War and Peace," were en- riched with learned prefaces and notes, which enhanced the value of the originals. He also translated two discourses of Noest, "On the Power of the Sovereign," and "On Liberty of Conscience," a treatise on Bunkeffchin "On the civil and criminal Powers of Ambassadors," some of "Til- lotson's Sermons," and Cumberland's Latin treatise "On Natural Laws." Barbevrae was also the author of several original works. But that which excited the greatest attention was his "Treatise on the Morality of Fathers," 1740. 1728, in reply to the Benedicite Ceiller's "Apology for the Fathers," occasioned by Barbevrae's free strictures on them. His prefac'd work was reduced to the form of a "Treatise on Gaming," in two volumes. 1750. It was printed in 1750; his "Defence of the Rights of the Dutch East India Company against the Pretensions of the People of the Austrian Netherlands," 1752; and "The History of ancient Treaties differed in Greek and Latin authors to the time of Charlemagne," fol. 1759. He also infused literary and critical remarks in different journals, and published some academical discourses. He ended a life of learned labour and moral worth about the year 1747. Nouv. Dict. Histo.

Barbi, in Natural History, a species of Echinorhyn- crus, of an ovate shape, yellow colour, fatulated; neck long, white, cylindrical; and cymathiform (gla s or pot- shaped) at the end, found in the intellina of the barrel. Barbic. See Barbar.

Barbican, in Ornithology, the name of the Gmelinian bucco dubius, or doubtful barbet, in Buffon's Hist, Birds. Barb is also a name given by that writer to all the birds of the bucco genus, which he describes.

Barbican, in Barbican, in our Old W atch-tower; or a tribute towards repairing or building a bulwark.

Barbic. See Barbican.

Barbic, in Ornithology, the name of the Mergus of the gardener's duck, or doubtul barbet, in Buffon's Hist, Birds. Barb is also a name given by that writer to all the birds of the bucco genus, which he describes.

Barbic, in Barbican, in our Old W Vol. 111. 2

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BAR

two satires, written in verse against Racine, he was unsuccessful. Besides his "factums" for Le Brun, he published some others. Nouv. Dict. Hist.

Barbier, Mary Anne, was a native of Orleans, and ranked among the dramatic writers of France. Her tragedies, and a comedy in prose, were represented at Paris, and printed in one volume, 12mo. The subjects are well chosen, but the characters, and those of the men especially, are without force, and the style is diffuse and prolix. Mad. Barbier was intimate with the abbé Pellegrini, who is said to have inflamed, at least, correction on her works. She died in an advanced age at Paris, about the year 1745. Nouv. Dict. Hist.

Barbier, M. P. first appeared as a new English finger, on the revival of the opera of Almaviva in 1711, while questions were asked in Italian, and answered in English, and a centre. Her timidity on first appearing on the stage, gave birth to an admirable Spectator (No. 134), in which Mr. Addison apologizes for, and commends, diffidence and modesty with a sympathetic zeal and sensibility. It is well known, that this excellent writer, with all his learning and abilities, was never able to perform his part in public as a speaker, when he was secretary of state, and in parliament, long after this paper was written; and here, by a kind of prefiguration, he foretold his fault before it was committed. With regard to Mrs. Barbier's disfear on her first facing an audience on the stage, Mr. Addison has put it in the most amiable light possible: "this sudden defection of oneself," says he, "shews a diffidence, which is not displeasing; it implies at the same time the greatest respect to an audience that can be: it is a sort of mute eloquence, which pleads for their favour much better than words can do; and we find their generosity naturally moved to support those who are in so much perplexity to entertain them. I was extremely pleased," continues he, "with a late influence of this kind at the opera of Almaviva, in the encouragement given to a young finger, whose more than ordinary concern on her first appearance, recommended her no less than her agreeable voice and just performance." This lady was a native of England, who continued to sing at the opera several years, and afterwards was a favourite concert and playhouse finger, till the year 1729.

In the year 1717, it seems as if she had a little vanquished her bashfulness in private; however it may have recommenced her in public; but he had much encouraged sufficient to eloze from her father, who was with a person that was justified to be of a different sex. During her absence, Mr. Hughes wrote the following pleasant verses:

"O yes!—bear all ye beaux and wits,
Muscians, poets, lures, and cits!
All, who in town or country dwell,
Say, can you tale or tidings tell.
Of Tortorella's hafty flight?
Why in new groves she takes delight;
And if in concert, or alone,
The coy and murrkorner makes her moan?

Now learn the marks by which you may
Trace out and stop the lovely airy.
Some wit, more folly, and no care,
Thoughtless her conduct, free her air;
Gay, scornful, sober, indirect,
In whom all contradisions meet,
Civil, affronting, peevish, easy,
Form'd both to charm you and displease you;
Much want of judgment, none of pride,
Modest her drees, her loop full wide;
Brown skin, her eyes of fable hue,
Angel when pleas'd, when vex'd a fiure.

BARBIERI, Giovanni Francesco, called Gualtiero Da Cenzo, an eminent historical painter, was born at Cenzo, a village near Bologna, in 1596; and was at first the disciple of Benedetto Cennini, but afterwards studied for some time in the school of the Caracci. He preferred the style of Caravaggio to that of Guido or Albano, and conceived it impossible to imitate nature truly, without the assistance of strong lights and shades; and on this principle, his light was admitted into his painting room from above. By this opposition of his strong lights and shades he unquestionably gave such force to his pictures, that few, those of Caravaggio excepted, equal them in their effect. His principal attention was employed in acquiring perfection of colouring, from a persuasion that few persons are qualified to discern the elevation of thought which constitutes the excellence of a composition, or are capable of examining even the correctness of any part of a painting; whereas every eye, and even every imperfect judge of a picture, may be feebly affected by the form and beauty of the colouring. His taste of design was natural, easy, and often grand, but without any extraordinary share of elevation, correctness, or elegance. The air of his heads are often dehifcent of dignity, and his local colouring is flat; nevertheless his colours preserve great union and harmony, although his caricatures are not very fresh; and in all his works there is a powerful and expressive imitation of life, which will for ever render them estimable. Towards the decline of life, observing that the clearer and brighter style of Guido and Albano had attracted the admiration of all Europe, he altered his manner even against his judgment. But he apologized for this conduct by declaring that he had formerly painted for fame, and with a view of pleasing the judicious; but now he painted to please the ignorant, and to enrich himself. The most capital performance of Gualtiero is the history of St. Petronilla, which is considered as one of the ornaments of St. Peter at Rome. He died in 1666. Pilkington.

Barbieri, Paul Antonio, Da Cenzo, the father of the preceding artist, was born at Cenzo in 1596, and selected for his subjects fruits, flowers, insects, and animals, which he painted after nature with a lively tint of colours, with great tenderness of pencil, and a strong character of truth and life. Pilkington.

Barbillon, in Ichthyology, a name given by Bourgogne (Act. Parl.) to the Salaria Cirratus of Grelin.

Barbing is sometimes used in Ancient Statutes for shearing. Cloth is not to be exported till it be barbed, rowed, and thorn. 3 Hen. VII. c. 11. BAR.
BAR

BARBISTROSTRIS, in Entomology, a species of Curculio, found in China and some other parts of Asia. It is black; stout bearded; anterior legs tridentated. Fabricius. Describ. Insect. China, &c.

BARBITANI MONTE, in Ancient Geography, mountains of India, on this side the Ganges, in which according to Ammianus Marcellinus, are the springs of many rivers that flow into the Indus.

BARBITON, an ancient musical instrument, of which nothing is known but the name; and Rouffaen has not even ventured to give us that. Complaints are frequently made of the darkness in which critics, commentators, and historians have the subject of ancient music; which none have more cause to lament than those who have spent the most time and labour in its investigation. But as no record or memorial has been found, which ascertain the invention, form, or species of instrument called the barbiton, would mere conjecture satisfy the complaints? Melis. Grammar. Franscy and Cattillou, more courageous than the citizen of Genoa, have told us, in the new Encyclopaedia, all that is pretended to be known about it; though the former begins by telling us that it is an instrument about which nothing is known. The ancients and moderns have frequently confounded it with the lyre. Dacier conjectured that it was a flaring instrument; and deriving its name from barbitum, which implies thick fringes of flaxen thread, he concludes that it was an instrument with thick fringes. It is certain that flax was in use for flaring to musical instruments, before the art was known of making them the bards of animals. Horace calls this instrument Lesbian, Lybicum barbiton, ode i. lib. 1.; and 12 of the same book, Ilyto primo musylato, "Thou, O barbiton, first touched by a citizen of Lesbos," meaning Alcæus, to whom he ascribes the invention. But, says M. Castellon, we may conclude from what Musfionis affirms of this instrument, in his treatise "De Luxu Greorum," that they made a kind of concert with the pæa of the Lydians. (See Pæctis.) He affirms us that Tersander was the inventor of it. Julius Ptolœus also calls it barbiton, barbiton. Athenæus relates that they likewise called it barœus, and attributes the invention to Amacenon. We hope the grumblers will be perfectly enlightened by this clear, confident, and satisfactory account.

BARBOL, or BARBOL, in Ichthology. See BARBUS.

Barbuls, in the Mangle, knots of superfine flesh growing in the channels of a horse's mouth; that is, in the intervals which separate the bars; and obstruct his eating. There are also called barbus; and obtain in black cattle as well as horses.

For the cure, they cast the beef, take out his tongue, and clip off the barbels with a pair of scissors, or cut them with a sharp knife; others choose to burn them off with a hot iron.

BARBONI, in Ichthyology, a name formerly given by many to the Mullus Barbatus; which see.

BARBONNE, in Geography, a town of France, in the department of the Marne, and chief place of a canton in the district of Sezanne, 14 leagues south from Sezanne.

BARBORA, an island of Africa, opposite to the kingdom of Adel, so called after a town of the same name upon the neighbouring continent. This island, which is almost contiguous to the Terra firma, is very fertile, and produces plenty of corn, fruits, and cattle. The inhabitants are negroes clothed in the fashion of the natives of Adel, industrious in trade, and great breeders of cattle, for which the soil affords excellent pasturage. The produce of this island is exported into other countries. The city of Barbora lies at the bottom of a convenient bay; and was for a long time a kind of rival in commerce with Zella, and so held the place of resort for foreign merchants. It is situated over against the city of Aden, and made once a considerable figure, but was plundered and burnt by the Portuguese fleet in the year 1518; but the inhabitants, being previously apprized of their designs, conveyed themselves and their valuable effects away.

BARBOSA, ARIAS, or Ayres, in Biographical, a native of Aveiro in Portugal, and one of the refusers of classical literature in his own country and in Spain. Having commenced his education at Salamanca under many disadvantages, he pursued his studies, particularly that of Greek, which he cultivated with great ardour, at Florence, under Angelo Politianus. After his return to Salamanca in 1493, he taught there for 20 years, in connection with Antonio de Lebres, who, with Andrew de Refenda, was also one of the principal promoters of useful learning in Spain. Barbosa directed special attention to poetry, and published a small volume of Latin poems, which were commenced for the harmonious structure of the verse. He was afterwards employed for seven years as preceptor to the two princes of Portugal, Alphonso and Henry; and then retired to domestic life, in which he died at an advanced age in 1542. Besides the poems above mentioned, Barbosa published several works, which contributed at the time to the progress of literature, but are now forgotten; such as, "Commentaries on the poem of Auctor," "Quodlibetica Quæstiones," "De Prolodice," &c. Moret. Nouv. Dict. Hist.

BARBOSA, Peter, a celebrated lawyer, was born at Viana, in Portugal, and became first professor in the university of Coimbra. Although he occupied several important stations, and was appointed by Philip II. of Spain, when he became master of Portugal, one of the four counsellors of the council of state, and afterwards chancellor of the kingdom, he prosecuted his professional studies; and, in 1507, he published an ample commentary on the article in the "Digelts," on the recovery of dower after the dissolution of marriage. In 1613, the works left by him in MS., which were commentaries on the "Digelts," art. "On Judgments," were published by his nephew, and so well received, as to be reprinted at Frankfort in 1715. Other pothumous treatises were published at Lyons in 1652. Moreri. Nouv. Dict. Hist.

BARBOSA, Emanuel an eminent Portuguese lawyer, was born at Guimaraes, and was king's counsellor for the province of Alentejo. In 1618, he published a treatise relative to contracts, last wills, and others, according to the Spanish and Portuguese law. In 1638, he published a work, "De Poteatate Episcopi," and in that year he died, aged near ninety years. Moreri. Nouv. Dict. Hist.

BARBOSA, Augustin, son of the preceding, studied civil and canon law under his father, and afterwards at Rome, with incessant industry, searching libraries in the day, and composing in the night. It is related of him, that he received a sum of manuscript wrapping of some fifty livres, which he purchased, and that he refused the remainder from a similar use; and thus formed the work "De Officio Episcopi," which he corrected and published in his own name. A prejudice was thus conceived against him, and several of his treatises on the canon law were abridged to his father. He was, however, a very judicious man; and on his return to Spain in 1632, he pursued the same kind of life which he had passed at Rome. His skill in ecclesiastical causes occasioned his promotion, in 1634, to the bishopric of Ugras.
to, in the territory of Otamato. Having been consecrated at Rome in the following year, he returned to Ugento with a view of performing the duties of his office, but died there within a few months. His works were numerous, and were printed at Lyons in 1716 and the following year, in 16 tomes folio. Moreiri. Nov. Ditt. hilf.

BARBOSTHENES, in Ancient Geography, a mountain of Greece in the Peloponnesus, 10 miles from Lacedaemon. Livy.

BARBOT, Penn.; BARBOY; Roland; in Ichthyology, synonymous names of the species of Gadus called Lota by Linnaeus.

BARBOTES Rocks, in Geography, are two rocks which are about half a league N.N.W. from the Cambrmers, and appear every tide.

BARBOTINE, a seed otherwise called semen fontanenum, and semen contra vermes, in English wormseed.

BARBOULT Point, lies within the south-west point of the bay of Cancale, to the east of St. Malo, on the coast of France.

BARBOUR, or BARBER, John, in Biography, an eminent divine, historian, and poet, was born in the city of Aberdeen, as some say, about the year 1350, but according to others, in 1326. Having received a learned education, he entered into holy orders, and was promoted by King David II. to the archdeaconry of Aberdeen, A.D. 1356. Such was his love of learning, that he continued to prosecute his studies after his promotion; and with this view he prevailed on his own sovereign, David Bruce, with whom he was in great favour, to obtain permission from Edward III. to study at Oxford. The grant for this purpose was dated at Westminster, Aug. 13th, A.D. 1357. He was also appointed by the bishop of Aberdeen, one of the commissioners for the ransom of David II. king of Scotland; and he obtained permission from Edward III. A.D. 1365, to travel through England to St. Denis, near Paris, with six horsemen as his attendants. Barbour was not only famous for his extensive knowledge in the philosophy and divinity of those times, but still more admired on account of his admirable genius for English poetry; in which he compos'd, as he tells us, in 1375, a history of the life and glorious actions of Robert Bruce king of Scotland, at the demise of King David Bruce, his son, who granted him a considerable pension for his encouragement, which he generously bestowed on an hospital at Aberdeen. This work is not only remarkable for a copious circumstantial detail of the exploits of that illustrious prince, and his brave companions in arms, Randolph earl of Moray, and the lord James Douglas, but also for the beauty of its style, which is not inferior to that of his contemporary Chaucer. This poem passed through about twenty editions in Scotland since the year 1616, in which the first edition, that can be deciphered, was printed at Edinburgh, in 12mo. But these editions were all modernized. An edition of this most ancient production of the Scottifh muse extant, in the language and orthography of its author, from a MS. written in 1489, and preferred in the advocates library at Edinburgh, was printed by Mr. Pinkerton, under the title of "The Bruce," with notes and a glossary, in 1750, in 3 vols. 12mo. The following versis, distinguished by their softness, afford a specimen of the author's talent at natural description, and also of the state of the English language in his time.

"This was in midst of month of May, When birds fig on lila spray, Meland their notes, with feemly foun, For softness of the sweet seafoam."

And leaves of the branchis breedes, And blofomis bright, bedefe them, breeds, And fields flowren are with flowfers Well favouring of feir colours; And all things worthis, hybhs, and gray." Barbour is laid to have died at an advanced age in 1356, but the time and circumstances of his death are not satisfactorily ascertained. Henry's History, vol. viii. p. 249. Pinkerton, ubi supra. Wharton's Hist. Eng. Poetry vol. 1. P. 318.

BARBUDA, or Barbuda, in Geography, one of the British Caribbean islands in the West Indies, a small island, about 20 miles long and 12 broad, and lies about 15 miles north-east of Montserrat. This island was planted soon after the English had settled upon St. Christopher's, in 1628, and called "Dulcinea" from its beautiful appearance. It is the property of the Codrington family, whose ancestor Colonel Codrington obtained a grant of it for his important services to the crown of England in the West Indies, and is said to yield above 5000l. a year. Upon his death in 1710, he bequeathed two plantations in Barbadoes, and part of Barbuda, valued at 2000l. per annum, to the society for propagating the gospel for the instruction of the negroes in Barbadoes and the other Caribbean islands in the Christian religion, and for erecting and endowing a college in Barbadoes. This is the only proprietary government of all the English Caribbean isles, and the appointment of a governor is in the Codrington family. The land lies low, but is fertile; and the inhabitants are chiefly employed in breeding black cattle, sheep, kids, fowls, and all kinds of domestic flocks; in planting Indian corn, and in other parts of husbandry; and they supply the adjacent farming islands with these articles. The island, however, is capable of yielding, by cultivation, citron, pomegranates, oranges, raihins, Indian figs, maize, cocoa-nuts, cinnamon, and pine-apples, with various kinds of wood and drugs, such as brasil, ebony, pepper, and indigo. There are some large serpents upon this island, which, not being poisonous, are useful in destroying rats, toads, and frogs; and others so venomous, that their bite proves mortal, unless an antidote be applied in the space of two hours. The coast abounds with rocks; but on the west side of the island there is a well-feltered road, and there are two shoals, which run more than two leagues into the sea, from the north-west and south-west points. The inhabitants are computed to be about 1500. N. lat. 17° 45'. W. long. 61° 50'.

BARBUE, Riviere-a-la, a river of North America, empties itself into lake Machigan, from E.S.E. between Rainif and Marame rivers. Its mouth is 60 yards wide, and lies 72 miles N. by W. from fort St. Joseph. This is also the name of a river, which discharges itself into lake Erie, from the N. by E. 40 miles W.N.W. from the extremity of Long point, in that lake, and 22 E. by S. from Tonty river.

BARBULÆ, in Botany, a name given by Pliny to the semi-tocali.

BARDUS, in Ichthyology, a species of Cyprinus, having seven rays in the anal fin; heards four; second ray of the first dorsal fin serrated on both sides. Linn. Mufl. Ad. Fr. 8c.

This is the barbel of the English; a common inhabitant of most fresh waters in Europe, and easily distinguished from the other species of carp, or cyprinus genus, to which it belongs, by the upper jaw being advanced far beyond the lower one, and in having the four heards appendant, from which the appropriate name of barbus or heard is derived. This fish, during
during the summer, prefers the rapid currents and shallows of rivers, and retires at the approach of winter to the more full and deeper places. They live in societies; lurking in holes along the sides of the water under shelter of the steep banks, and feed on smaller fish and worms and flesh of all kinds, for which they dig in the banks like swine. In the daytime they love to lurk occasionally among weeds, and between the stones in retired parts of the river, and wander out at night in search of prey. They spawn in April, and begin to be in great numbers in May and June.

The flesh of the barbel was never in great esteem for the table. Mr. Pennant quotes a passage in Autolycus, which, as he observes, is no panegyric on its excellence, for he lets us know it loves deep waters, and that when it grows old, it is not absolutely had:

"Laxos exercitae barbae natus
Tu melior pejor evo, tibi contiguit uni
Spirantium ex numero non inaudita fameus."

And he adds himself, that "they are the worst and coarsest of fresh-water fish, and seldom eat but by the poorer sort of people, who sometimes boil them with a bit of bacon to give them a relish."

"The barbel," says old Walton, "though he be of a fine shape, and looks big, yet he is not accounted the best fish to eat, neither for his wholesomeness nor his taste, but the male is reputed much better than the female, whose spawn is very hurtful."

Again, when speaking of Rondeletius, he makes this remark on the spawn, "we agree with him, that the spawn of the barbel, if it be not poison, as he says, yet that it is dangerous meat, especially in the month of May; which is so certain, that Gesner and Gaffius declare, it had an ill effect upon them even to the endangering of their lives."

Sir John Hawkins, in his Annotations, inclines to the same opinion, and gives an instance of his servant being taken dangerously ill after having incautiously eaten of this fish. M. Bloch, and some other ichthyologists, contend that this is a vulgar and most absurd prejudice. M. Bloch in particular observes, that himself and all his family have eaten the spawn of the barbel, and never experienced the slightest ill effects from it. Donov. Brit. Fishes.

The time for taking this fish is very early in the morning, or late in the evening: the place should be baited with chopped worms some time before; and no bait is so good for the hook as the spawn of the salmon, or some other fish: in defect of these, lob-worms will do; they must be very clean and nice, and the hook carefully covered, otherwise he will not touch them. Old cheese steeped in honey is also a very fine bait. The best season for angling for this fish is from May to August.

BAREY, in Geography, a small bailiwick of Germany, in the circle of Upper Saxony, forms a part of the circle of Wittenberg, and was granted in 1748 and 1765, to the count of Reuss, and the society of united brethren, or Moravians.

BARBY, is also the name of a town of Germany, in the circle of Upper Saxony, situated on the Elbe, near the mouth of the Saale, in which is a Moravian academy for the instruction of youth, 14 miles N.W. of Dessau, and 14 S.S.E. of Magdeburg. Lat. 51° 37'. E. long. 11° 51'.

BARBYLA, in Botany, a name by which Theocritus, and others of the early writers, have called the common damask prune.

BARCA, in Geography, an extensive desert country, situated on the south coast of the Mediterranean, between Tripoli and Egypt, and forming part of the great desert, or Sahara.

It extends in length from west to east from about the 30th degree of longitude to the 30th degree, and in breadth from north to south about 50 leagues, though its confines on the south side are very imperfectly ascertained. It is, in general, a dry and barren land, whence the Arabs have called it "Sahara," or "Ceyuran Barka," that is the "Defert," or "Road of Whirlwinds and Hurricanes." Water is scarce; and, except in the neighbourhood of its towns and villages, if they may be so called, where the ground produces some grain, such as corn, millet, and maize, it is quite sterile and uncultivated. The articles which the poor inhabitants produce they are obliged to exchange with their no less indigent neighbours for dates, flour, and camels. This country forms part of the ancient Cyrenaica and Marcomaria (see Cyrrenatica and Marcomaria); in the most desert and dangerous districts of it stood the temple of Jupiter Ammon. (See Ammon.) This spot, though in some respects pleasantly situated, is surrounded by quick and burning sands, which are very pernicious to travellers, and sometimes overwhelm whole caravans. Against this temple Cambyses, and an army of 50,000 men, marched from Thebes in Upper Egypt; but their fate is uncertain, as they never returned either to Egypt or to their own country. (See Ammon.) This country is indeed so desert, that there is no travelling through it without the aid of a compass, or the direction of the stars; and though it was once the thoroughfare for caravans from Barbary and Morocco to Mecca, yet it has been infested with wild Arabs to such a degree, that they are obliged to fleer 50 leagues about to avoid being plundered. The French geographers divide the country of Barca into two parts; one called the kingdom, and the other the desert, the former hath, according to their statement, some considerable ports, towns, and villages, and is under the protection of the Porter, governed by a calh, who is the bailiff of Cairo, and resides at Tripoli; but for this they have no sufficient authority. According to Sanfón and Baudrand, the other part, which extends along the eastern coast, called by them the eastern shore of Tripoli, reaches from the port of Solomon or Solyman, to the Gulf of Sydna; but this coast is commonly distinguished by the name of Derna, one of the most considerable of its towns and ports; besides which it has several others, and the ruins of many more, which are now reduced to poor villages. The most remarkable is the cape Raccellino, styled by Ptolemy Cherifoneus, because it forms a peninsula; and the furtherthest towards Egypt is the town of Angola or Onguida. (See Anguis. Between these two, are many others differently placed and named, as the Porto Tabara, formerly Barathas, Baratra, and Patriarcha, cape de Lince or Loco, anciently Promontorium Caraliunum, Brazil Molufam, the haven of Salina or Salona, supposed by some to be the ancient Portus Panormus, and Galium, and by others the Portus Catabamhus, which our latest geographers place on the most easterly verge of the Barcan coast, next to the confines of Egypt. To which may be added the large valley of Carto Sapiucus, the ancient Catabamhus, extending quite to Egypt, opposite to the spot where the temple of Jupiter Ammon stood. From these we proceed to Porto Albertene, or the Sultan's port; that of Cagusi, formerly Trifachi; the cape and haven of Ruxa, anciently Pareonium; and, lastly, the city of Barca, which gives name to the whole province, and lies farther inland, on the eastern coast of the Gulf of Sydra. This was the capital of the Barci, and is mentioned by Strabo, Pliny, Sclavus, and Ptolemy; and is said by the two former to have occupied the spot on which Ptolemais was afterwards built; but the two latter are of a different opinion.
BAR

tion. It seems to have flood to the west of Cyrene, and
had a port near the Greater Sytys. As it was a maritime
city, it is most probable that it flood by the part of the
Barcet, and not where Barce flood; more especially as that
capital was 100 stadia from the sea, according to Scylax.
Herodotus says, that Barca was built by the brothers of Ar-
coffrae H. king of Cyrene, more than a generation before
the beginning of the reign of Caresus; but it is more probable,
that it was of Phenician, if not of Egyptian or Libyan ex-
traction; for Barca was a Phenician name, well known in
those parts of Africa, as we learn from Sinus Italicus, and
others. Servius intimates, that its citizens came originally
from Carthage, which would lead us to conclude, that
Barca, Dido's brother, who attended her into Africa, with
some of his countrymen, settled here. It sufficiently ap-
pears from Vigil and Sinus, that the Barcet spread them-
Lies over several considerable parts of Libya, and, accord-
ing to Servius, their metropolis made the greatest figure of
any city in this region, except Cyrene. St. Jerom confirms
these last authorities, when he affirms that this town was
situated in a desert; and that its inheritants, or at least their
descendants, differed themselves over several districts, lying
as far to the westward as Mauritian, and the eastward as
India. The Barcet learned (says Stephanus) the art of
managing horses from Neptune, and of driving chariots from
Minerva. The modern kingdom and desert of Barca un-
dxoubtedly derived their name from the Barcet; and we
may hence infer, that these people formerly held a consider-
able rank among the various nations of Libya.

What is the present condition of the towns of Barca, what
is their commerce, and how they are governed, we have no
authentic documents for ascertaining. The maritime towns
are, probably, under the protection of the Porte; but it is
not certain whether they are under the government of the
basilic of Egypt or Tripoli, or they have formed themselves
into free states like those of Algiers and Tunis. This how-
ever is certain, that the inhabitants of the maritime towns
are more civilized than those within land. The first profes-
Mahometanism, and have imbibed some notions of humanity
and justice; but the latter, and especially those of the desert,
who have neither religion nor any appearance of worship
among them, are altogether brutish and savage, and live
wholly upon theft and plunder, like all other wild Arabs.
By them this tract, which was before a barren desert, was
first inhabited. Deficient and indigent in the extreme, they
are said also to be the ugliest of all the Arabs; their bodies
being meagre, their faces grim, and aspect fierce and ra-
venous; their garb, which is commonly tripped from the
pailengers and pilgrims, tattered with long wearing; while
the poorest of them want rags to cover their nakedness.
They are likewise reported to be resolute and expert rob-
bers and plunderers; but deriving a wealthy supply from
their own neighbourhood, they are compelled by necessity to
extend their excursions as far as Numidina, Libya, and other
sothern parts, where they commit many atrocious acts of
cruelty. So indigent and famishing are these Barcetans, that
they commonly part, pledge, and even sell their children, for
procuring the necessities of life, to the Sicilians, and other
neighbouring Christians, from whom they have most of their
corn, especially before they set out on any long expedition.
The chief towns of Barca are Derna, the capital and resi-
sence of the fagge, Tolometa or Tolomata, and Grena
vol. xv. p. 196, &c.

BARCAROLO, a Spanish word, which the French pro-
nounce Bacaceo or Bacallou. By this last name the Barques
most commonly call the fish which we style eel; and those
people call also the island which we call Newfoundland, the
isle of Bacallou (Cod Island), because of the great plenty
of cod caught there. There is, however, a league to the
west of that large island, another small one, which is more
particularly called Bacalluo.

BARCALON, an appellation given to the chief mini-
ster of the emperor of Siam, to whom belongs the care of
trade both within the kingdom and out of it, the superin-
tendence of the royal magazines, the receipt of the revenues,
and the management of foreign affairs.

BARCA-LOXEA, a large Spanish fishing-boat, navigated
with lug-falls, and having two or three masts. There are
very common in the Mediterranean. See Barc.

BARCA, in Ancient Geography, a people of Asia, in
the vicinity of Hyrcania. They are placed by M. D'Ar-
ville, on the coast of the Caphian sea, near one of the mouths
of the Oxus.

BARCAROLLA, in Music, a kind of song in the Ven-
etian language, sung at Venice by their gondoliers or water-
men, in their boats or barges. These airs (fays Rouffeau)
are composed for the common people, and often by the gond-
oliers themselves. They have so much melody, and such
an agreeable accent, that there is not a musician in all Italy
who does not pique himself on knowing some of them. The
being admitted gratis into a gallery appropriated to them in
all the theatres, enables gondoliers to form their cars and tale,
without trouble or expense, so that they compose and sing
their airs, without altering their natural simplicity, in the
fyle and expression of persons not ignorant of the refrains
of music. The words of these songs are commonly
jocose, and more than natural, like the conversation of those
bards, but such as the faithful picture of the manners
of a people can please, and such as are likewise partial to
the Venetian dialect, soon become passionately fond both of
the words and music of these airs, chiefly known in England
by the title of Venetian ballads, of which travellers into Italy
make collections.

The late earl of Leicester, one of the subscribers to the
royal academy of musick in 1720, used to say, that at the first
establishment of operas in England, the nobility and gentry,
in imitation of the Venetians, suffered their servants to have
admission, gratis, into the upper gallery, with a view to
improve the national taste in singing; but instead of profiting
or deriving pleasure from this privilege, they became so noisy
and insolent, that about 40 years ago, like our first parents,
they were driven out of paradise.

We must not forget (fays Rouffeau) to remark, for the
style of Tasso, that most of the gondoliers know the chief
part of his poem "Gierusalemme Liberata," by heart, and
form the whole; that they pass their former nights in their go-
ondolas, singing it alternately from bank to bank; that the
name of Tasso is an admirable barcarolla; that Homer only had
the honour of being thus sung before him; and that, since
his time, no other Epic poem has been thus distinguished.

BARCAROTA, in Geography, a town of Spain, in
Estramadura, 4 miles from Almendreloro.

BARCE, in Ancient Geography. See Barca.

BARCE, a town of India, built by Alexander, on the sea-
coast, in memory of his exploits, and where, according to
Justin, he erected altars.

BARCELONA, in Geography, a rich and strong city
and sea-port of Spain, in the province of Catalonia, of which
it is the capital, and the see of a bishop, suffragan of the arch-
bishop
B R A C A R 

Bishop of Taragona. It was originally founded by Hamilcar Barcas, the father of Hannibal, and from him called "Barcino," about 250 years before Christ. It was reduced by the Romans, and continued subject to them till the kingdom of Spain was overrun by the Goths and Vandals, and afterwards by the Saracens and Moors. At the beginning of the sixth century it was poached by the Moors, under the government of Zade. This governor having abused the clemency of Charlemagne, and by his peridious behaviour provoked his son, Lewis king of Aquitaine, Barcelona was invaded, and the generals who were intrusted with the command of the siege had orders not to abandon it till Zade was delivered into the hands of Lewis. The Moor made an obstinate resistance; but finding that it was impossible to preserve the city any longer, after a defence of many months, he determined to throw himself upon the emperor's mercy, and was condemned to perpetual exile. At length, however, the city surrendered, and the king of Aquitaine, appointed one Berà, count of Barcelona. The city continued subject to him and his successors, who were distinguished by the title of "Counts of Barcelona," from the year 892 to 1121; when it was united to the crown of Aragon by the marriage of Don Raymond V. count of Barcelona, with Donna Petronilla the daughter of Don Ramiro the monk, and heirress of Aragon. In consequence of the revolt of the Catalans, in 1455, Barcelona was besieged by Don Juan II. king of Aragon, in 1471. The siege was prosecuted for a considerable time with vigour, but without effect; however, in 1472, it capitulated on its own terms; and the king, upon his public entry into the city, confirmed all its privileges. In 1640, the Catalans, having shaken off the yoke of the Spaniards, called in the French to their succours; and they continued masters of the capital till 1652, when, after a siege of fifteen months, it surrendered to Don Juan of Austria. In 1657, it was again taken by the French under the command of the duke of Vendome, but restored to the same year to the Spaniards by the peace of Ryswick. Although the inhabitants of Barcelona had taken the oath of fidelity to the king of Spain, Philip V. and received from him a confirmation of their privileges, they invited the English and Dutch, and the governor was obliged to surrender the town to the allies in 1705, when Charles, afterwards emperor, was received and proclaimed king. In the following year, Philip, affrighted by the French, affailed the city, and took the fortresses of Montjuich; but the fleet of the allies advancing to the relief of the besieged, he was compelled to abandon the enterprise and to retire from the place, May 12th 1706. By the treaty of Utrecht, in 1713, the troops of the emperor evacuated Catalonia; but the inhabitants of Barcelona perished in their revolt, and would not acknowledge Philip for their king. Accordingly they suffered blockade for a year, which was followed by a terrible bombardment; and at length, after a siege of sixty-two days, from the opening of the breach by the duke of Berwick, the town was taken by the 14th of September. By the moderation of the conquerors, the city was saved from pillage, but the inhabitants were deprived of their privileges; they have since, however, been re-established, and in 1715 a citadel was erected to keep them in awe.

Barcelona is now one of the largest and handomest cities in Spain, and is reckoned the third most considerable city in the kingdom. It is situated on a plain by the sea-side, open to the south-east, but protected by hills on the north and west, so that it affords a healthy and delightful residence; however it is subject to a fog brought on by the east wind. The city is surrounded by a good brick wall, round which is another, with fourteen bastions, horn-works, ramparts, and ditches. The ramparts are high and impacous, and a great number of carriages may be seen every evening driving upon them for pleasure. The city is divided into two parts; the old and the new, which are separated from each other by a wall and a large ditch. The streets are narrow and crooked, and the churches rather rich than beautiful. Barcelona contains several considerable edifices; that called the Torre, or the arsenal, is of large extent; and a prodigious gallery, containing twenty-eight forges, has been erected in it within a few years. The other most remarkable buildings are the cathedral adorned with two high towers, the church of Notre-Dame, the palace of the bishop, the exchange, the palace of the governor, that where the nobility of the country assemble, called "La Càfà de la Deputacion," and that of the inquisition. The hospitals contain about 1400 indigent poor; and in the house of correction are sometimes found women of rank, who have been guilty of drunkenness, or other low vices. The harbour is spacious, deep, and secure, and defended on one side from the winds by a mountain called Montjuich, which rises in the middle of the plain near the city, runs into the sea in the form of a promontory, is covered with vineyards, gardens, and groves of trees, and a strong fort for defending the city, and furnishes a quarry of fine hard freestone; and on the other side by a large mole; having a light-house with a small fort and garrison at the extremity. Into this harbour 1000 vessels are supposed to enter during peace, and of these 500 are Spaniards, 120 French, 100 English, and 50 Danes. Barcelona is a place of great trade, on account of the convenience of its harbour; although none but small vessels can enter within the mole. Its chief manufactories are silk, cotton, wool, and excellent fine-arms and cutlery: its chief imports are corn, fish, and woollen goods, and its exports, wine, brandy, cloth, and leather. Silks from Lyons, rockings from Nîmes, several kinds of stuff and cottons although manufactured in the country, and particularly dried cod, an article for which Spain is said to pay annually to the English three millions of pistoles, pass into Catalonia through this port. About twenty years ago, a very large cannon foundry was established in this city, under the direction of M. Maritz, a Switz; and it has several glass-houses. The inhabitants are industrious and active, and their number is said to exceed 100,000; they are hospitable to strangers; the women are as handsome as any in Spain, lively in their conversation, and less restrained in their conduct than in other parts of the country. Barcelona was erected into a county by Charlemagne, and became an independent sovereignty in the year 875 or 884. The king of Spain is called the count of Barcelona. The diocese contains 213 parishes, besides 8 in the city. It is distant 13 leagues E.N.E. from Taragona, and 92 E.N.E. from Madrid. N. lat. 41° 26'. E. long. 2° 13'.

BARCELONE, a town of France, and principal place of a district in the department of the Lower Alps. It anciently belonged to Piedmont, and was ceded to France by the treaty of Utrecht in 1713. It is situated on the right bank of the Ubaye, in a valley of excellent pasturage, four leagues S. of Embrun, and 81 N.N.E. of Digne. The place contains 2182 and the canton 8160 inhabitants; the territory includes 290 kilometres and nine communes. N. lat. 44° 25'. E. long. 6° 45'.

Barcelona De Vitrolles, a town of France, in the department of the Lower Alps, and chief place of a canton in the district of Sifforre; the place contains 617 and the canton 1017 inhabitants; the territory includes 621 kilometres and two communes.

Barcelonnes, a town of France, in the department of
of the Gea, and chief place of a canton in the district of Nogaro, seated on the Adour, containing about 12000 inhabitants; three leagues S.W. of Nogaro, and 91 W.N.W. of Mirande.

BARLOTE, a sea-port town of the East Indies, on the coast of Malabar, between Goa and Mangalore, in a district ceded to the British by the treaty of 1799. It has a good harbour, and the Dutch had formerly a factory in this place, which carried on a considerable trade in pepper. N. lat. 13° 35', E. long. 74° 45'.

BARCELLOS, a town of Portugal, with the title of a duchy, in the province of Entre Douro e Minho, not far from the sea, on the river Cavado, eight miles W. of Braga. N. lat. 41° 20', W. long. 7° 5'.

BARCHESSO, or Barches, were formerly a kind of ship gun; not unlike fowlers, only shorter, thicker in metal, and wider based.

BARCHIN, in Geography, a town of Peria, in the province of Kerman, 120 miles S.E. of Sirjan.

BARCHOHEBAS, or Caza, in Biography, a false Messiah of the Jews, who took advantage of the animosity excited among his countrymen by the professions of the emperor Adrian, when he founded his new city of Mediala on the ruins of Jerusalem, about the year 134, assumed the name of Barchohebas, or child of the Star, in allusion to a prophecy of Balaam (Num. xxiv. 17), and pretended to be the long-expected deliverer of his nation. He chose for his predecessor the famous Akiba; and collecting together an army of 200,000 men, he formed himself the Messiah and prince of the Jewish nation. However he deferred declaring war against the Romans, till Adrian had quitted Egypt, so that it did not break out till the 17th year of that emperor's reign. Adrian seems at first to have neglected this new revolt; but when he perceived that it was likely to become formidable, he sent Titinius Rufus with a strong reinforcement to quell it. This force being insufficient to restrain the depredations of these banditti, who massacred all the Romans and Christians that fell in their way, Julius Severus was recalled from Britain, and sent at the head of an army against the impostor. This general laid siege to Bither, which was resolutely defended, till Barchohebas was slain. The town was then carried by storm, and this event, which, according to Eusebius, happened in the 18th year of Adrian, was followed by a most dreadful slaughter of the Jews. Crevier's Rom. Emp. vol. vii. p. 188, &c. Bafnage, Hist. des Juifs, t. vii. c. 12. Mod. Uni. Hist. vol. x. p. 437, &c. See Asia.

BARCAUL, in Geography, a town of Spain, in the province of Granada, five leagues from Guadix.

BARCHUSEN, or Barchhausen, John Conrad, in Biography, a learned physician and chemist, was born at Horne in the county of Lippe, 1666. After a liberal education, and a course of travelling through the principal cities of Germany with a view to his improvement in pharmacy and chemistry, he became physician to the Venetian general in his expedition to the Morea in 1694; and on his return settled at Utrecht, where he obtained permission to teach chemistry, in which employment he continued till the time of his death in 1717. His character was distinguished by integrity and zeal for public good, as well as by indefatigable industry in the pursuit of knowledge; without offending any very extraordinary share of genius or solidity of judgment. His works are "Synopsis Pharmaceutica," Frankf. 1690, and Utrecht, 1696, 8vo.; "Pyrophoria," Leyd. 1698, 4to, enlarged and published at Leyden in 1771, under the title of "Elementa Chemia" &c. "Acronomata ad Jactrochymiam et Phyficam Spectantium," Utr. 1703, 8vo.; "Triforia Medicinae," Amfil. 1712, 8vo.; published with enlargements under the title of "De Medicina et progressa Difertationes," Utr. 1725, 4to, in which work an account is given of all the facts and theories of medicine from the earliest times to the author's own age, but with less accuracy, especially in relation to the ancient writers, than those of Le Clerc and Freind; "Synopsis Pharmaceutica," Leyd. 1712, 4to; "Compendium Rationum Chemicae," Leyd. 1713, 4to; "Collecta Medicina Practica Generalia, et Dialogus de optima Medicum rum ficta," Amfil. 1713, the Halley Lib. Med. Pratet.

BARCINO, in Ancient Geography, a town of Hispании Tarraconensis, and capital of the Latetani; now Barce- lona.

BARCLAY, Barley, of Barklay, Alexander, in Biography, an elegant British writer of the 16th century, was a native either of England or Scotland, but probably of the latter country. About the year 1495, he came to Oriel college, Oxford, and having distinguished himself by his parts and learning, he travelled on the continent and acquired a competent knowledge of the languages spoken in Holland, Germany, Italy, and France. On his return to England, he became one of the priests of St. Mary Ottery in Devonshire, and afterwards a monk of the monastery of Ely. After the dissolution of this monastery in 1539, he was presented successively to several livings, the last of which were those of Baddow Magna in Essex, and of Allhallows in London. He was honoured with the degree of doctor in divinity. He died at a very advanced age at Croydon in Surrey, in June 1572. Different accounts are given of his character, but the main part is given of his adulator, whilst he led a single life; but Pitts, the papist, affirms us that he directed his labors to the service of religion, and employed his time in reading and writing the lives of the Saints. These accounts, however, are not altogether incompatible. As an imitator of English literature, his merits are acknowledged; and his industry in enriching our language with many translations, written in a style more pure and fluent than that of his contemporaries, entitles him to grateful commemoration. Some of the principal of his works of which there is no complete catalogue, are the "Miferum Curium," or "Eclogues on the Miseries of Courtiers," compiled by Aeaeus Silvius; the "Eclogues of Baptist Mutlum;" the "Calle de Labour," from the French; a treatise "Of Virtues," by Mancini; several "Lives of Saints;" the "Jugurnate war" of Sallust; a "Treatise against Skelton," who was poet laureat, and a great enemy to priests; and the most popular of all his works, the "Navis Stultifera" or "Ship of Fools," which is a fine translation, but not very considerable, the mythology of a word of the same tle, by Schaffan Brantius; this is a satirical work, adorned with many pictures printed from wooden cuts; it passed through several editions, and was first printed at London by Richard Pynson, in 1509, in small folio, again in 1519, and in 4to. in 1570. Gen. Dict. Biotic.

BARCLAY, William, a learned civilian, was born in Aberdeenshire in 1531, and defended from one of the best families in Scotland. After the captivity of Mary queen of Scots, by whom he was favoured, he retired to France about the year 1572, and then by close application became a proficient in the knowledge of the civil law, so that he obtained a professorship in that science in the university of Ponta-
Pontamouillon, founded by the duke of Lorrain; he was also appointed by this duke count of late, and master of parks. In 1581, he married a lady of Lorrain, by whom he had a son, who was the cause of his contest with the Jaffetas, by whose influence he was reduced to the necessity of quitting Lorrain. He then came to England, and was offered a place in the council of James I., with a considerable pension, on condition of his embracing the established religion; but declining the offer, he returned to France, and accepted the professorship of civil law in the university of Angers, where he taught for some time with reputation. Here he died some time in 1605, according to others in 1609, or 1611. The chief of his works are "De Regno et Regali potestate," aduersus Barberana, &c.; published at Paris in 1601; "De potestate Papae, et quatenus in reges et principes seculares et imperium habet," Francof. 1609, 1615, 1629. Hannov. 1611, 1612, 1610. Lond. in English, in 1611, 1612; "A Commentary upon the title of the Papacy, de rebus ereditis et de jurisdiccione," Paris, 1605, 1606; and "Prefatia in vitam Agricultor." Paris, 1599, 2 vols. 8vo. Gen. Dict. Biog. Brit.

Barclay, John, the son of the preceding, was born at Pontamouillon in 1582, and distinguished himself betwixt as a proficient in polite literature. The Jaffetas wished him to enter into their society; but his father incurred their resentment by preventing it, and taking him to England, at the beginning of the reign of James I. He had already, viz., in 1601, published a commentary on the Thebaid of Statius. He also presented to James, a Latin poem upon his coronation; and in 1603, published the first part of his "Satiricon Euphormionis," which was dedicated to the king. He accompanied his father to Angers, with whom he continued till the death of the latter, and then returned to Paris. In 1606, he came over to England, where he obtained considerable employments under King James, and was made gentleman of the bed-chamber. He is said to have affiliated this prince in a controversial work, which occasioned some unfounded suspicions of his orthodoxy. Having finished his "Euphormion," he published an apology for it in 1610. Upon his return to Paris, he printed in 1612, a work intitled "Pietas," being a vindication of a performance of his father against the power arrogated by the popes over crowned heads, which had been attacked by Bellarmine. Nevertheless, he was invited to Rome by Paul IV., and refused there during the latter part of his life, cared for by Bellarmine, and poffeeding some lucrative employments, in return for which he wrote a work of controversy, intitled, "Parens ad Sectarios." While he was employed in superintending the first edition of his principal work, intitled the "Argenis," he died of the Plague at Rome, in 1621. The disputation of Barclay was of a melancholy cast; his mornings were uninterruptedly employed in study, and the afternoons were devoted to his garden. His reputation, both as a scholar and a writer, was extremely high in his own times; but his works were not of a nature, calculated to command lasting attention. His Latin style was much admired by some, and severely cenfrured by others. Petronius was his model, but he somewhat partakes of the bard afflication of Apuleius in his prose, and of the bombast of Lucian in his verse. His "Euphormion," and "Argenis," both works of invention, palled through several editions in various languages. The latter is a kind of political allegory, exhibiting a picture of the vices and revolutions of courts, with real characters under fictitious names. It displays great ingenuity and learning, and abounds with lively imagery and elevated sentiments, but with too much parade. It was read with avidity whilst the subjects were recent; and a translation of it in English by a lady appeared in 1772, without attracting much notice. Gen. Dict. Biog. Brit.

Barclay, Robert, the famous apologist for the Quakers, was the descendant of an ancient family in Scotland, and the son of colonel David Barclay of Mathers. He was born at Gordonstone in the shire of Murray, in 1648, whether his father had retired, after quitting the army; and was sent for education to his uncle at Paris, who was at that time principal of the Scots college. Pains were taken to profyle him to the catholic religion; and he acknowledged that they were not altogether unsuccess. He returned home, however, in his 17th year, and was distinguished by his accomplishments in literature, and particularly by his knowledge of the Latin and French languages. At home he extended his acquaintance, by diligent application, with the Greek and Hebrew; and being of a grave disposition, directed his inquiries towards theological subjects. His father, having in 1666 become a convert to Quakerism, was soon followed by his son; whose zeal, though generally under the control of a sedate temper and careful judgment, was not altogether free from enthusiasm; for he conceived himself obliged by divine command to pass through the streets of Aberdeen clothed in sackcloth and ashes, and he actually yielded to this impulse. But he served the cause, to which he was attached from conviction, much more effectually by his powers of reasoning in its defence. His first publication to this purpose, intitled "Truth cleared of calumnies," &c., was a reply to a work of W. Mitchell, a preacher near Aberdeen, and dated at his father's house at Urrie, in 1670. This was followed by an appendix and additional treatise, exhibiting a considerable portion of controversial acumen, but it had the effect of increasing his antagonist. In 1673 he published, with a view of conciliating the good opinion of Protestants, a systematic exposition of the doctrines of his sect, under the title of "A Catechism and Confession of Faith," approved of and agreed to by the general assembly of the Patriarchs, Prophets, and Apostles, Christ himself chief Speaker in and among them," &c. The design of this work was to prove, that Quakerism was the perfection of the reformed religion, and that Protestants, as they receded from it, were too inconsistent with themselves, and approached to Papery. His fundamental principle was, that the scriptures alone were to be regarded as the foundation of faith, and that Chirilians ought to receive no doctrines which were not capable of being proved by the express words of scripture. This work excited very general attention, and removed many prejudices that were entertained against the society. His next treatise, intitled "The Anarchy of the Cahters and other Libertines, the Hierarchy of the Romanists, and other pretended churches, equally refuted," &c., was intended to mark the distinction between the rationalists of his sect, and the enthusiasts; but some sentiments concerning church discipline, which it contained, involved him in disputes with some of his own brethren, and drew upon him attacks from some members of the university of Aberdeen, and from other quarters. He perfilled, however, in his endeavours for forming a clear, methodical, and rational system of Quakerism; and in the year 1675, he was diligently employed in compounding the most famous of all his writings, which is his "Apology for the true Christian divinity, as the same is held forth and preached by the people in scorn called Quakers." This was introduced by his "Theses Theologica," written in various languages, and addressed to the clergy of all denominations throughout Europe, requiring their examination.

Vol. III.
tion and judgment. Two copies of the "Apology" were transmitted to each of the ministers pontifical then assembled at the congress of Nimegen. It was printed in 1676, at Amsterdam; and two years after, the author published an English translation of it. It was also translated into other languages, and excited very general attention. The "Apology" is a learned, scholastic, methodical performance; and it is regarded as the first authority for the principles of the sect. The society derived considerable reputation from it; and whilst it contributed to remove prejudices against this sect both at home and abroad, it gave them a respectable rank among the reformed churches. The dedication is no less remarkable than the apology itself. It is addressed to King Charles II.; and speaks to him in plain and forcible a manner respecting the events of his own life, and pleads the cause of religion, and of the author's own society, with such a main spirit, that it has ever been admired as a model in its kind. Let the following passage serve as a specimen: "Thou hast called of prosperity and adversity; thou knowest what it is to be banished thy native country, to be over-raked as well as to rule and sit upon the throne; and being oppressed, thou hast reason to know how hateful the oppressor is both to God and man." This address did not avail, as Voltaire affirms, to restrain the perfecution which then raged against the Quakers; for Robert Barclay himself, after his return from Holland and Germany, which he visited in company with the famous William Penn, was, in 1677, imprisoned in Aberdeen, together with his father and many other Quakers, at the instigation of Sharp archbishop of St. Andrew's, with whom he remonstrated by an excellent letter on the occasion. By the interposition of Elizabeth the princes's palatine of Rhine, who respected the Quakers and corresponded with both Penn and Barclay, he was soon liberated; and he even acquired the favour of the court, so that in 1679, he obtained a royal charter for erecting his lands at Urine into a free barony. In 1682, he was elected governor of Coft Jerey, in North America, by the proprietors of the province; but he declined accepting the appointment, and was satisfied with naming a deputy-governor. Whilst he was in prison at Aberdeen, in 1677, he published a treatise on "Universal Love," intended to shew that this principle prevailed more in his church than in any other. In the same year he addressed a Latin letter to all "the ambassadors and deputies of the Christian princes and states, met at Nimegen to consult the peace of Christendom," urging them to promote that good work, and pointing out the true causes of war, and its incomparability with Christian principles. He had also written, in 1676, a Latin letter concerning "the Possibility and Necessity of an inward and immediate Revelation," to Adrian Paets, a peron of distinction in Holland; and in 1686 this letter was translated into English and published. This was the last, and has by many members of the society, been reckoned among the most important of his performances. His time was very much occupied in journeys for the benefit of the society, with a view both of promulgating its doctrines and protecting its members from oppression. Barclay and Penn were on terms of intimacy with James II.; who, sensible that he and his party needed toleration, affected to be the great patron of liberty of conscience. The non-refuting principles of the Quakers in civil matters, might probably give him a predilection for their religious opinions above those of other Protestants. Barclay was engaged in a private conference with the king in the year 1688, just as the wind became fair for bringing over the prince of Orange, and on that occasion urged his majesty to make some concession for satisfying his people; but his advice was of no avail. Robert Barclay did not long survive the revolution. He died, after a short illness, in his house at Uri, in October 1692, in his forty-second year, leaving seven children, all of whom were living fifty years afterwards. The moral character of this eminent person corresponded to the great employment of his life, which was that of promoting what he conceived to be the cause of religious truth. He was amiable and respectable; nor did the gravity of his pursuits infuse any rigour or fourness into his conversation and manners. He governed his house with great prudence and discretion, and preferred a serene mind under all the changes of his fortune. Biog. Brit. Gen. Biog.

BARCLAY Forts, in Geography, is the weft point of the entrance into English harbour, on the south side of the island of Antigua; the eal point also has a battery, from which it is distant only about 500 yards.

BARCONE, in Navigation, a short broad vessel, of a middle size, used in the Mediterranean for the carriage of corn, wood, salt, and other provisions, from one place to another.

BARDA, or Partha, in Geography, a town of Germany, in the circle of Upper Saxony and circle of Leipfick, 2 miles S.W. of Grimma.

BARDANA, in Botany. See Arctium.

BARDANA, in the Materia Medica. See Arctium Lappa.

BARDANE, in Entymology, a species of Curculio, of cyllindrical form, downy, greyish; anterior legs elongated. About the size of C. paraphillicus, and not unlike it in appearance. Inhabit Europe.

BARDARIOE, in Antiquity, were a kind of ancient guard attending the Greek emperors, armed with rods, wherewith they kept off the people from crowding too near the prince, when on horseback. Their captain, or commander, was denominated priminvigiris. The word was probably formed from the barda or housings on their horses.

BARDE. See Barfe.

BARDED, in Heraldry, is used in speaking of a horse that is caparisoned.

He bears fable, a cavalier d'or, the horse barded, argent.

BARDELL, in the Mango, denotes a faddle made in form of a great faddle, but only of cloth stuffed with straw, and tied tight down with packthread, without either leather, wood, or iron. Bardeles are not used in France; but in Italy they trot their colts with such faddles; and those who ride them are called evoladores, or fosenso.

BARDESAIMISTS, in Ecclesiastical History, a sect thus denominated from their leader, Bardeasan, a Syrian of Edessa in Mesopotamia, in the second century. Bardanes was a man of acute genius and profound erudition, and wrote several works which procured him reputation. He was eloquent in the Syriac language, and well acquainted with the Greek. His thirst for knowledge induced him to travel into the east, in order to converse with the brach- mans and other philosophers of that country. He was held in high estimation by Abgarus, who reigned in Edessa from the year 152 to 187. A work written by him, "upon Defliny," against Abyssus the astrologer, was valued by the ancients; and a fragment of it is quoted by Eusebius, in his Prep. Evang.

Bardeasen adopted the oriental philosophy concerning the two principles; maintaining that the supreme God is free from all evil and imperfection, and that he created the world and its inhabitants pure and incorrupt; that in
proceeds of time the prince of darkness, who is the fountain of all evil and misery, enticed men to sin; in consequence of which, the Supreme God permitted them to be dispenser of those ethereal bodies with which he had adorned them, and to fall into flagrath and gross bodies formed by the evil principle: and that Jesus descended from heaven, clothed not with a real but aerial body, in order to recover mankind from that body of corruption which they now carry about them; and that he will raise the obedient to mansions of felicity, clothed with aerial vehicles, or celestial bodies. It is said that Bardeus at length renounced the more chimerical part of his system. Eusebius denied that he ever returned to the Catholic faith. His facts fulfilled for a long time in Syria, to which his 150 hymns written in elegant Syriac very much contributed; as they also did to the propagation of his opinions. Mosheim's Ecc. Hist. vol. i. p. 220. Larbouër's Works, vol. ii. p. 299, &c.

BARDEWICK, in Geography, a town of Germany, in the circle of Lower Saxony, on the Ilmenau, supposed to be one of the most ancient towns in Germany. It was in a very prosperous state, and the see of a bishop in 1189, when Henry the Lion, duke of Saxony and Brunswick, took and razed it to the ground, because the inhabitants would not acknowledge him after he had been proffered by the emperor Frederick I. The bishopric was then removed to Verden; and the city of Luneburg received the advantages of trade and population: 4 miles N. of Luneburg.

BARDEWISCH, a town of Germany, in the circle of Weilphalia, and county of Detmold: 6 miles N. of Detmold.

BARDI, a town of Italy, in the Parmesan, seated on a rock near the small river Cono, and capital of a marquisate, to which it gives a name; 26 miles W. of Parma.

BARDIN, a town of Peru, in the province of Segedan, 30 miles W.S.W. of Zarang.

BARDIS, a town of Egypt, and residence of a sheik, whose authority extends a considerable way along the Nile; 6 miles south of Girga.

BARDISTAN, Cape, lies on the coast of Peru, in the Indian ocean. N. lat. 28° 4'. E. long. 52° 6'.


BARDONACHE, a town of Piedmont, in a valley, to which it gives name; 10 miles north of Sesana, and 6 W.N.W. of Exilles.

BARDO, a river of England, which runs into the Reid, 6 miles N.W. of Elliston, in Northumberland.

BARDIS, Bards, in Antiquity, ancient poets among the Gaus and Britons, who described and sung in verse the brave actions of the great men of their nation; with design to inculcate and recommend virtue, and even sometimes to put an end to the difference between armies at the point of engagement.

Bochart derives the word from parant, to sing. Camden agrees with Feilus, that bardus originally signifies a finger: and adds, that the word is pure British. Others derive the word from Bardus, a druid, the son of Dryis, and the fifth king of the Celts.

Amidst this uncertainty with regard to the etymology of the appellation barids or bard, we may add that feine have derived it from bar, which signifies fury, and which bears, without doubt, some analogy to that poetic fury or exalting passion which poets fancied themselves, or might feign to be inspired. Among the Welsh, we are told by others, bard is preferred as an indigenous term, having an abstruse significature, and denoting one that makes conspicuous, or caues to be revealed. By another

author we are informed that the word bard being a primitive noun, neither derived nor compounded, it can neither be traced to its root, nor resolved into its parts. It signified one who was a poet by his genius and profession, and who employed much of his time in composing and singing versets on various subjects and occasions.

The bard, it is said, differed from the druids, in that the latter were priests and teachers of the nation, but the former only poets and writers.

Larrey, Bodin, and Patquier, indeed, will have the bards to have been priests, as well as philosophers: and Cluverius, orators too; but without much foundation in antiquity. Strabo divides the sects of philosophers among the Gauls and Britons into three, viz. the druids, bards, and exets. The bards, adds he, are the fingers and poets; the evets, the priests and natural philosophers; and the druids, to natural philosophy add also the moral. Horace however reduces them to two facts, viz. bards and druids; others to one, and make a druid a general name, comprehending all the others. Cluverius will have it, that there were bards also among the ancient Germans; because Tacitus makes mention of their songs and poems, which contained their history. Some have distributed the ancient British poets into two classes; the first class comprehending their sacred poets, who composed and sung their religious hymns, and were called in Greek Eubiates, in Latin Pateris, and in their own language Faids; the second comprehending all their secular poets, who sung of the battles of the heroes, or the heaving breasts of love, according to the description of Ossian, and they were called bards. The principal bards of these bards was to celebrate the praises of the gods and departed heroes, in odes and verses, and to sing them to their harps, at their religious assemblies, public festivals, and private entertainments. These men were, in fact, the heralds, the chronologers, and the historians, as well as the poets of the land, for they kept up the memory of illustrious transactions, and, by their compositions, which tradition handed down to posterity, they transmitted from age to age the names and characters of patriot and warriors. It is remarkable that such a class of persons fubfisted in almost all nations. They derive their origin from remote antiquity, and were ever held in high estimation. Mankind have been early led to poetical compositions. Agreeable sounds strike at first every ear, but poetry was necessary to give those sounds a lasting effect. Verfe has therefore been made use of to preserve the memory of remarkable events and great actions. The religious ceremonies of nations, their manners, and their labour, were also recorded in numbers. Hence it was that Greece could boast of a Homer, a Hufiod, and of other poets, some ages before an historian had written in prose. Amongst the Gauls also, and other Celtic nations, there were poems composed on various subjects from the earliest ages. Diodorus Siculus is the first author among the ancients, who mentions the bards as the composers of verse; which they sung to the sound of an instrument not unlike a lyre (1. v. § 31.). Annemarried Marcellinus informs us (1. xii. c. 9.), that the bards celebrated the brave actions of illustrious men in heroic poems, which they sung to the sweet sounds of the lyre. This account of these Greek and Latin writers is confirmed by the general train and by many particular passages of the poems of Ossian. "Beneath his own tree, at intervals, each bard sat down with his harp; they moved the long line, and sang the song, each to the chief he loved." But this union between poetry and music did not flourish very long, in its greatest influence, perhaps, in any country. "The musicus soon became very numerous, and those of them who had not a genius for composing"
posing verses of their own, affixed in singing the verses of others to the music of their harps. Many of those songsters, or parasites (as Athenæus, i. vi. c. 12. calls them), which the Celtic princes took with them when they went to war, were mere musicians, and the songs which they sung were composed by those among them who had a poetical genius, and were called bards. Ossian, however, excelled as much both in vocal and instrumental music as he did in poetry, and he seems to have had no idea of playing on an instrument without singing at the same time. Whenever his bards touch the string, they always raise the song.

The bards constituted one of the most respected orders of men in the ancient Brititish states; and many of the greatest kings, heroes and heroes, esteemed it an honour to be enrolled in this order. They enjoyed, by law and custom, many honourable distinctions and valuable privileges. Kings and princes made choice of bards to be their bosom-friends and constant companions: indulged them with the greatest familiarity, and gave them the most flattering titles. Their persons were held sacred and inviolable; and the most cruel and bloody tyrants dared not to offer them any injury. The bards, as well as the druids, were exempted from taxes and military services, even in times of the greatest danger; and when they attended their patrons in the field, to record and celebrate their great actions, they had a guard assigned them for their protection. At all festivals and public assemblies they were seated near the person of the king or chieftain, and sometimes even above the greatest nobility and chief officers of the court. Nor was the profession of the bard less lucrative than honourable. For, besides the valuable presents which they occasionally received from their patrons, when they gave them uncommon pleasure by their performances, they had estates in land allotted for their support. Nay, so great was the estimation which the princes of these times entertained for the persons of their poets, and so highly were they charmed and delighted with their tuneful strains, that they sometimes pardoned even their capital crimes for a song. It may be reasonably supposed that a profession, which was so honourable and advantageous, and to which were annexed so many flattering distinctions and defirable immunities, would not be defected. Accordingly, the accounts we have of the numbers of the bards in some countries, particularly in Ireland, are hardly credible. In the poems of Ossian we often read of 100 bards belonging to one prince, singing and playing in concert for his entertainment. Every chief bard, who was called Allah Redan, or doctor in poetry, was allowed to have 50 attendants inferior in rank to his person; and every bard of the second rank was allowed a retinue of 15 poetical disciples. But it is probable that the bards of Britain and Ireland were not so numerous at an early period as they became afterwards; nor were they then guilty of those crimes by which they at length forfeited the public favour. In this most ancient period, the British bards seem to have been in general men of genius and virtue, who merited the honours which they enjoyed. Though the ancient Britons of the southern parts of this island had originally the same taste and genius for poetry with those in the north, yet none of their poetical compositions have been preferred; and this may be easily accounted for. After the provincial Britons had submitted quietly to the Roman government, yielded up their arms, and had left their free and martial spirit, they could take little pleasure in hearing or repeating the songs of their bards, in honour of the glorious achievements of their brave ancestors. The Romans too, if they did not practise the same barbarous policy which was long after practised by Edward I. of putting the bards to death, would at least discourage them, and discontertauence the repetition of their poems for very obvious reasons. These sons of the fong being thus persecuted by their conquerors, and neglected by their countrymen, either abandoned their country or their profession; and their songs, being no longer heard, were soon forgotten. But so natural was a taste for poetry to the original inhabitants of this island, that it was not quite destroyed by their long subjection to the Romans, but appeared again in the poetry of the provincial Britons, as soon as they recovered their martial spirit, and became a free, brave, and independent people. Nennius, who wrote in the ninth century, and in the reign of prince Merlyn, is the first of the British historians who mentions the bards. He says, that Talhaic was famous for poetry; that Aneruni and Talcin, Llywarth-hen and Chian, flourished in the 5th century. Of these bards, the works only of three are extant: those of Aneruni, Talcin, and Llywarth-hen. Besides the bards already mentioned, there were others who flourished during this period; of whom the most eminent was Mersed Wyllt, who composed a poem called Affallenau, or the orchard. From the fifth to the tenth century it is difficult to meet with any of the writings of the bards, owing probably to the devastations of war, and to the civil diificulties among the Welsh.

Such was the respect in which the bards were held, that by a law of Howel Dha, whoever struck any one of this order must compound for the offence by paying to the party aggrieved one-fourth more than was necessary to be paid to any other person of the same degree.

The election of the bards was made every year, in an assembly of the princes and chieftains of the country, in which they were all summoned, and the most eminent took a prominent part. From the ninth to the eleventh century it is difficult to meet with any of the writings of the bards, owing probably to the devastations of war, and to the civil diificulties among the Welsh.

It appears, upon a close examination of its principles, that one of the primary intentions of bardism was, that it should be a regular system for preserving authenticated records and various kinds of knowledge in the national memory, as it were, by means of oral tradition. And, in order that nothing should have currency without due confirmation, whatever was intended to be received into such a public record, whether the historical and apothecary etc., or the dietary fong, was always laid before the grand meetings. There it was discussed with the most scrutinizing severity; if it was objected, it was re-considered at the second meeting; if then approved of, it was referred to the third meeting; and being approved of by that, it was ratified or confirmed; otherwise it was re-
BARDS.

ferred to the triennial supreme convention for ultimate consideration. At this national meeting, all that had been confirmed at the provincial assemblies were also received; and the disciples, who then attended from every province, were enjoined to learn them, in order that they might become as widely diffused as possible. What was thus formally sanctioned was to be recited for ever afterwards, annually at least, in addition to the former bardic traditions, in the secondary meetings of districts, and also at one or other of the four grand meetings. Such being the bardic establishment, by which tradition became formed into a well-combined science, we may rely on its triads for the best illustration of its principles.

The three cultivators of song and imagination among the nation of the Cymry were Gaway or Cadwallon, who was the first in the world that composed poetry; Ithu the mighty, who first applied poetry to prefer memorials and composition; and Tydalin Tal Auen, or Tydalin father of the muse, who first reduced poetry to an art, and established rules for composition. And from what those three persons executed, originated bards and bardism, as constituted with privilege and custom by the three institutional bards, namely Plemwyn, Alun, and Gaven. They established the privileges and customs which appertain to bards and bardism, and therefore they are called the three institutors. Nevertheless there were bards and bardism before their time; but they were not under the regulation of inviolable transit; and they had neither privileges nor customs, except what were obtained through civility and courtesy, under the protection of the country and nation, before the time of these three. Some say that they were contemporary with Prydain, son of the Great; but according to others, they lived in the time of Dywern Mael Mudd, his son, who, in some old books is called Drenwards, son of Prydain. For a further account of these institutional bards, and of the triads that exhibit their character, office, and privileges, and that illustrate their theology, we must refer the curious who wish to find further information on this subject, to Williams's Poems, lyric and pastoral, in 2 vols. 8vo. London, 1794; and to Owen's Heroic Elegies of Llywarch-Flach, in 1 vol. 8vo. London, 1792. According to the latter of those writers, the bards were divided into Bards Brion, who were the civil magistrates or judges; and Bards Druid, who were the priests of the community.

From the triads above referred to the reader may deduce a correct outline of bardism; and as to the detail of its various parts, he may be surfeited to be told that they are still preserved in various memorials of the ancient Britons, and in the memory of its initiates; though it is generally suppos'd that this extraordinary system, known to the world under the name of Druidism, has perished about fifteen hundred years past, except the few hints given of it by Greek and Roman writers. Lo! it certainly would have been but for its extraordinary means and precaution for self-preservation; especially in the middle ages, when it had to withstand the persecutions of the popish church in the fulness of its power. Here it may be worthy to remark that bardism contains a great many things to induce a conviction of its being the parent of free-masonry; and some of the principles taught in both are the same in expression; and indeed it is very remarkable, that artifan, or mason, is exactly the meaning of coine, or ovate, the name of the third class of bards; and in this character only could the bards meet under cover. Free-masons do so now; but they preserve a traditioinary memorial of their meeting annually on the tops of their highest hills, and in the bottoms of the lowest vales, and when the sun was in its due meridian. Thus bardism, whose principles were to be diffused in the face of the sun and in the eye of the light, for the sake of truth and self-preservation, had the means of becoming even more secret than masonry veiled in the darkens of night.

There were three different classes of this order in Wales; the first was called "Diddlys," and they were the compoers of verbs and odes in various measure; they were likewise the recorders of the arms of the Welsh chieftains, and the repositories also of the genealogies of families. This class was accounted the most honourable, and was high in the public estimation. The second class, called "Mindreds," were performers upon instruments, chiefly the harp and the cornu. The third were those who sang to musical instruments in general, and were called "DatgenGWauad/"

The talents of the Welsh bards were not solely employed in preferring the defects of families, in the praise of heroes, or in recording their illustrious actions; they sometimes in plaintive numbers mourned over the tomb of the fallen warrior.

When tyranny erected its banner in Wales, by the cruel policy of Edward in the massacre of the bards, that ancient feast of music and poetry was defeated by the muffs, and consequently was deprived of those fascinating arts which softened, at the same time that they invigorated, the genius of the people. During the spirited, and for a while the prosperous, insurrection of Owen Glendwrwy, the muffs revived their native seats, encouraged by the munificence of that leader, and animated by the transitory ray which had dawned upon freedom. When the Welsh had made the last effort for their expiring freedom, they sunk into a state of slavery the most deep and severe. The bards were prohibited by law from making their annual progress, and from holding public assemblies; which privileges were called by the natives "clera" and "cymhortha." During this period, and the contest between the house of York and Lancaster, the genius of poetry was nearly extinguished, or was only employed in soothing the miseries of the times, by obscure predictions of more prosperous days. A brighter prospect opening on this nation in the reign of Henry VII. a series of bards arose from that time; and these bards, being supported in the families of the Welsh chieftains, ascertained and preferred their genealogies; and as the causes of resisting warlike exploits had ceased, they celebrated the civil virtues of their patrons, their magnanimity, their hospitable spirit, their talents, and the graces of their persons. They likewise, amidst other duties, held the honourable office of composing in elegy, on the death of the chieftain in whose family they resided, which was sung to the surviving relations in honour of the dead, reciting the noble families from which the deceased had sprung, and the great actions performed by himself or his ancestors.

Since the reign of queen Elizabeth, there has not been any regular assemblies of the bards. The motives to emulation having ceased, and the spirit of ancient freedom being extinguished, the poetic fire, for which the Welsh nation had been so renowned, gradually declined. But a spark of that ancient fire still remains in the genius of the Welsh, which, in the feasons of their felicity, breaks out into a singular kind of poetry, called "pennyli." Even at this day some vein of the ancient minstrelsy survives among the Welsh mountains. Numbers of persons assemble, and sit round the harp, singing alternately "pennyli," or flounces of ancient or modern compositions. Often, like the mosiari of Italy, they sing extempore verses; and a person conversant in this art readily produces a "pennyli" appropriate to the lait that was sung. Many have their memories stored with several hundreds, perhaps thousands of pennyli; some of which have always ready for answers to every subject that can be proposed, or if their recol-
Bards.

reconciliation should fail them, their invention supplies them with something pertinent and proper for the occasion.

Bards have been found in many countries; and continued in Ireland and Scotland, as well as in Wales, to our own days. The genealogical fonnets of the Irish bards are still the chief foundations of the ancient history of Ireland.

Spenzer, the poet, in his view of the rate of Ireland in the reign of queen Elizabeth, observes that he caused several compositions of the bards to be translated; and, surely, he adds, "they flavoured of sweet wit and good invention, but skilled not of the gobdy ornament of poetry; yet were they sprinkled with some pretty flowers of their natural device, which gave good grace and comeliness unto them; the which in great pity to see so abused, to the graceing of wickedness and vice, which with good usage would serve to adorn and beautify virtue."

The songs of the Irish bards, says Warton in his "History of English Poetry" (dift. i. vol. i.), are by some conceived to be strongly marked with the traces of Scaldic imagination; and these traces are believed to have survived among a species of poetical historians, whom they call "Tale-Tellers," supposed to be the descendants of the original Irish bards. The Irish historians inform us that St. Patrick, when he converted Ireland to the Christian faith, destroyed 500 volumes of the songs of the Irish bards. Such was their dignity in this country, that they were permitted to wear a robe of the same colour with that of the royal family. They were constantly summoned to a triennial festival; and the most approved songs delivered at this assembly were ordered to be preferred in the custody of the king's historian or antiquary. Many of these compositions are referred to by Keating, as the foundation of his history of Ireland. Ample estates were appropriated to them that they might live in a condition of independence and ease. The profession was hereditary; but when a bard died, his estate devolved not to his eldest son, but to such of his family as discovered the most distinguished talents for poetry and music. Every principal bard, as we have already observed, retained thirty of inferior note as his attendants; and a bard of the secondary class was followed by a retinue of fifteen. They seem to have been at their height in the year 558. None of their poems have been translated.

In the highlands of Scotland there are considerable remains of many of the compositions of their old bards still preserved. But the most genuine, entire, and valuable remains of the works of the ancient bards, and perhaps the noblest specimen of uncultivated genius, are the poems of Ossian, the son of Fingal, a king of the Highlands of Scotland, who flourished in the second or third century, lately collected by Mr. Macpherson, and by him translated from the Erse or Gaelic language into English. Dr. Johnson, indeed, has suggested his doubts concerning the existence of any such ancient MSS. as those from which the poems of Ossian have been translated. But this is not a place for discoursing this subject of controversy. Admitting, however, their genuineness upon the whole, whatever additions may have been made to them, they afford an admirable specimen of what might be the conceptions of ancient bards. These poems, says Warton (ubi supra), notwithstanding the difference between the Gothic and the Celtic rituals, contain many valuable vestiges of Scandinavian superstition. The allusions in the songs of Ossian to spirits who preclude over the different parts, and direct the various operations of nature, who feed serpents over the deep, and rejoice in the pleasures of the shipwrecked mariner, who call down lightning to blast the forest or cleave the rock, and diffuse invisibly a beneficence among the people, beautifully conducted and heightened under the skillful hand of a master bard, entirely correspond with the Runic system, and breathe the spirit of its poetry. Had Ossian found it convenient to have introduced religion into his compositions, not only a new source had been opened to the sublime, in deferring the rites of sacrifice, the horrors of incantation, the solemn invocations of infernal beings, and the like dreadful superstitions, but probably many stronger and more characteristic evidences would have appeared of his knowledge of the imagery of Scandinavian poets.

The remains of Taliemon, and other Welsh poets, assist us in forming a competent judgment upon this subject. See Evans's Dissertation de Bards. Josèe's Historical and Poetical Relics of the Welsh Bards.

It is not improbable, says Warton (ubi supra,) that the Welsh bards might have been acquainted with the Scandinavian Scaldi, at least before their communication with Armorica. The bard's flourished most in those parts of Britain which most strongly retained their native Celtic character. The prodigy of the Welsh bards depended much on alliteration; hence they seem to have paid an attention to the Scaldic verification. The Islan~ic poets are said to have carried alliteration to the highest pitch of exactness in their earliest periods; whereas the Welsh bards of the fifth century used it but sparingly, and in an imperfect degree: from this circumstance we may deduce a proof of imitation, or at least of emulation. There are, moreover, strong traces of conformity between the manners of the two nations. Befides, the Scandinavian Scaldi were well known in Ireland; and there is sufficient evidence to prove that the Welch bards were early connected with the Irish. Even so late as the eleventh century, the practice continued among the Welch bards of receiving instructions in the bardic profession from Ireland. The Welch bards were reformed and regulated by Gryfynrh ap Conan, king of Wales, in the year 1078. At the same time he brought over with him from Ireland many Irish bards for the information and improvement of the Welch. In Ireland, to kill a bard was highly criminal; and to seize his estate, even for the public service and in time of national diftre{s, was deemed an act of sacrilege. Thus, in the old Welsh laws, whoever even slightly injured a bard, was to be fined 6 cows and 120 pence. The murderer of a bard was to be fined 126 cows. Moreover, an intercourse was necessarily produced between the Welsh and Scandinavians from the practical irritations of the latter. It may be added, that the Welsh, although living in a separate and detached situation, and so strongly prejudiced in favour of their own natures, yet from neighbourhood and unavoidable communications of various kinds, might have imbibed the ideas of the Scandinavian bards from the Saxons and Danes, after those nations had occupied and overthrown all the other parts of our island. (See Scalds.) The effect of an intercourse with Armorica is perceived in the composition of those Welsh bards who flourished after the native vein of British fable had been tainted by the "fairy tales" which had been propagated by the Arabians in Armorica, and which the Welsh had received from their connection with that province of Gaul. It is easy to collect from the Welsh odes, written after the tenth century, many signatures of this exotic imagery. See Scandinavia, and Armorica.

BARDSEY-Isle, in Geography, an island of Wales, called in Welch Ty Tisudd, or the island in the current, from the fierce current which runs between it and the main land; and Bardsey, probably from the bards who retired here. It forms the north point of Cardigan bay, and is separated opposite to it, within the county of Caernarvon. At Aberdaron bay there is good anchorage; but the entrance for large ships is very difficult. It was to this place that Dubitius, arch-
archbishop of Caerleon, retired after he had resigned his see to St. David, and here he is said to have died in 612. Baref
sen Abbey, of which the remains are considerably, was found-
ed in the year 516. A singular oratory belonging to it, con-
fined of a long arched edifice, with an inhabited stone
altar near the cell end. The island forms a remarkably fertile
and well cultivated plan of about two miles in compass. It
contains a few inhabitants, and is rented from lord Newbo-
rough. It was granted by Edward VI. to his uncle sir
Thomas Seymour, and after his death to the earl of War-
wick. The late sir John Wynt purchased it from the late Rev.
Dr. Wilton of Newark. It is 10 leagues N.E. by
N. of Caernarvon bar, and 12 leagues N. by W. of Holyhead
in the isle of Anglesea, N. lat. 52° 58'. W. long. 5° 5'.

BARDSTOWN, a town of Kentucky, in the United
States of North America, and chief place of the county of
Nelson, on the Beech Fork river; about 25 miles from the Ohio,
N. lat. 37° 48'. W. long. 86° 13' 30'.

BARLETT, or Baruth, a small town of Germany, in the
duchy of Pomerania, situated in a small bay on the Baltic,
fix leagues west from Stralsund. It belongs to Sweden.
N. lat. 54° 20'. E. long. 13° 20'.

BARDUHITZ, or Parantitz, a town of Bohemia, in
the circle of Chrudim, celebrated for its manufactures;
seated on the Elbe; fix miles north of Chrudim.

BARE, in a general sense, signifies not covered. Hence
we say bare-headed, bare-footed, &c.

The Roman women, in times of public distress and mourn-
ing, went bare-headed, with their hair loofe.

Among Greeks, Romans, and Barbarians, we find a
feal called nudipedalia, at which perfons were to attend
bare-footed.

The Abyssinians never enter their churches but bare-
footed; not on account of Moses, who was commanded to
put off his shoes on mount Sinai, but in reverence of the place;
as is also done by them in entering the palaces of
kings and great men.

Sagittarius has a dissertation on those who went bare-
footed among the ancients, "De Nudipedalibus Veterum;" in
which he treats of such as went bare-footed in journeys or
otherwise, either out of choice or necessity; also of bare-
footed religious mourners and penitents, who went bare-
footed; and, lastly, of the leviti.

Bare, in respect of Manufacture. A cloth is said to be
bare or naked when the nap is too short, as having been
flown too near, or not being sufficiently covered with wool
by the teazed.

Bare is also used for a sort of bowling ground, not cov-
ered with green sward.

Bare-Foot Carmelites, and Augustines, are religious
of the order of St. Carmel, and St. Augufin, who go
without shoes like the Capuchins.

There are also bare-foot fathers of mercy. Formerly
there were bare-foot Dominicans and bare-foot runs of the
order of St. Augufin.

Bare-Feet Tritonians. See Tritonian.

Bare-Poles, under, in Sea Language, expresses the state
of a ship, when the has no sail set.

Bare-Pump. See Pump.

Bare, in Geography, an island in the Southern Pacific
ocean, near the east coast of New Ireland. It is high land,
not fertile, but inhabited; sittuate in S. lat. 39° 57', and
88° W. from cape Kidnappers.

Bare Haven, lies on the coast of Nova Scotia, in North
America, about three leagues S.W. from cape Canoe. It
is sheltered by an island off the point called White point.

BAREA, in Ancient Geography, a town of Spain,
upon the Iberian sea, in the country of the Baftuli. Pro-
lemly.

BAREE, in Geography, a province of Hindooftan, in the
country of Lohore, between the rivers Raurave, Beyah,
and Setclelge.

BAREGE Waters, in the Materia Medica, are cele-
brated thermal waters, situated in and near the village of
Barego, on the French side of the Pyrenees, at the foot of
thee lofty mountains. There are four principal hot springs
in this place, which differ, however, very considerably in tem-
perature, the highest being about 120 Fahr. and the lowest
about 73°. This variety of heat gives every convenience,
for bathing, drinking, and topical application. Chemical
analysis shews in this water a quantity of sulphur, in the
form of sulphated hydrogen, united to a small portion of
foda, a little common salt, and a kind of limy bituminous
matter. The sulphur and the soda, together with the
heat, may be considered as the active ingredients, but the
quantity of them is very small; as the water scarcely ex-
ceeds distilled water in specific gravity.

The waters of Barege are remarkable for a smooth foamy
feel, and they give supplenees and smoothness even to dead
skin that is immersed in them. They are used chiefly as a
difcoutent and detergent bath, in revolting indolent tumours
and rigidity of the joints left by gouty or rheumatic affec-
tions. They are also of great advantage in cutaneous dif-
fusees. Internally taken, the water gives relief in disorders
of the stomach, heartburn, indigiflon, colic, and also in
several calculous affections of the urinary organs. Saunders
on Mineral Waters.

BARETH, Bareuth, or Bayreuth, in Geography,
a town of Germany, in Franconia, in the margravate of
Culmbach. It is the capital of the principality, and often
called the principality of Bareuth. Its palace, which was
burnt down in the year 1753, was again rebuilt in a beauti-
ful style. It has one Calvinist and two Lutheran churches, a
Roman Catholic chapel, a public school, a foundling ho-
spital, and an academy, founded in 1722 by the margrave Fre-
deric, beides the college. In 1430, this town was burnt
down by the Hufites. It belonged to a prince of the house
of Brandenburg, the laft of whom dying in 1782, it descend-
ed to the king of Prufia. Near the Fichtelburg, Bareuth
produces a variety of beautiful marbles, and some curious
minerals. The principality of Bareuth is also known by
the name of Culmbach; and with Onolbach, forms the chief
power in Franconia, now annexed to the sovereignty of
Prufia. N. lat. 50° 15'. E. long. 11° 50'.

BARELY, a town of Hindooftan, in the province of
Oude; 41 miles S.S.E. of Lucknow.

BAREN, a river of Germany, which runs into the Roer,
near Schwert, in the county of Marec, and circle of Weil-
phalia.

BAREN, a town of Swifferland, in the Valais, 25 miles
call of Sion.

BARENA, in Ancient Geography, a town of Asia, in

BARENFLELS, in Geography, a town of Germany, in
the circle of Upper Saxon, and county of Erzgeburg, two
miles west of Altenberg.

BARENEST; or BERNSTEIN, a town of Germany,
in the circle of Upper Saxon, and margravate of Meifen,
17 miles south of Dresden.

BARENT, DIETERICK, in Biography, a painter of
history and portrait, was born at Amsterdam in 1534; and
having received early instruction from his father, traveled to
Venice, where he was admitted into the school of Titian,
and became the favourite disciple of that inimitable ma-

BARETTI, Joseph, in Biography, was the son of an architect of reputation, and born at Turin about the year 1716. He received a good education, but squandered his patrimony in gaming. Being of a rambling and defultry disposition, he was frequently reduced, notwithstanding his talents and literary character, to circumstances of distress. In 1748, he was employed at Venice in teaching the Italian language to some English gentlemen; and in 1750, at the mitigation of Lord Charlemont, he visited England, which was the place of his future residence. Possessing a wonderful facility in acquiring the knowledge of languages, as well as a critical acquaintance with his own, his talents were well adapted to the profession of a teacher of languages, in which he engaged. In 1753 he wrote a treatise in English, which was "A Defence of the Poetry of his native country against the cen- sures of Voltaire." About this time an acquaintance commenced between Baretti and Dr. Johnson, which was kind and cordial on the part of the latter, and respectful in the highest degree on the part of the former. As he had acquired reputation by some works which he had published on the Italian language and literature, he availed himself of his friend's English dictionary to compile a dictionary of the Italian and English languages, which first appeared in 1760, and which maintains its superiority over all other works of the same kind. In this year he visited his native country, with some prospects of preferment, in which he was disappointed; but on his arrival he published at Venice a periodical work, intitled "Peulch Literatur," under the character of an old coining folder who was returned to his country after long absence. His criticisms, however, in this work, which met with great success, were so severe, that he was obliged to leave the country; and after an absence of six years, he returned through Spain and Portugal to England. In 1768 he published "An Account of the Manners and Customs of Italy," intended chiefly as a reply to the severe criticisms of Mr. S. Sharp, the surgeon, in his "Letters from Italy." By Dr. Johnson he was introduced into the family of Thrale both as a teacher and a literary guest. In 1769, he visited Spain, probably intending to complete his account of a tour in that country. Soon after his return, an accident occurred, which was followed by various disagreeable consequences. Having engaged in an angry altercation with a woman of the town in the Hay-market, he was accosted by three men, who insulted and jollied him. Alarmed for his life, Baretti took out of his pocket a French dexter knife, and attacked one of the assailants; and unfortunately pursuing the contest and repeating the blows, he inflicted wounds which proved fatal. He was arrested and tried for murder at the Old Bailey. In this trial the public were much interested; and a number of men of the first literary eminence appeared to bear testimony to Baretti's character; among whom were Johnson, Burke, Garrick, Goldsmith, Reynolds, and Beaucour. The event was the acquittal of Baretti; but the charge very materially affected his reputation. In 1770 he published his "Journey from London to Genoa, through England, Portugal, Spain, and France," 4 vols. 8vo., which was deferentially well received; and he continued publishing introductory works for the use of students in the Italian and some other modern languages. Although he had been demilitated in the family of Mr. Thrale, he left it in 1776, in difficult, and by this sudden flirt of whim or ill-humour, involved the latter part of his life in many inconveniences and difficulties. His attempt, in 1779, for introducing to the public a classical entertainment, which was the "Carmen Seculare" of Horace set to music, failed of success. Reduced to a state of precarious subsistence, he obtained under lord North's administration a pension from government of 80l. a year, but during the urgency of public wants this fell into arrear, and Baretti could scarcely relieve himself from absolute indigence. His last performance was published in 1785, and was intitled "Tolendron: Speeches to John Bowle about his edition of Don Quixote; together with some account of Spanish literature." Oppressed by anxiety and uneasiness of mind, and with a constitution impaired by fits of the gout, he died on May 5th, 1789. Baretti, although he had a rough and somewhat cynical appearance, was formed for society, and his conversation was instructive particularly to young persons, with whom he had much intercourse. Having lived much in the world, and having had no opportunity in early life of acquiring fixed principles, he indulged a considerable laxness and freedom of opinion. However his integrity was unimpeached, his morals were pure, and his manners were correct. His charity had no bounds, and by the imprimatur with which he exercised it, he was himself involved in difficulties. His literary talents, though not of the highest order, were useful and agreeable. "I know no man," said Dr. Johnson to Bofwell, "who carries his head higher in conversation than Baretti; there are strong powers in his mind; he has not, indeed, many hooks, but with what hooks he has he grapples very forcibly." Bofwell's Life of Johnson. Europ. Mag. for 1789. Gen. Biol.

BARF, in Geography, a town of France, in the department of the Lower Pyrenees, and chief place of a canton in the district of Maulne, 5 miles S.E. of Maulne.

BARFE, in Laws, a fee of 20 pence, which every person acquitted of felony pays the gaoler.

BAREFLEUR, in Geography, a sea-port town of France, in the department of the Channel. It had formerly a good harbour and a considerable trade; but in consequence of neglect, the harbour is choked with sand, and the trade decayed. Cape Barseur is six leagues east from Cherbourg, in N. lat. 49° 40'. W. long. 1° 17'.

BARGA, a town of Italy, in the duchy of Tuscany, on the river Senchio, two leagues from Lucca.

BARGAIN, in a General Shape, a contract either for the sale, purchase, or exchange of a thing. The word is formed from the French bargaigner, to barter or haggle. He that sells is the bargainer, and he that buys the bargainee.

BARGAIN and SELL, in Law, is properly a contract made of
of manors, lands, and other things, transferring the property thereof from the bargainer to the bargainee, for a consideration in money: or, it is an instrument by which the property of lands and tenements is for valuable consideration granted and transferred from one person to another. It is called a real contract upon a valuable consideration, for palling of lands, tenements, and hereditaments, by deed indented and enrolled. 2 Inst. 672.

It is a good contract for land, and the see palles, though it be not laid in the deed, to have and to hold to him and his heirs, and though there be no livery and seisin given by the vendor, so it be by deed indented, sealed, and enrolled, either in the county where the land lies, or in one of the king's courts of record at Westminster, within six months after the date of the deed.

This manner of conveying lands was created and established by the 27 H. VIII. c. 10, which executes all sales raised; and as this introduced a more secret way of conveying than was known to the policy of the common law, therefore the enrolment of the deed of bargain and sale was made necessary by the 16th chapter of that statute. The objects of this provision evidently were, first, to enforce the contracting parties to ascertain the terms of the conveyance by reducing it into writing; secondly, to make the proof of it easy, by requiring their seals to it, and consequently the presence of a witnesse, and lastly, to prevent the frauds of secret conveyances, by substituting the more effectual notoriety of enrolment, for the more ancient one of livery. But the latter part of this provision, which, if it had not been evaded, would have introduced almost an universal register of conveyances of the freehold, in case of corporal hereditaments, was soon defeated by the invention of the conveyance by lease and release, which sprung from the omission to extend the statute to bargains and sales for terms of years: (See 8 Co. 92; 2 Ro. Abr. 204. 2 Inst. 671.) and the other parts of the statute were necessarily ineffectual in our courts of equity, because there were still left at liberty to compel the execution of the trusts of the freehold, though created without deed or writing. The inconveniences arising from this insufficiency of the statute of enrolments, are now in some measure prevented by 29 Car. II. c. 3, which provides against conveying any lands or hereditaments for more than three years, or declaring trusts of them, otherwise than by writing. 1 Inst. 48 a. n. 3. See Blackf. Com. vol. ii. p. 538. Jacob's Law Dict. by Tomlyn, Art. Bargain and Sale.

Bargains, in Co-operation, are of divers kinds: verbal, those made only by word of mouth, and giving earnest; written, those where the terms are entered in form on paper, &c.

At Amsterdam they distinguish three kinds of bargains.

Bargains, Conditional, for goods which the seller has not yet in his possession; but which he knows have been bought for him by his correspondents abroad, and which he obliges himself to deliver to the buyer, on their arrival, at the price and the conditions agreed on.

Bargains, Firm, those wherein the seller obliges himself to deliver to the buyer a certain quantity of goods, at the price and in the time agreed on.

Bargains, Option, those wherein a dealer obliges himself, in consideration of a premium received in hand, either to deliver or take a certain quantity of goods at a fixed price, and within a time limited; but with a liberty, nevertheless, of not delivering or not receiving them, if they think proper, upon forfeiture of their premium.

Bargains, Forehand, are those wherein goods are bought or sold, in order to be delivered at a certain time afterwards, some part of the price being advanced.

BARGASA, in Ancient Geography, a town of Asia, in Caria, seated at the bottom of the gulf called Ceramicus.

BARGAZAR Point, in Geography, a cape on the coast of Iceland. N. lat. 66° 18'. W. long. 16° 38'.

BARGE, in Navigation, a kind of flat, or pleasure-boat, or large luggage boat, used chiefly in the navigation of rivers which lead to great cities.

Barges are of various kinds, and acquire various names, according to the variety of their uses and frature: as,

A company's barge, A Severn barge, A rover barge, A ware barge, A royal barge, A land barge, A West-country barge.

A barge differs from a bark, as being smaller, and used only on rivers; whereas the latter goes out to sea.

There are also barges, belonging to men of war, serving to carry generals, admirals, and chief commanders.

Sailing barges are vessels with one mast, and sometimes a bowsprit. Those that have boom-fails, are rigged like sloops; but, having few hands on board, the boom and gaff are more easily loisted or topped, the power being increased by the addition of blocks. Sailing lighters or barges, with a spirit-mainail, rig with a spirits-yard at the head of thefail, hanging diagonally to the mast. Some large barges have vangs like a ship's mizen, and a down-hauler at the peak-end of the spirits-yard. Large barges have a foresail, jib, crossjack-yard, and top-sail, similar to sloops.

Barge, or Barges, in Geography, a town of Piedmont, in the district of the four Vallies, 71 miles south of Pinerolo.

Barg-Brun, in Ornithology, Buffon's name of the dusky nipe; foledapus fulva, Gmelin.

Barge Blanche, is likewise a name assigned by Buffon to the white avoet, recurvirostra alba, Gmelin.

Barge le Chatel, in Geography, a town of France, in the department of the Ain, and chief place of a canton in the district of Pont-de-Vaux, 4 leagues W.N.W. of Bourgen-Bresse. N. lat. 46° 19'. E. long. 4° 49'.

Barge-Couples, in Architecture, a beam mortised into another, to strengthen the building.

Barge-Course is used by workmen to signify a part of the tiling, which projects over the gable of a building, and is made up with mortar.

BARGEMON, in Geography, a town of France, in the department of the Var, and chief place of a canton in the district of Draguignan, 2 leagues N.W. of Draguignan. BARGEH, is used in some places of England for a steep horse-way up a hill.

It seems to come from the German bargt, a hill.

Barg-Master, Barner, or Bar-Master, in the Royal Mines, the steward or judge of the barghmote.

The word is formed of the German barg-meister, q. d. master of the mines.

The bar-master is to keep two great courts of bargmote yearly, and every week a small one, as occasion requires.

Barghmote, or Barmote, a court which takes cognizance of caufes and disputes between miners.

Some suppose it thus called from a bar, at which the suitors appear; others, with more probability, derive the word from the German barg, a mine.

By the custom of the mines, no perfon is to sue any miner for ore-debt, or for ore, or for any ground in variances, but only in the court of bargmote, on penalty of forfeiting the debt, and paying the charge at law.
BAR

BARGICAS, in Ancient Geography, a town of His-panic Tarraconensis, situated in the inner part of the country, and in the territory of the Vaccaens. Plutarch.

BARGIE, in Geography, the name of a borough in the southern part of the county of Wexford, province of Lein-ster, Ireland, which, with the adjoining one of Forth, was proxeoted by the followers of Earl Strongbow. The ling- uage is still understood to be a broken Saxonic, more like Flemish than English, and not one in a hundred knows any thang of Irish. "They are evidently," says Mr. Young, "a distinct people, and I could not but remark that their features and cult of countenance varied very much from the common native Irish. The girls and women are handsome, hav- ing much better features and complexions. Their industry is superior to that of their neighbours; and their better living and habitation are also distinctions not to be forgotten. The poor have all barley bread and pork, herrings, and potatoes. On the coast there is a considerable inherit of herrings." Both men and women wear straw hats, which give them a comic appearance. The inhabitants are reckoned more industrious and cleanly, and better farmers than in any other part of Ireland; but Mr. Young found their system very defective. The farms were in general from 20 to 60 acres at an average rent of a guinea per acre. The foil is light, and being extremely well tilled, produces large quantities of barley, Young's Tour, and Latecmy's Rambles through Ireland.

BARGOSA, in Ancient Geography, a town of Spain, which was the country of the philoporer Zarmanocheagaa, who committed himself to the flames in the presence of Augulus, according to Strabo.

BARGOTA, in Geography, a town in Spain, Na- varre, 6 leagues from Elfella.

BARGULIA, or BARGULIS, in Ancient Geography, a place of Ilyria, in the neighbourhood of the people deno- minated Parthini, which Philip ceded to the Romans by a treaty, 204 years before the vulgar era.

BARGUS, a river of Ilyria; both sides of which were inhabited by the Scordifis; it discharged itself into the Iber, according to Strabo. Phiny says, that a river of this name flowed into the Hebrus.

BARGUSI, an ancient people of Spain, to whom envoys were sent from Rome to solicit the Spaniards to take part with the Romans rather than with the Carthaginians. They inhabited the interior of Spain, on the other side of the Ebrus; and were subdued by Hannibal. Livy, l. xxi. 19, 27.

BARGUSIN, in Geography, a town of Siberia, in the province of Nerthinsk, in the government of Irkutsk, formerly an oisleg, now a circle-town, on the right bank of the river Bargusin, 20 versts above where it falls into the Bargusinian bay of the Baikal, 53° lat. 127° long. 524 versts north-east from Irkutsk. It is most remarkable on account of the baths in its district. They were discovered in a wakie region, at the distance of eighty versts from any habitation. M. Grand, surgeon to a regiment quartered in those parts, having successfully prescribed the use of these baths to sev- eral patients, M. Von Kitkha, the governor of Irkutsk, in 1779, caused some buildings to be erected there. They have proved of great benefit to persons afflicted with rheu- matism, fevers, phthisis, and other complaints of a like nature; there it is said to be a broken Saxon, more like its aboriginal tribe resembling that of rotten eggs, mixed with milk. It promotes perspiration, does not quench thirst, and may be drank in large portions. When boiled, it is of a very agreeable taste, and is particularly good with tea.

BARGYLA, BARGYLL, or BARGILE, in Ancient Geography, a town of Asa Minor, in Caria, near Jafes and Mundos. It is mentioned by Pliny, Strabo, and Pto- lemy. It was situated near the Meander, south of Miletus. M. d'Anville places it north-east of Halicarnassus, on the gulf called Iasius.

BARGYLYS, a mountain of Phocicia, on the confines of Syria, on the way towards Antiochene. It was situated north of Mount Libanus.

BARI-NAGASH, in Geography. See Baharna- ges.

BARI, a sea-port town of Italy, in the kingdom of Na- ples, on the coast of the Adriatic; once the capital of a province of the same name, and seat of an archbishop. It is well built, populous, and has a good trade. The harbour was almost destroyed by the Venetians; 120 miles. E.N.E. of Naples. N. lat. 41° 31'. E. long. 17° 45'. It contains, says Swinhurne, about 6000 people.

BARI, or Terra di Barri, a province of Naples, deriving its name from its capital. It is bounded on the north and north-east by the sea, on the coast and south-east by the prov- ince of Otranto, on the south by the Basilicata, and on the west and north-west by the Capitanata. It is about 62 miles long, and its mean breadth is rather more than 20 miles. It produces corn, wine, oil, cotton, linen, and fruits; and the coast is guarded against the corsairs by fixed fortresses. Its chief ports are Barletta, Trani, Barri, and Monfetta; its mountains are Sanazzo, Feronia, Monti, Lopulo, Franco, and St. Agodina; and its rivers are Olanto and Cane. The extent, according to Swinhurne, is 369,097 morgia, 5 morgie being equal to 4 English acres; and he states the number of its inhabitants to be 281,048. The city of Barri is the ancient Bariun; and coins struck by its principal magistrates still exist. The Lombards, Greeks, and Saracens disputed the possession of this city in the ninth century. In the tenth, it reëst to distinction on becoming the residence of the Greek catapan or viceroy, and a metropol-itan bishop. The book of constitutions, compiled for the juridical government of the province, and fill in the use, is a respectable voucher for the importance and policy of Bari, during the middle ages. About the year 1300, Bari became the scene of conspiracies and revolutions. Melo confederated against the Grecian emperor in this place; but it retained its subjection to the caliph, and was one of the last and foremost supports of his dominion. In 1067, Robert Guifard invaded it by sea and land, and en- closed it by a semicircle of ships joined together by chains and booms, in order to prevent its obtaining succours. This blockade lasted four years. Earl Roger afterwards joined his brother with a strong fleet, defeated the Imperial squadron sent for the relief of the city, and made its ad- miral prisoner; upon which Bari opened its gates to the conquerors. A citadel was erected by king Roger for re- cording the allegiance of this town, but it was hardly finished when Lotharius razed it to the ground. At this time, Bari was a populous and strong place. It was afterwards treated with great severity by William the Bad, who levelled the dwellings of the inhabitants who joined in the grand rebel- lion against him to the ground. The city, however, must have riven speedily out of its ruins, as the emperor Freder- ick reëstablished an annual fair here in 1235; but in 1248, he ordered the town to be destroyed, by way of punishing the inhabitants for treasonable practices. Bari frequently changed its proprietors, till it was settled by Alphonius the second upon the family of Sforza, in consideration of the marriage of his daughter Isabella with the duke of Milan. According to treaty, these estates became the property of Bona, queen of Poland, at whose death this duchy returned
BAR

to the crown, to which it has ever since remained annexed.

BARJAC, a town of France, in the department of the
Gard, and chief place of a canton, in the district of Alais. The
place contains 1373 and the canton 2280 inhabitants; the ter-
ritory includes 1074 kilometeres and 8 communes.

BARJAN, in *Agriculture*, a town of Alfis, in
Melopotamia. Polevny.

BARJARE, in Geography, a town of Peria, in
the province of Kerman, 15 leagues S.W. of Siogian.

BARJEI, or BARNACLE POINT, is the south-easterly part
of Wighthorpe's bay on the north-east coast of Antigua island,
and on the west side of the channel into Parham harbour.

BARILLA, or Barilha, is the term by which the
impure mineral alkali from the coasts of Spain and some
other parts of the Levant is known in commerce. That
from Alicant and the coasts of the province of Murcia
is the most esteemed. It is brought over in the form of hard
brown speckled porous mafles almost without smell, and
sailing strongly alkaline. It is procured by burning to ashes
several plants growing on the sea-shore of the species of
Salpila and Kali. For the particulars of this manufacture, see
Salpila. The term *Barilla* is also applied sometimes to *Kelk*, a much more impure soda, and sometimes,
though improperly, to *peas* in the plant containing
potash, the vegetable alkalis. See Carbonat of Soda.

BARILLARIUS, an ancient officer in monarchies and
great households, who had the care of the cafes and vealises
of wine, &c. in the cellars.

BARILLOVITZ, in Geography, a town of Croatia, on
the River Korana, 10 miles south of Carlstadt.

BARIN, a town of Asiatic Turkey, in the province of
Natolia; 12 miles south of Amasaiah.

BARING OF TREES, in *Agriculture*. See ABRUL-
ATION.

BARJOIS, in Geography, a town of France, in the
department of the Var, and chief place of a canton in the district of
Brignolles. The town is populous, and situated in a plea-
sant country; 9 leagues north of Toulon. The place
contains 3025 and the canton 8079 inhabitants; the territory
includes 250 Kilometeres and 11 communes. N. lat. 43° 38'.
E. long. 5° 23'.

BARQUISEMETO, a river of North America, in
the country of Terra Firma, which runs into the Oro-
noko.

BARISSOGLBSK, or Bogissoglbesk, a town newly
erected by Catharine II. in the province of Yaroslav, is
situated on the Volga, 57° 39' lat. 57° 6' longit. has 4
brick, and 417 wooden houses, 2076 inhabitants, and a
brick church. The trade of this town consists in the pro-
duction of the fishery and several manufacturies of hardware;
chiefly pots and kettles. The home and foreign trade to-
gether amount nearly to 60,000 rubles. There is also a small
town of the same name, situate 59° 50' lat. and 60 longit. on
the Kipper, in the government of Tambul, consisting of
400 timber-houses, and 804 male inhabitants, several of
whom are shop-keepers. It has two timber churches. The
merchants a few years since infcribed themselves in the
generals as possessing a capital of only 13,126 rubles. Here
is a considerable distillery.

BARITON, in Metes, a voice of low pitch, be-
tween a tenor and bafe. The term is formed of two Greek
words *γαύς, grave, and νοος, tongue.* But those who are not partial to
base voices, rather choose to derive the word from the
Italian verb *barite*, to bray.

BARK, in *Vegetable Anatomy*, is a term by which is
commonly understood the exterior part of vegetable bodies;
which is separable from the other parts of the plant without
much difficulty, during the season of vegetation; but at other
periods requires incision in water, or boiling, and when
detached by any of these means, the inner connection which
make it to the wood are necessarily destroyed.

When bark is thus separated, and subjected to micro-
sopic examination, it exhibits parts differing much in struc-
ture and use. These have been divided by authors into the
epidermis or cuticle, the cellular envelope or parenchyma,
and the cortical layers and fiber.

The Epidermis is situated most externally, and gives a cov-
ering to every part of the vegetable body, except the
authors and pits of flowers. Its texture is varied not only ac-
cording to the specife of plant to which it belongs, but allo by
the different parts of the same plant; thus, it is strong, dry,
and unyielding, upon the roots and trunks of trees; com-
monly smooth, glossy, and flexible upon leaves and flowers;
and sometimes it is villous, or covered with fine projecting
processes like hairs. The moll utal colour exhibited by the epidermis is
that of green upon the younger branches, and an ash-colour up-
on these parts of the plants which are most aged; it is how-
ever white and thinning in the birch, red and flowering in
the cherry-tree, and brown upon the horse-chestnut and apple-tree.

The epidermis is notwithstanding, in all cases, a trans-
parent membrane, and derives its colour from the substance
which is placed immediately behind it, in the same manner
as the colour of the skin of animals is produced by the exis-
tence of the mucous membrane.

In order to examine the epidermis of vegetables with suc-
cess, it is necessary to detach it from the cellular tissue, upon
which it is immediately applied. This is not difficult to per-
form, when the plant is full of sap, at which time the epider-
more must be removed by a fine knife or lancet; but at
other periods it must be submitted to a previous incision in
water before it will separate. When a portion of the vege-
table cuticle is thus obtained, it should be inspected under
water or spirits, and if viewed with a lens of moderate
power, it exhibits the appearance of a plexus or network,
by which the meshes are not vacant, but filled by a fine pell
ide membrane, as may be seen in Fig. 1. of Plate I. in *Ve-
etable Anatomy*; and the fibres composing the reticulation ap-
ppear more condensed in some places than others, as repres-
ented in the letters a a. Hill describes the cuticle of plants
as a triple membrane, or three plexuses laid one upon the
other. He observed, by employing high magnifying pow-
ers, that these plexuses were of regular forms; that what
appeared as fibres in the perpendicular directions were longi-
dudinal veils, and the spaces left between these veils were
oblong cells, close at their bottom, but open at the top; and
that the junctiop of the cells occasioned the appearance of
transverse lines; and thus the reticulation was rendered com-
plete. He even professed to have injected these veils, by pro-
ceeding an absorption of a solution of the cerula acetate,
or fugar of lead, and afterwards making it visible by adding
a mixture of lime and oat-meal; and in other instances he
filled the longitudinal veils by the absorption of the tre-
mip of cochineal. The description, which has been given
of the epidermis by Hill, does not appear, however, to de-
serve much attention, as it differs so much from that of
other writers. It is indeed true, that Du Hamel and others
have observed a second epidermis under the first, which ap-
ppeared more green, fresh, and succulent; and that on those
trees which frequently call the cuticle, as the birch, cherry-
tree, &c. there is a succession of layers; but this does not
prove that the epidermis is not a single membrane when first
formed, and that where there are more layers than one, each
is a perfect cuticle, proceeding in its turn to be exfoliated

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or
or cut off. This mode of preparation resembles what takes place in animals, especially in some reptiles, which have the new cuticle perfectly formed, before the old one is parted with. Upon the trunks of most trees which are dicotyledons, the successive layers of epidermis continue to adhere together; each of these cracks, and gives way as the tissues in the fleshy part of the trunk permit, and hence the deep clefts which always appear in the bark of trees of any age. The several laminae, which are in this manner left surrounded by the cracks, are larger or have more extent, the nearer they approach to the wood, in consequence of the most external epidermis having first yielded to the growth of the tree.

No subject has occasioned greater controversy among vegetable anatomists, than the mode in which the cuticle of plants is formed. It was the opinion of Malpighi and Grew, that the epidermis was produced by the bulk vehicles of the cellular envelope, in consequence of their exposure to the air; but if the cuticle was formed by the dehydration of the cellular tissue, it would not admit of that extension which takes place in all circumstances to a certain degree, and which is so remarkable in the cuticle covering leaves, flowers, and fruits, and all parts of which the growth is rapid.

Several other circumstances might be mentioned to show that the epidermis can be produced by the drying of the cellular substance; thus when it is wounded or destroyed, and the part perfectly secluded from the action of the air, a new epidermis is soon produced without any exfoliation. The cuticle is in some instances formed, and in others continues to grow, under circumstances entirely beyond the agency of heat and evaporation, as may be observed in the fossil plant, and its appendages, and the internal surfaces of buds, &c.; but although the epidermis does not appear to be the cellular tissue simply dried by exposure, it is sufficiently plain that it is the continuation of the same membrane which forms the cellular envelope.

According to the latest observations made on this subject by Mirbel, who is one of the most ingenious vegetable anatomists of the present time, the lines which give the reticulated appearance to the epidermis, correspond in figure with the cells of the parenchyma, and are really the termination of the septa of these cells in the cuticle. (See fig. 2. Plate I. Vegetable Anatomy.) The tubular tissue, which in some cases is perceived upon the surfaces of plants, enters also into the composition of the epidermis, as represented in fig. 3. Plate I. Vegetable Anatomy. These small tubes are, however, upon close inspection, found to be composed of cells very much elongated, from whence it would appear, that the cellular substance is alone fitted for producing the epidermis of vegetables. The manner in which the cellular tissue is converted into cuticle, is probably beyond the reach of investigation; but that it is not the mere result of exposure to the air, is sufficiently plain from the facts already noticed. Like many other of the changes and operations of organic matter, we are unable to discover its immediate efficient cause, and in such cases, we must be content with observing the phenomenon, and stating it as the effect of a law of the system.

The growth of the cuticle is subject to considerable variety, according to the plant to which it may appertain, or the different parts of the same vegetable; thus, on leaves, flowers, fruits, &c., we do not meet with the successive layers of dead epidermis that exist upon trunks and branches. Some vegetables again have greater accumulations of dead cuticle than others; some get rid of these by repeated exfoliations; the plantane calls its cuticle every year; the epidermis of herbaceous plants and those which are not perennial, is always most delicate in its structure.

The epidermis presents no peculiarities in the monocotyledons, or those plants with one feimal leaf.

The uses of the external or cuticular portion of the bark have been much contended, although many of these are exceedingly obvious: it is evident that it serves as a defense to the whole surface of the vegetable; and accordingly we find its composition and strength dependent upon the functions which each part of the plant performs, and the injuries to which it is liable; on the roots it is tough and flexible; on the trunk rough, thick, and unyielding; on the leaves, flowers, and such parts as are only to perform temporary existence, and which at the same time exercise important functions, the cuticle is thin, delicate, and soft. The epidermis serves to guard the plant against the effects of meteors; it likewise affords to moderate the operation of heat and cold, and thereby contributes to the maintenance of the equality and independence of vegetable temperature; it regulates the action of light upon the cellular tissue, and thus co-operates in the fixation of that subtle matter; but the most important, perhaps, of all its uses is the giving pâlfage both to the fluids absorbed for the nutrition of the plant, and those expelled by transpiration, &c. Befides these known offices of the cuticle, others are ascribed to it. Many authors imagined that it restrained the growth of the whole tree; this however is disproved by the simple experiment of removing a portion of the cuticle, when it has been found that no bar or swelling took place; those trees also which are most distinguished for the cracks of the cuticle, are not observed to grow fatter than others. For a further account of the functions of the cuticle of vegetables, see Epidermis, Leaves, Etiolation, Transpiration, Inhalation, and Pores.

The cellular envelope. This was the name given by Du Hamel to the cellular substance immediately under the cuticle, in consequence of its extending over every part of the plant; by Grew it was called parenchyma; and Mirbel, whose abilities have been already mentioned, has with propriety made a distinction between the cellular tissue immediately next the cuticle, and that which is continued into the cortical layers; the first he terms the herbaceous tissue, the other the parenchyma.

The herbaceous tissue is composed of cells of an hexagonal figure; when applied to each other that each of the sides affords in forming the parieties of the adjoining cell, precisely like the construction of a honey-comb. The membranes composing these cells are extremely fine and transparent. See fig. 4. Plate I. of Vegetable Anatomy, in which the cellular structure is highly magnified, and also some foramin or pores, which establish a communication between the several apartments. These pores are not above the 500th part of a line in diameter. In some instances, the cells are elongated, especially in the parenchyma of the monocotyledons, which is exhibited in fig. 5. of Plate 1.; and it is remarkable, that in proportion as the vessels become elongated the pores of communication are more frequent and regular. In some cases, where the cells are very much elongated, they are arranged in rows succeeding each other by intervals, which are perfectly regular. (See Glands, and Pores.) The cellular tissue has been described, by some writers, as composed of a number of fibres, interwoven like the texture of felt. Hall says it only differs from the epidermis in having its parts more distinct; and Malpighi believed the cellular substance to be made up of distinct vehicles, collected together, which he called utricules, but, as we have already said, this is not the case; the whole being one continuous membrane, every part of which enters into the construction of two cells. Grew compared the cellular substance to the bubbles observed upon the surface of fermenting liquors, which is a very happy similitude, inasmuch as it conveys a very perfect idea of its appearance when only examined with a single
less; but when the highest magnifying powers are employed, the hexagonal figure of the cells becomes evident. The herbaceous tisue is the immediate cause of the colour of the epidermis, and its own colour, again, depends upon that of the fluid contained in the cells, which is usually green, but is sometimes brown, red, yellow, &c. This juice is of a renewable nature, which circumstance would appear, as well as the colour, to be the effect of its continual exposure to the light. It is probable that the sap is originally deposited in the cells, in the state in which it is absorbed, that is, consisting of water and carbonic acid gas, and that there, by the agency of light, it undergoes a decomposition; the oxygen contained in both the water and fixed air being discharged by the pores of the cuticle, the carbon of the carbonic acid, and the hydrogea of the water producing the oils and the resins. A number of consequences arise from this operation, not only to plants themselves, but to the animal world, which make it the most important process carried on in the vegetable system. See Etiolation, Light, Oxygen, and Transpiration.

Parenchyma. This part is composed of cells like those described in the herbaceous tissue; indeed, the only difference which exists between these two parts of the cellular substance, is in the colour of the contained fluid; the one being usually green, in consequence of its exposure to the light; whilst the other, not being situated so superficially, is generally found transparent. In other respects, they agree in structure, and appear to be formed of the continuation of the same membrane.

The parenchyma of Mirbel corresponds with the tissue cellulare of Du Hamel, the utricles of Malpighi, and the parenchymatous substance of Grew; whilst the herbaceous tissue is more fitly the envelope cellulare of Du Hamel.

The parenchyma is not confined to the superficialities of vegetables; it passes between the fibres of the cortical and ligneous layers, and forms the pith or medulla; the phellogen of leaves and petal is dependent upon its existence; fruits, seeds, and the embrio plant, are almost entirely composed of it; bulbous, and other succulent roots, owe their bulk to it; nor other structure is observable in the fungi and fungi; in short, the cellular tissue is the first and final state of vegetable organization, and serves as the connecting medium between all the parts of the plant.

There is, strictly speaking, no circulation of the juices contained in the cellular tissue; fluids, however, being admitted into any of the cells, easily pass into the neighbouring ones, by means of the small pores of communication, already described.

The texture of the cellular substance is very speedily broken down by maceration, or boiling in water; which circumstance should be recollected in preparing the parts of plants for examination; otherwise the natural connections, which are produced by the cellular tissue, may escape observation.

The Cortical Layers and Liber. When the epidermis and the cellular envelope have been removed, the remainder of the bark appears to be made up of a number of reticulated fibres, containing cellular substance in their interstices; this appearance of the cortical fibres is plain to the naked eye, especially if the cellular tissue, which passes amongst them, be at all destroyed by maceration, or other means; but if examined by the microscope, these fibres become very distinct; their arrangement is then perceived to be singular, and difficult to describe. The fibres in their course, although longitudinal with respect to the plant, are not parallel with each other; each makes a flight curve, and thus comes into contact with the one adjoining, with which it usually becomes incorporated or united, and thus produces a plexus or network, which was called by Du Hamel the cortical plexus; sometimes these fibres merely touch each other, and then go off again, to compose another mesh in the plexus, see fig. 6.

Plate 1. of Vegetable Anatomy; and point out the reticulation produced by the fibres, and add the meshes, or spaces left between them. The meshes are not vacant in the recent vegetable, but filled with cellular tissue, which admits of the transverse motion of the fluids in plants. Du Hamel shows, that upon examining these fibres by a high magnifying power, each appeared to be a faciulus, the fibres of which could be again resolved into fibres, and these again could be divided into others, until they became too minute for observation; he, however, as well as other authors upon the subject, supposed that the cortical fibres to be vessel. See Vessels.

The cortical layers, as the term implies, are not single, but consist of a number of concentric laminae, placed upon each other in such a manner that the meshes of one plexus are situated opposite to those of another. Fig. 7, Plate 1, exhibits this circumstance as it has been represented by Du Hamel. The cellular tissue passes through all these meshes, and thus produces a kind of intertexture, which Malpighi compared to cloth, and which the longitudinal fibres of the wood, and the transverse fibres of the vessel are called the tesselary or vessel layers. These vessel layers are smaller, the more internally they are situated; the gradation in this respect is regular from the external layer to the wood, as may be perceived in fig. 8, 9, 10, in Plate 1, of Vegetable Anatomy. In the moss internal plexus, fig. 10, the longitudinal saccidia are nearly parallel, and so close to each other that the interstices are almost obliterated.

The cortical layers, or network, are found to increase in number according to the age of the part which furnishes them. Thus Du Hamel reckoned only five or six plexuses upon the upper branch of the hinde tree, and seventeen at the base of the trunk of the same tree.

The same disposition of fibres does not exist in all plants; in the lattage, or the lace bark tree, for instance, the cortical plexus exhibits a texture like gauze or lace. See fig. 11.

Plate 1. of Vegetable Anatomy.

Much confusion may be observed in the descriptions which authors have given of this part of the bark called liber. The name would appear to have taken its origin from the likenesses which the cortical plexuses, when partially separated, bear to the leaves of a book; and, conformably to this idea, Grew and others have considered all the cortical layers as belonging to the liber; whilst, on the other hand, Malpighi has given this name to the innermost layer only. The liber is, however, generally allowed to be the most important part of the bark, and is that substance for which the cortical layers are formed. When the bark is stripped off a tree in a state of full vegetation, in a very short time a gelatinous substance is observed to exude upon the surface of the wood; this substance acquires organization, and is converted into a new bark. It was termed pavisum by Du Hamel; the manner in which it is produced, and its composition, are both unknown, but its high utility in the vegetable economy is proved by some beautiful experiments. This formative or organizing substance is constantly renewed during the period of vegetation, and immediately produces the liber, which is intestibly converted into the layers of bark, and the alburnum, or white imperfect wood, which is next the bark; and hence the acceions of bulk in perennials, which are made every year, and indicate the age of the tree. That the liber is the immediate source of both the wood and the bark, or the central point or fountain of organization, is proved by two very elegant experiments made by Du Hamel. He separated a portion of the bark of a plum-tree, and made sure that it possessed the inner cortical layers.
layers or liber; he then removed the similar portion of bark from a peach-tree, and replaced it with the piece taken from the plum-tree. The graft perfectly succeeded; and upon a future examination he found, that not only the engraved bark continued to grow, but that a corresponding portion of wood was produced, which was very distinguishable from the rest of the tree, as it polished the red colour of the wood of the plum-tree, from which the bark had been removed. The other experiment is equally decisive; he pitted several silver wires through the bark of a tree, in the formation of full vegetation, some of the wires only went through the parenchyma, whilst others were inserted into the liber; those which had only penetrated the cellular tissue, obeyed the eccentric propensities of the bark, and as the tree grew came nearer the surface; but the wires which had passed through the liber, were carried towards the centre, and after some years, were found covered with many layers of wood.

The conclusion which Du Hamel drew from these experiments was, that the bark produced the liber, the alburnum, and the wood; but it is Mihel's opinion, that the wood in giving origin to the cambium, produces the liber, which is finally converted into both the bark and wood. For the further discussion of this subject, see Cambium, Liber, and Wood.

It should be observed, that the period of vegetable existence depends upon the power of the plant to produce the cambium, and consequently, the liber; accordingly, in herbs, most of which do not live more than two years, the succulent layers which characterize the wood of trees, are not to be seen.

Hitherto we have been describing the arrangement of the cortical layers, in the dicotyledons; in those plants, however, which are called monocotyledons, or having one seminal leaf, the disposition of these parts is very different; only the cuticle and cellular substance are found on the surface of these vegetables; there are no concentric layers of either bark or wood; the interior of the plant is filled with parenchyma, in which are contained the woody fibres, scattered at irregular distances; the cambium is deposited round each fibre, and there produces the tubular and cellular tissue; the tubular tissue forms the porous wood or alburnum, which contracts in thickness, elongates and is infinitely converted into the perfect wood, and in contracting is detached from the parenchyma and leaves a vacancy which is presently filled up by a new cambium; each of these fibres, therefore, might with propriety be considered as a distinct vegetable, inasmuch as it has the means of an independent growth. See Cambium, Wood, Monocotyledon, and Dicotyledon.

It has already been observed, that some of the more simply organized vegetables, such as the fungi and fuci, do not possess in any of their substance either cortical or woody fibres, but are altogether composed of the cellular tissue.

After the account which we have given of the different parts entering into the structure of the bark, it is unnecessary to insist upon its uses in the vegetable system; in it reside almost all the powers and energies of the plant; wounds only are healed by it; upon the exact contact of the liber of two trees depends the whole of the fucres in engraving; and in the bark are prepared not only all the juices and febrifications which are required for the formation and increase of the plant, but those peculiar substances which are applicable to so many of the purposes of common life and of medicine. See Versilia, Sucra Propria, and Secretion.

Bark, Peruvian, Cortex Peruana. The high importance in medicine of the Peruvian bark has appropriated to it exclusively the term of the bark. We shall describe it under the botanical and now official name of Cinchona.

Bark, in Agriculture, a substance frequently employed by cultivators as a manure to particular kinds of land.

The bark of trees in general, and particularly that of the oak, becomes an useful manure after it has been employed by the tanner in the preparation of leather. One load of oak bark laid in a heap and rotted after having been thus used, it is said, will do more service to stiff cold land, and its effects will last longer, than two loads of the richest dung. Mr. Miller in his Dictionary observes, that it is much better for cold strong land than for light hot ground, if it be used alone as taken from the tan-yard; because it is of a warm nature, and it will loosen and separate the earth so effectively, that, by only employing it two or three times, a strong soil, not easy to be wrought, may be rendered perfectly light and loose; but by mixing it with earth of a nature contrary to that which it is intended to correct, and in a proportion fitted to the nature of the foil on which it is to be laid, it will prove a good manure for almost any sort of land.

And Mortimer has even asserted that it will alter and change the very nature of the soil, and turn it into a rich black mould. As it abounds with vegetable matter derived from the tree to which it belonged, and is strongly impregnated with animal materials by the length of time which it has remained in the tan vats, in contact with the skins and hides of animals, it must necessarily prove beneficial as a manure where judiciously applied.

When laid on grass-land it has been recommended to be spread out over it soon after Michaelmas, that the winter rains may wash it into the ground to the roots of the grasses, as when laid on in the spring, it is apt to burn the grases, and, instead of improving it, do considerable injury for that reason. But when employed on arable land it should be applied and spread before the last ploughing, in order that it may be turned down lightly into the soil so as the fibres of the corn may easily reach it in the spring; when it lies too near the surface, it has however been supposed to forward the growth of the crop at too early a period, and to be nearly consumed in the spring, when the nourishment is chiefly wanted for its support.

In his work on gardening and agriculture, Mr. Bradley says, he advised a gentleman to whom a considerate quantity of bark was left, upon the expiration of the lease of a tan yard, to lay some of it upon a piece of stubborn four land; which he did with much success, that his product was admired by all the gardeners and farmers in the neighbourhood: For such soils, he thinks, it should be mixed with a sandy mould or earth; and that one-third of bark to two-thirds of such materials will be a sufficient proportion for clays in general, laying on about one hundred and fifty cart loads upon the acre.

Worldly remarks, that the barks or rinds of other trees, though not of so high a value as that of the oak, which is the first principally used by tanners, most of necessity enrich either corn or pasture grounds, if broken into small pieces, and laid upon them.

It has been found from experience, that by mixing caustic line with tanner's bark, in the proportion of about two parts of the latter to one of the former, the conversion of the bark into vegetable mould may be greatly promoted, and that the composition when employed as a top dressing for either turnips or grases proves an excellent manure, promoting the growth of the crops in a rapid manner.

Bark, in Gardening, comprehends the exterior parts or coverings of trees, plants, and vegetables, and also such substances in their dead state after being separated from them, and employed for different purposes.

The bark of trees, &c. is in itself a hard porous texture, and adheres loosely to the liber, or inner bark. It is
fulation, and the interior bark, which is dry and porous, is used for making paper, and the outer bark, which is fibrous, is used for making baskets and other articles of utilitarian value.

The interior of the trunk of a tree, like the alburnum or roots described above, contains thin, much mucilaginous or nutritious matter; as the bark of elm (ulmus), and of holly (ilex), and of all other trees or shrubs which are armed with thorns or prickles, which are designed to prevent the depredations of animals on them, as the hawthorn, gooseberry, and gorse, eridania, ericas, graffularia, iles. The internal bark of these vegetables may, he thinks, be constipated to their albumen, which is inverted and probably all used as food for ourselves or other animals in years of scarcity, or for the purpose of fermentation; as he doubts not but the inner bark of elms, detached in the spring by being boiled in water, might be converted by the addition of yeast into small beer, as well as the alburnum of the maple and birch (acer and betula), all of which are now suffered to be eaten by insects, when these trees are felled. For the fugar, which is extracted from the vernal sap-juice of the maple and birch, as well as that found in the manna ash (fraxinus urna), teems, he observes, to reed during the winter months in the root or alburnum, rather than in the bark properly so called, and to become liquefied by the warmth of the spring, or diffused by the moisture absorbed from the earth and conveyed to the opening buds; but reeds solely in the roots of perennial herbaceous plants; and in the economy of grasses, and he supposes, of the fugar-cane, it is deposited at the bottom of each joint, which is properly at the root of the stem above it.

Of the above plants, continues he, the bark of the holly not only yields a nutritious mucilage, and thus supplies much provender to the deer and cattle in Neddwood forest, by the branches cut off and thrown upon the ground in severe feasons of fruit and snow, but contains a rensic material, which is obtained by boiling the bark and washing away the other parts of it. This rensic material pothishes a great adhesiveness to feathers and other dry porous bodies, and has hence obtained the name of birdlime, and much resembles the caseum bozor or clastic resin brought from South America, and also a fossil clastic bitumen found near Rutreek in Derbyshire, both in its elasticity and inflammability. Hollies may, he therefore supposes, be worth cultivating for this material besides the uses of their wood; as the doctor was informed, that thirty years ago a person who purchased a wood in Yorkshire, sold to a Dutch merchant the bird-lime, prepared from the bark of the numerous hollies, for nearly the whole sum given for the wood; which, if it could be harden'd, might probably, he says, be sold for the clastic resin above mentioned. Whether this resembles the nutritive rensic matter obtained in wheat flour, when the mucilage and starch are washed from it, might, he thinks, be also worth inquiry.

Other barks contain bitter, redcinous, aromatic, or acid materials, which supply the leeps of medicine, as Peruvian bark, cascarilla, cinnamon, and were designed by nature, he supposes, to protect those vegetables from the depredations of quadrupeds or insects. Hence, says he, many trees, and even the wood of them, after it is dried and made into domestic furniture, is never devoured by worms, as the mahogany, cedar, cypress, and hence many plants, as the foxglove (digitale), hounds-tongue (cyngophylla), hem-bane (hygromia), and many trees and shrubs by any animals, as their juices would be poisonous to them, or if they ingested with their stomac, if their distinguting flavours to the nose or palate did not prevent their eating them. The same defence of the vegetable kingdom from human digestion, except those which have, in long procees of time, beenilded and cultivated, appears, he remarks, from the relation of some unfortunate shipwrecked travellers, who have passed hundreds of miles along uninhabited countries without finding an excellent vegetable production.

Other barks contain refringent or colouring particles, employed in the arts of dyeing and tanning, as that of the barberry, oak, and ash (fraxina, quercus, fraxinus.) The art of tanning consists in filling the pores of the animal mucous membrane with these refringent particles found in some vegetables, which are believed to possess a quality of shortening the fibres of the animal bodies, and thus the gall produced on its leaves by the punctures of insects, the hair is said to be shortened. Whether this proceeds be occasioned by the chemical coagulation of the mucus, of which these fibres totally or in part consist, or by capillary attraction tending to distend these fibres in breadth, and thus to shorten them, as a twisted string is shortened by moiture, has, he says, not yet been well investigated. By thus impregnating the pores of animal skins with vegetable particles they become lees fable to putrefaction, as confining of a mixture of animal and vegetable matter, as well as much better adapted to many domestic or mechanical purposes.

The art of dyeing consists likewise in impregnating the pores of dry substances with a solution of the colouring matter extracted from vegetables by the capillary attraction of these pores to the coloured solution; and, secondly, by a chemical change of these colouring particles after they have been imbibed, and the water of the solution exhaled, by again steeping them in another solution, which may chemically affect the former. Thus, says he, as green confids of a mixture of blue and yellow, it may be best produced by boiling the material designed to be dyed, first in a decoction of one of these colours, as of indigo, and then in that of another, as of the bark of barberry. And as a solution of iron becomes black, when mixed with a decoction of oak-galls, by being in part precipitated; it is probable that the particles of this combination, of a solution of iron with refringent matter, may be larger than either of these particles separately; and, therefore, that if a dry porous substance be imbued, first in a decoction of oak-galls, and, after being suffered to dry, is then immersed in a solution of iron, the black tinge will penetrate into minutest pores, and thus become more intense than if the substance had been immersed in the black dye already prepared.

Other barks are, he adds, used for apparel, paper, cordage, and for many mechanical purposes, owing to the strength and tenacity of their fibres, or to the flacces of them; as hemp (cannabis), flax (linum), for the purpoes of spinning and weaving. The bark or leaves of the papyrus, a flag of the Nile, was, he says, first used for paper; and the bark of the mulberry tree is still made into cloth at Othaike, and other southern islands.

The art of separating the fibres of the bark of plants, as they confit of the caudexes of barks, or the connecting veivals between the plumules and the radicles of them, is, he observes,
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Observes, performed by soaking them some weeks in agitant water, till the mucous membranes, which connect these fibres, are destroyed by putrefaction; and afterwards by drying them, and beating off with hammers what may still adhere.

These fibrous parts of the bark of trees, as they contain no fuchinal matter, like the alburnum, are, he observes, much less liable to decay than the lap-wood, or perhaps than any part of the timber. Maupertuis, he adds, who went to Lapland to measure a degree of the meridian, says, that among the numerous trees which lay upon the ground, destroyed by age, or blown down by the winds, many birch trees appeared whole, owing to the undecayed state of their bark, but crumbled into powder on being trod upon; and that the Swedes took the practice from this of covering their houfes with this unperishable bark, on which they sometimes lay firl, and thus polifhes aerial gardens.

To increase the quantity of bark, it muft, the doctor remarks, he remembered, that the leaf-buds, or viviparous offpring of trees, as they form new buds, acquire new caudexes extending down into the ground; and thus increase the bark of the tree in thickness; but the flower-buds acquire no new caudexes, but die as soon as they have ripened their feed, and consequently do not increase the thickness of the bark. Whereas one method of increasing the quantity of the bark is to increase the number of vigour of the leaf-buds, in contradiction to the flower-buds, which may be done by pinching off the flowers as soon as they appear; and as the bark becomes gradually changed into wood, this may be one method, also, he thinks, of forwarding the growth of timber trees.

It is added, that the method of preferring the bark of trees from moss caps in rubbing off that parasite vegetable in wet weather, by means of a hardifh brush; which is said to be used with advantage on the apple-trees in the counties; and may, at the same time, give motion to the vegetable circulation, or forward the afcent of their juices aborbed by the radical or cortical absorbtions. In dry weather, the brush should be frequently dipped in water. Washing the barks of wall trees by a water-engine, may also facilitate the protrusion of their buds in dry-leaves; and might probably prevent the canker, if applied to dwarfs or elder apple-trees. Other parasite vegetables must be occasionally destroyed where they occur; as the lichens, fungi, miltedote, with the ivy and other climbers, as some kinds of lonicera, elmatis, and familas, woodbine, virginus-bower, and fumitory.

It is further remarked, that when a wound is made in the bark of a tree, so as to expose the alburnum to the air, the upper lip of the wound is liable to grow fatter downwards than the lower one is to grow upwards, owing to the former being supplied directly with nutritive juices secreted from the vegetable blood after its ventilation, and consequent oxygenation in the leaves; whereas the lower lip only receives these juices laterally by the infeoration of vessels. Over these wounds the cuticle is liable to project, and to supply a convenient hiding-place for insects, which either eat the new fibres of the growing bark, and perforate the alburnum; or by their moisture, their warmth, and their excrements, contribute to the decay of the alburnum, and prevent the healing of the wound. These dead edges of the projecting bark or cuticle should therefore, it is said, be nicely cut off, but not so as to wound the living bark.

It is remarked, that platters of lime or of far with full-limate of mercury, have been recommended to preserve the wounded parts from the air, and from moisture, and from insects; but as all these materials are injurious to the fibres of the living bark, they should be used with caution, so as not to touch the edges of the wound, but only to cover the alburnum; for this purpose, white lead and boiled oil, mixed into a thick point, or with the addition of sublimate of mercury; or of arfines, or of spirit of turpentine, may probably answer the purpose; and may be of real utility on the wounds of these trees whose wood contains lefs acrimony, and is therefore more liable to be bored into and eaten by a large worm or maggot, almost as thick as a goife-quill, which the doctor has seen happen to a pear-tree, so as to consume the whole internal wood, till the tree was blown down.

In respect to the caution necessary to be observed in not touching the living edges of the wounded bark with such materials as may injure the tree by their absorption, he remembers seeing several young elm-trees which died by their holes having been covered, as he was informed, by quick-lime, mixed with cow-dung, to prevent their being injured by horses; and he has seen branches of peach and neftarine trees destroyed by sprinkling them, when in leaf, with a light solution of arfenic, and others with spirit of turpentine.

The composition recommended by Mr. Forfyth, in his "Treatife on the Culture and Management of Fruit Trees," which is constituted of cow-dung, effente line, wood-ashes, and river sand, seems however to have been made use of in those cases with much advantage, and without any inconvience having been experienced in this way.

It is further stated, by the author of Phytologia, that a more curious method of cure is said to have succeed, where the bark of a tree has recently been torn off, even to great extent; and this is, by binding the fame piece of bark on again, or another piece from the same tree, or from one of a similar nature, nicely adapting the edges of the bark to be applied to the edges of that which surrounds the wound of the tree, which, it is said, will coalesce, in the fame manner as the veifils of the bark of an ingrafted fein, unite with those of the bark of the fock ingrained on; which is ftrongly analogous to the union of inflamed or wounded parts of animal bodies, as in the cure of the bare-lip, or the infiltration of the living tooth from one perfon into the jaw of another.

If the bark, over the cankered parts of apple-trees, adds the doctor, could be thus renewed by paring the edges of the mortified bark to the quick, and then nicely applying a piece of healthy bark, from an apple-tree of inferior value, and securing it with an elfaic bandage, as a fhed of fanuel, it would be a very valuable discovery. Another method, where a branch of a valuable tree is in the progress of being destroyed by canker, might, he observes, by inclosing the cankered part, and some inches above it, in a garden pot of earth previously divided, and supported by flakes, and tied together round the branch, which might then strike roots in the earth of the garden-pot; and, after some months, be cut off, and planted on the ground, and might thus be preferred, and produce a new tree; which experiment (the doctor says) he has tried on two apple-trees, and believes it will succeed.

Bark, in its dead state, after having been employed in the vat of the tanner, is found to be a material of great utility for the purpose of confituting thofe hot-beds in stoves and pits constructed for them, that are usually denominated bark-beds, and which from their being much more regular and durable in the temperature of their heat, than thofe formed from dung, become a great deal more convenient and useful for different purposes of the gardener; and are of course employed with much advantage in the growth and culture of various tender and curious exotic
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exotics that require the aid of an uniform degree of artificial heat in this climate. See Bark-Bed, and Bark-Pit.

Barks of Trees. (Chemical Analysis of). Since the time that chemists have introduced a considerable degree of unaided and comparative accuracy in the analysis of vegetable matter, many of the general classifications of medical chemistry have been found inconvenient and liable to error. This is particularly the case when vegetable substances, designed for chemical examination, are called anatomically, or according to the ufs which they fulfill in the economy of the plant, rather than the properties which they exhibit under the hands of the chemist. Thus, in the infancy of the barks of trees, scarcely any common chemical character can be alligned to them, as their composition varies in almost every order of plants, and as they partake largely of the qualities of the common juice which circulates in the vegetable. If there is any principle common to all barks, it is (besides water, an invariable ingredient in vegetable matter), the ligneous fibre or inflexible woody part, but even in this respect some very important differences occur in the several species which cannot be neglected by the chemist. The substances which render many barks peculiarly interesting in the arts and in medicine are, TANNIN, or the principle which causes several of them to be employed in the art of tanning; EXTRACT, a substance varying considerably in properties, and much used in medicine; and the GALLIC ACID, the basis of many of the black dyes and pigments when in conjunction with iron. These principles, however, are not peculiar to barks, but they are all found in other parts of vegetables. We have an example of an excellent analysis of the bark of the Citron, by M. Fourcroy, to which article we shall refer the reader who may wish to have a good specimen of the chemical analysis of vegetables.

Barks, general observations relating to. From the experiments of M. Buffon, it appears, that trees stripped of their bark through the whole length of their limbs, die in about three or four years. But it is remarkably, that trees stripped in the time of the sap, and suffered to die, afford timber heavier, more uniformly dense, stronger, and fitter for service, than if the tree had been cut down in its healthy state. Something of a like nature has been observed by Vitruvius and Evelyn. Mem. Acad. Scien. 1738.

As animals are furnished with a panacitic adipofis, usually replete with fat, which invades and covers all the fleshy parts, and freezes them from external colds, plants are encompassed with a bark replete with fatty juices, by means where the cold is kept out, and, in winter-time, the epicile of ice prevented from fixing and freezing the juices in the velifes: whence it is, that some fort of trees remain ever green the year round, because their barks contain more oil than can be spent and exhausted by the sun, &c. Ray's Wild. of God, &c. part i. p. 103.

The bark has peculiar difficulties, and is infected with insects peculiar to it. Wounds of the bark often prove mortal. See Cancer.

There are many great kinds of barks in use in the several arts: home in medicine, as the quinquina, or jujufis bark, mace, chacarilla, &c. others in dyeing, as the bark of the elder; others in spicery, as cinamon, cafia lignea, &c. the bark of oak in tanning; others on other occasions, as that of cork; that of a kind of birch is used by the Indians for canoes capable of holding twenty-four persons.

Of the bark of willows and linden trees is ordinarily made a kind of ropes. The Siamese make their cordage of the bark of the cocoa tree, which is also the cafe in moft of the African and African nations. In reality, flax and hemp, with all their toughnefs, are only the sap-veilils, or ligneous fibres of the bark of those plants.

The ancients wrote their books on barks, especially those of the ash, and fift or lime-tree; not on the exterior or outer barks, but on the inner and finer, called phyllary, which are of fo durable a texture, that there are manufcripts on them, still extant, a thousand years old.

In the East Indies they manufacture the barks of a certain tree into a kind of stuff or cloth. It is fpun and dreft much after the manner of hemp. The long filaments separated from it, upon beating and steeping it in water, compose a thread, of a middle kind between filk and common thread; neither so soft nor bright as filk, nor so hard or flat as hemp. See Neumans Works, p. 428. Note. Some of these fluids are put barks, and are called pinacles, biam-bornes, &c. In others they mix filk with the bark, and call them gingham and cillas: the founflanges too are put fift, put bark, and are only distinguished by being flriped. The Japanife make their paper of a fpecies of mulberry tree. (See Mort. s.) In the island of Oudeiba, the natives make their cloth, which is of three different sorts, from three different kinds of bark; that of the mulberry tree, that of the bread-fruit tree, and that of the cocoa tree. That made of the mulberry is the fickest and whitest, and worn chiefly by the principal people. It is manufactured in the following manner. When the trees are of a proper fize, they are drawn up and flriped of their branches; after which, the roots and tops are cut off; the bark of these rods being then flit up longitudinally is easily drawn off; and when a proper quantity has been procured, it is deposited in some running water to soak, and kept down by heavy fones: when it is fuppoled to be sufficiently focked, the women go down to the brook, and, flipping themselves, fit down in the water to separate the inner bark from the green part on the out-side; for this purpose, they place the under fide upon a flat smooth board, and with a kind of fhefl scrape it very carefully. dipping it continually in the water, till nothing remains but the fine fibres of the inner coat. Being thus prepared in the afternoon, they are fpread out upon plantain leaves in the evening, and placed in lengths of about eleven or twelve yards, one by the fide of another, till they are about a foot abroad, and two or three layers are also laid one upon the other; care is taken that the cloth fhall be in all parts of an equal thicknes, fo that if the bark happens to be thinner in a particular part of one layer than the reft, a piece that is somewhat thicker is selected to be laid over in the next. In this flate it remains till the morning, when a great part of the water which it contained, when it was laid out, is either drained off or evaporated, and the several fibres adhere together, fo that the whole may be raised from the ground in one piece. It is then takenc away and laid upon the smooth fide of a long piece of wood, prepared for the purpofe, and beaten by the mallet. The instrument used for this purpofe is a fquare wooden club, having each of its four fides or faces marked, lengthwise, with small grooves or furrows of different degrees of fineness; these on one fide being of a width and depth sufficient to receive a small packthread, and the others finer in a regular gradation, fo that the lat is not more than equal to sewing filk. They beat it with the coaflest fide of this mallet, keeping time like our smiths; it fpreads fift under the strokes, chiefly, however, in the breadth, and the grooves in the mallet mark it with the appearance of threads; it is Successively beaten with the other fides, and left all with the fift, and it is then fit for use. Of this cloth there are feveral forts, of different degrees of finenes, in proportion as it is more or fefs beaten; and the other cloth
also differs in proportion as it is beaten, and the several cloths differ also from one another in consequence of the different materials of which they are made. The bark of the bread-fruit is not taken till the trees are consider-ably longer and thicker than those of the mulberry; the proceeds afterwards is the fame. Of the bark of a tree which they call "poerou," the "hibiscus tiliaceus" of Linnaeus, they manufacture excellent matting; both a coarse fort on which they sleep, and a finer which they wear in wet weather. Of the fame bark they also make ropes and lines, from the thickness of an inch to the size of a small packthread.

**Bark, Indian, Thuriia coccine, a medical bark, brought from the East, rolled up like cinnamon, of a rusty colour, a warm aromatic, bitter taffe, and pleafant smell; fometimes used in fumigation againft fits of the mother.**

**Bark-Mills.** See Mill.

**Bark, grafting in.** See Engrafting.

**Bark, in Navigation,** denotes a little veffel for the sea, usually with pointed or triangular fails, in number two or three at the moft. The term is ufually apprpfiated by fpeakers to thofe small ships which carry three mafts without a mizen top-fail. Our northern mariners in the coal-trade, apply the term to a broad-ferned ship, which carries no ornamental figure on the ftern or prow. Bark is also a Mediterranean veffel, with three mafts and no bowsprit; the foremost rakes much forward and carries a lattice fall; the main-mast is a pole-mast, and carries three square fails, like the polaire; the mizen-mast is fmall and carries a mizen and a top-fail. Fihing-barks are small veffels with one maff, ufed for fhiping, &c. by the Spaniards: on the maff they carry a square main-fall, with a jib upon the bowsprit. Japanese barks are veffels similar to junks, 80 or 90 feet long on one deck, which have only one maff, that carries a square-fall, and forward one or two jibs made of cotton. They only use fails, when the wind is large. Barks of Cracala and Irafts of Sunda are veffels with flush-decks, high fhare, and sharp forward. They have one maff, and the fail is similar to the Caracores, being long and narrow. Thofe veffels are kept from ufing by a fort of beams croffing the veffel and bending downwards at the ends which fallen to a long round or flat piece of timber. Bombay-barks are called Dinga. See Plates of Ships.

The word Bark is derived by fome from the Latin barca; by Fournier, from Barces, a city in Africa; and by Tolentus, from Barcelona.

Some authors use the word bark for any veffel that has no masts.

**Bark, Armed, a kind of fire-veffel filled with foldiers, ufed both for making falls, and to attack galleries, and bar the paffage over them.**

**Bark, Long, is a small veffel without deck, longer and lower than the common barks, being sharp before, and commonly going both with fails and ears. It is built after the manner of a floop, and in many places is called a double floop.**

**Barks, Water, are little veffels ufed in Holland for the carriage of fresh-water to places where it is wanting, as well as for the fetching sea-water to make salt of. They have a deck, and are filled with water up to the deck.**

**Bark-Bed, in Gardening,** that fort of hot-bed which is either wholly or principally constituted of tanner's bark. This fort of bed, from its preferring the moist uniform and regular degrees of heat, is found by much the moft ufeful in the propagation and culture of all kinds of tender exotic plants that are brought from warm climates, and which stand in need of the continued affifiance of artificial heat in this part of the world. Beds of this nature, with a little trouble in the management of them, are found sometimes to support a pretty uniform and regular temperature for a consider-able length of time.

There are the kind of hot-beds that are generally employed in hot-houses, being formed in pits or cavities constructed for the purpose in them, frequently the whole length of the houses, six or seven feet in width, and three in depth, being inclosed by means of brick-work. See Bark-Pit.

In these beds, the pots of fuch tender exotics as have been mentioned, are plunged and supported; and they at the fame time afford affifiance in supplying fresh houses or fieves with thofe degrees of heat that may be proper for the growth and support of various other plants that do not require to be plunged into the beds, the heat of the surrounding air, produced in this way, being sufficient for their growth and prefervation. Thus, by the aid of bark-heat, and that of fire during the feverity of the winter feafon, the gardener is enabled to imitate, within the hot-houfe, the temperature of diftant climates, and not only to cultivate and bring to perfection the *Brouelia Ananas,* or pine-apple, but also various other tender plants from different quarters of the globe, both of the herbaceous and woody kinds, and to exhibit them in their moft healthy and beautiful fates in this country.

Bark hot-beds are likewife occasionally formed in pits constructed for them, in the open ground, separately and detached from the hot-houfe. These are wall'd round with bricks chiefly above the furface of the ground, having a frame or coping of wood upon the top on which glafs lights are fixed so as to slide with facility. See Bark-Pit.

In thefe pits the bark-beds are made to the depth of three feet or more, in order to afford an uniform and faving heat, for the purpose of raiuing and propagating different sorts of tender plants from seeds, cuttings, &c. both of the fove and green-house kinds, as well as thofe of the natural ground. Such beds are of course of great utility where there are large collections of tender exotic plants, and as nurfery-pits for young pine-apple plants to supply the fove or pinery annually. See Stone.

Beds formed of bark are alfo employed with fuccefs in raiuing various sorts of early productions of other kinds, as early strawberries, melons, peaches, French beans, &c. which by the regular and moderate heat which they afford are moftly brought forward in the greateft perfection. They are likewife made ufe of in forcing different sorts of curious flowers, both of the bulbous, tuberefe, and fibrous rooted kinds, into early bloon; as hyacinths, dwarf tulips, narcissus, jonquils, amanemas, ranunculufes, pinks, &c. also many flowering plants of the small shrubby kind, as rofles, hypericums, &c.

Bark-beds are alfo employed with great advantage in forcing frames for the purpose of producing early fruit of the apricot, peach and grape kinds. See Forcing Frames, and Hot-Walls.

Hot-beds constituted of bark, from the flow and regular manner in which the heat is in common evolved, are not liable, as thofe of dung, to injure the plants by their fream; they are therefore to be preferred for all the more important purposes of forcing where the material can be obtained.

The heat of them may be perpetuated for a great length of time, by having recourse occasionally to the practice of forking or turning them over, adding in fuch operations about a third part of new tan or bark. The beds are how-
ever to be wholly, or in a great part, renovated every autumn or spring.

There are different sorts or sizes of bark made use of for the construction of these beds, as coarse, middling, and small. The first kind is the longest in taking on heat, and is apt to heat the air more in the beginning. The latter, as it is of the longer duration. The second sort heats sooner, is more regular, and pretty durable in its effects. But the last kind heats the quickest, yet is the weakest, and soonest becomes earthy, consequently the least proper for the purpose. Where there is a choice of the matter, the middle sort, or a mixture of it and the coarse, should constantly be preferred, admitting as little of the small as possible; and care should be taken that it be perfectly fresh from the vat of the tanner. When the bark is wet after being brought home, it is a good practice to throw it up into heaps or ridges for a few days, in order that it may be drained and rendered more dry, as without such precaution the process of fermentation may be too much retarded.

The periods of making beds of this nature must be regulated by circumstances; but where they are intended for pine-apple plants, they should be prepared about the latter end of September or beginning of October, in order that they may afford a good heat during the winter season: but when the raising of plants from seeds, cuttings, &c. or the forcing of culinary vegetables, and fruits or flowers, are the principal objects, the spring may be the most suitable time, as in January or March. For particular uses they may, however, be made at any period.

In forming the beds, the tan or bark, prepared as above, is thrown into the pits that are constructed for it; and where there is old, the new bark well mixed and blended with it, by means of the tan-fork, quite to the bottom; then it is the practice to begin at one end and carry them on to the full breadth and depth, without treading upon them, as that would render the bark too solid for the process of fermentation. It is necessary to remove the surfaces of the beds about three or four inches higher than the tops or copings of the beds or pits, in order to allow for the settling that may take place. In the making of this sort of hot-beds for the purpose of raising pine-apples, the author of the "Scotch Forcing Gardens," in order to avoid the danger of too much bottom heat, never admits of the tan being filled, or of more than one eighth part of new tan being added, which is introduced by skimming off a portion of the old tan from the surface; by this means the new tan is not suffered to come within a foot of the surface of the bed, and of course the pots are entirely plunged in the old tan. It is his general practice to deposit half of the quantity of new tan that may be added, in the bottom of the trench, and blend the other half equally with the old, till within a foot of the top of the bed. And in trenching over the beds, it is his custom to throw the sides to the middle, and the middle to the sides, in order that the old tan may be incorporated in an equal manner with the new.

It is contended, that in this manner of preparing the beds, they will be "of a mild and equal temperature from the first, and continue much in the same flat for three or four months, and that after the first filling, they will be attended with but little expense for new tan. It is obvious that the filling of the pits of new pincries, in the above intention, should either be performed some time before the plants are to be introduced, or the tan be well sweated down and reduced by frequent turning over in an open shed or other convenient place; and in these cases it is even advised not to plunge the pots more than half their depths into the beds for the first two or three months after they have been filled.

The new bark or tan that is to be added should constantly be thrown up into heaps for eight or ten days before it is employed, in order that it may drain and sweeten; as when wet, while from the tan-pit, it is apt not only to take in the beds, but sometimes to heat violently.

It is necessary, as soon as the beds have been made, to thrull flicks into the bark in different parts, in order that they may be drawn up occasionally to ascertain the heat of them.

The beds, in the first method of making them, will in general be of a proper temperature for the reception of plants in about ten days or a fortnight, as the examination of the flicks will shew. If they be intended for pines or other plants that require pots, they must be plunged immediately into the bark, no earth being necessary as in other sorts of hot-beds; and in performing this business, it is of utility to have a board placed across the beds or pits to stand or kneel upon, and thereby prevent the bark from being trodden too close. The pots containing the plants must be placed to suitable depths, according to the differences in the degrees of heat in the beds, in order to be lastly left down to their rims. When the heat of the bed is shown by the trying flicks to be on the decline, it will be proper to retire it by strirring up or turning over the bark, which, when of the large or middle sort, will seldom require any increase of new tan.

In accomplishing this business, it may be performed either in the manner directed above, or, after removing the pots, by beginning at one of the ends, and forking up the whole of the bark to the bottom, afterwards breaking the lumps and turning all the bark over, the pots with the plants being directly refilled. The same operation is to be repeated as often as the decline of heat may render it necessary, and such additions of fresh bark be made as may be required, but in common, not more than two or three turnings are requisite. The additions of fresh tan should modestly be made about the beginning of March or April, the crumbly earthy parts of the old bark being cleared away.

The making of new beds is mostly performed, as has been seen above, in the autumn, about September or October, as after they have remained ten or twelve months, the bark is much exhausted both in heat and substance, and becomes earthy. This earthy part is to be now separated by means of the screen, and new tan added, the whole being well blended together with the fork. When the whole of the old tan appears earthy, it is the best method to clear the pit out entirely, and make the bed up altogether of new bark. See Hot-House.

Bark-Borough, a disease which has been suppoed common to fruit and other trees, and to be capable of being cured by making a slit or opening through the bark, in a longitudinal direction, from the top of the tree or bough to the bottom, about February or March; and if the gape be properly considered, to fill it up with cow-dung, or some other familiar composition. This is probably not so frequently a disease as has been believed by gardeners, as the imperfect growth of trees often causes such appearances.

Bark-galling, is when trees are galled by thorns or by being bound to flake, &c. It is cured by clay laid on the galled place, and bound on with hay ropes.

Bark-Pit, a pit or cavity of a long, square, or other form, a yard or more in depth, appertaining to hot-houses and roofs, &c. and being formed internally, or detached externally, in which to make tan or bark hot-beds, commonly called bark-beds.

The dimensions are four, five, or six feet in width, or more, having length in proportion to that of the hot-house, &c. and when in detached pits. Such as may be required.
both methods they are formed by a low surrounding brick wall, about a yard in height in the internal pits, and in the external ones three or four feet in front, by four or five in the back wall. These different forms of pits are indispensably necessary, where bark-beds are intended, to make the beds in, as the front loose nature of the tan will not admit of being formed into such regular beds, without the aid of such kinds of enclosed pits to confine it close together within the limits that are requisite in the formation of the beds.

For various purposes, bark-pits are necessary in all hot-houses or stoves, and occasionally in forcing-houses, &c. And detached bark-pits, distinct from the hot-house, are likewise very useful in all extensive gardens on many occasions, being of great service in the culture of many sorts of tender exotics, and in raising various kinds under different methods of propagation; as well as for raising and nursing those of similar kinds in their young and tender growth; and also occasionally for forcing and raising early productions of several sorts of hardy plants in the greatest perfection.

The bark-pit of a hot-house, &c. is an essentially necessary interior compartment, and which, as before observed, is the internal cavity wherein the tan or bark hot-bed is made extended lengthways and occupying almost the whole bottom space of the house, except about two feet on each side and ends, which is referred for an alley or walk round, between the outward wall and that of the pit, which should be but very little sunk below the general surface of the floor of the surrounding walk, and formed by a thin wall of brick-work, generally railed, the greater part, three feet high above the surface, the bottom being paved with brick or stone, &c. and in which the bark-bed being made to the whole width, length, and depth, serves both to plunge the pots of the more tender exotics in, such as the pine-apple, &c. in order that they may receive the kindly moist heat thereof immediately about their roots; and, at the same time, to diffuse a peculiar beneficial warm vapour for heating the internal air, alluded to by fire-heat in the flies in winter, but insufficient alone in summer; producing, from May till October, an effectual temperature of internal heat, for the preservation and growth of various tender exotic plants of the fove, kind, natives of different parts of the hot regions of South America, Africa, Asia, and Africa. See BARK-BED, HOT-HOUSE, and STOVE.

Hot-houses, or fove of the common width, have in general only one pit; extending lengthways of them as described above; but if they are of considerable extent in length, the pit is sometimes divided in the middle by an intervening passage, to render it more convenient in performing the necessary culture of the plants.

Some hot-houses, however, of very great width, have two internal bark-pits ranging parallel lengthways with an alley or passage extending between them, which renders them more commodious in giving the requisite culture to the plants that are plunged in the beds, than if the whole was in one extremely wide pit, in which it would often be very inconvenient to come at the plants placed towards the middle of them; so that two parallel pits, four or five feet wide each, become more eligible than one of eight or ten feet, and by having an intervening passage, give a larger scope and afford a better current of air, for the growth of the plants in the beds, as well as admit of viewing them to greater advantage and effect.

Detached or external bark-pits are exterior erections, separate and distinct from the hot-house or fove, but in some manner connected with, or appertaining to them, being, on many occasions, employed for similar uses, as well as for various other purposes, where occasional artificial heat is wanted. They are, as has been observed, four, five, or six feet wide, having such length as may be required; formed by a surrounding wall of brick-work, three or four feet high in the front, by four, five, or six behind, where sometimes fices for winter fire-heat are erected in the upper part; the whole being covered at top with movable glass frames, facing in frontward to the full sun, and in which, a bark-bed being made to the whole width, length, and depth, becomes an useful appendage to the house; alluding in the culture of various tender exotics of that repository, especially in the way of a nursery-pit, for raising and preserving them to some advanced state of growth; also occasionally in the propagation and protection of the more tender kinds of green-house plants, or any particular, curious, or tender exotic plant, of the full ground, as being always ready and prepared with a continuing growing heat, wherein to plunge the pots, where artificial heat is required, or occasionally necessary in raising such tender plants more effectually and expeditiously.

These kinds of bark-pits also prove exceedingly useful in raising many sorts of tender exotics from seed, cuttings, slips, &c. and in retaining and forwarding them to the growth of their growth. In the case of the kinds of the same kind, are likewise particularly useful and necessary in the culture of young &c. pine-apple plants, in nursing and nursing them till of a proper age and size, to be placed in the fove, fove, or pinery. See BROMIELLA AANNES, and STOVE.

A similar kind of detached bark-pit is likewise occasionally used with advantage in the work of planting or transplanting, or shifting tender or curious plants in pots, for plunging the pots which contain them, as soon as re-planted, into which much expends their taking fresh root, and brings them up at first into a free and vigorous growth.

Bark-pits, of the same kind, are also successfully employed in the work of forcing and raising early productions, such as melons, kidney-beans, peas, strawberry, &c. and for many sorts of flowers, both of the bulbous, rooted, and herbaceous kinds, as well as for small flowering shrubs. And if the dimensions of them were increased, especially in height, in the back parts they might have several forms of dwarf-fruit trees in pots for the production of early fruit, placed in them. See CASTING-FRAME.

Detached bark-pits should always be erected in warm dry situations, in a southerly aspect, and be constantly ranged lengthways in the direction of east and west, or nearly so, in order to have the whole front inclined fully to the south, in a sloping manner, on which to place the flowers in the same position, being generally stationed either contiguous to the hot-house or fove, but at a proper distance in front of it, as the situation and convenience of the place may admit. Or they may be erected at one or at both ends, extending in a line with it, but separated by a passage between them.

But detached bark-pits are sometimes formed with ridged tops, like the roofs of houses, the glazed sloping to both sides, being ranged lengthways north and south, in order to have the benefit of the sun equally on both sides, and used for the same purposes as the others; though the common south-facing pits, extending east and west, are more generally adopted, being less expensive in glass-work, &c. and, in general, more convenient for different purposes of the forcing kind.

They should be constructed, as has been observed, with walls of brick work, forming the upright sides and ends nine inches thick; and where fire-flues are intended, the back wall should be of a proper thickness from the bottom, to admit of having flues in the upper parts, a fire-place being contrived externally at the bottom at one end; or, in consider-
filterably extended pits, a double fire-place may be formed in the middle, behind, or one at each end, either endways or in the back part, as may be thought the most convenient.

Some detached pits are formed of woodwork only, by means of post and plank; serving for particular occasions, where no fire-heat is required, as flowers for that purpose cannot be admitted in such kinds of pits; where additional fuel is occasionally necessary, in such pits, it is effected by applying a strong firing of hot dung to the outsides; by which a good constant heat may be supported. In these bark-pits, sometimes, the younger pine-apple plants are deposited and surfaced for the first year; they are likewise occasionally used for the purposes of propagating, raising, and nursing tender plants in spring and summer, &c.; also for forcing early eucalyptus, flowers, &c.

The principal detached bark-pits should, however, be formed with brickwork walls; as being the most effective for general use, and of the greatest duration.

At fig. 1. Plate 1. in Gardening, is the representation of a bed or pit of the most common kind, which may be made use of either with bark or dung.

Fig. 2. exhibits a view of a bark-pit upon a larger scale.

Fig. 3. is the plan and section of two nursing pits, as given by Mr. Niedl in the "Scientific Forcing Gardener," adapted equally to the purpose of forcing young pine plants, and the forcing of asparagus, cucumbers, melons, strawberries, French-beans, fallaids, flowers, &c. In the plan they appear considerably sunk below the ground level for the convenience of shifting, but in wet situations this should not be the case, but a bank of earth raised against them in a sloping direction all round, as by this contrivance the front flues may be useful in raising early fallaids, by having the front borders properly prepared. The furnaces are placed behind, communicating first with the front flues, but returning in the back, finely. The surface of the bark-bed is level with the bottom of the flues all round, to prevent the danger of burning; and at the distance of two feet from the wall of the pit. The inner wall of the flue is formed a brick on edge, and the outer one a brick in bed, for the purpose of strength. The divisions of the plan are only each thirty feet in length, but they may be extended to forty, and be wrought by the same furnaces.

One length of six is sufficient, as they are worked in the manner of the common hot-bed, having fallaings at top to prevent their slipping down.

Fig. 4. is the plan and section of a single pitted pine flue on an improved construction, as furnished by the same author for a fruiting or succeffion house. It is wrought by two fires, having a fixed behind it which may be converted to various uses.

The bottom of the bark-bed is level with the surface of the ground, but the surface much-levelled, that the sun and light may be admitted more freely to the plants.

Fires for vines may be placed against the brick-wall and upright flues in front.

Two lengths of flues are here necessary in the roof. The under ones should be made to move either up or down.

Fig. 5. is a bark-pit for succeffion pine-apple plants.

BARKARY denotes a tan-house, or place to keep bark in, especially for tanners.

It is otherwise called a breath-house in old writers.

BARKING of Trees, in Rural Economy, the operation of stripping off the bark or rind, which, when taken from some kinds of trees, as the oak, elm, &c. is made use of by the tanners, and of course becomes an article of profit to the proprietor.

It is the most usual in this climate to perform the operation in the month of May, as, at that season, the bark, by the rising of the sap in great quantity, is the most easily separated from the wood. This, however, renders it necessary to fell the trees in that month; by which the timber is of much less value than it would be if they were cut down after the falling of the leaf.

It is remarked by Dr. Darwin, in his "Phytology," that as the sap-juice runs in all deciduous trees during the vernal months to expand their foliage, though probably in greater quantity in some trees than in others; it must confit, not only of sugar and mucilage, as in the maple and birch, but of various other ingredients in different trees, which have not been attended to; as appears from the taste of their young leaves, as of oak or ash. And as some of these materials reside in the roots and sap-wood, or alburnum, to others of them may perhaps reside in the bark, where they have been deposited during the preceding winter, and become liquefied by the warmth of the spring, or diffused by the moisture absorbed from the earth and air, and conveyed upwards to the opening buds; whence it is evident, he thinks, that the barks of trees should be taken off for use in winter, or in early spring, before their buds begin to expand; as then a portion of these nutritious juices, or of the other materials which are required for medicines, or in the arts of dyeing and tanning, is in part expended on the young leaves, which generally pulfifes the taste and qualities of the bark, though in a few degree. It may nevertheless be observed, he says, that all these alluring or other materials may reside in the alburnum of the trunk or roots of all perennial vegetables, as well as in their barks; because the young leaves, which pullulate on decorticated oaks, have the same bitter flavour as the leaves on those which have not been decorticated; which may in part be derived from the bark of the root, which is still in the ground, and be carried up the vessels of the sap-wood to the new buds. Hence the bark of oak-trees should be taken off during the winter; but when the sap-juice, refilling or ascending in the vessels of the alburnum, becomes more liquefied by the warmth of the spring, or is mixed with moisture, and pulsed up with great force by the absorbent vellums of the roots, it comes out in some degree between the alburnum and the bark, and thus the bark becomes so much more readily separated from the sap-wood; whence this business, as has been already observed, is generally done early in the spring, and should always be performed as soon as this facility of detaching the bark appears; because this process of the generation of the buds continues to injure the tree, whether the tree be cut down or not; as the buds expand their foliage on new felled trees, while they lie on the ground.

It is observed by Mr. Marshall, in his "Rural Economy of Yorkshire," that the peeling of oak timber in that country is generally done by the day, the labourers being, he believes, invariably employed by the timber-merchant, not by the tanner; practices which are, he conceives, productive of a considerable saving of bark. Men, says he, working by the ton or quarter, or tanners paying by weight or measure, will not induce them to peel the branches sufficiently near; as it is against their interest to do it. But it is the interest of the timber-merchant, or of the tanner, if he purchases by the gross, or by the ton of timber, to peel so far or so long as the bark will pay for the labour. This, he thinks, accounts for the smallness of the twigs which are peeled in that county; if the bark run freely, twigs not much thicker than the finger are frequently stripped of their bark.

The tool commonly made use of for this purpole in most countries,
BAR

-countries, is made either of bone or iron. If of the former, the thigh or thin-bone of an afe is preferred, which is formed into a two-handed instrument for the flen and larger boughs, with a handle of wood fixed at the end. The edge once given by the grinding-done, or rasf, keeps itself sharp by the wear that afterwards takes place in the operation.

The method of drying bark in the above county is generally the common one of letting it in a leaning posture against poles lying horizontally on forked flakes. But in a wet season, when the ground is naturally moist, it is hid across a line of top-wood, formed into a kind of banklet, raising the bark about a foot from the ground. By this practice no part of the bark is suffered to touch the earth, and it is perhaps, upon the whole, the best practice in all seasons and situations. The bark is then put in flacks or houles, and generally shaved or chopped ready for the tan-pit, and afterwards sold to the tanner at so much the quarter. This custom, however, appears to be founded on a false basis; the tanner is the best judge of the mode of preparation, and the operation, ought, therefore, to pass under his immediate inspection.

The practice of grinding bark does not seem to have yet got sufficient footing in the district mentioned above; whenever it does, Mr. Marshall observes, it will of course bring the preparation of it into its proper channel.

The price of chopped bark varies considerably, according to the quality and the circumstances under which it is placed. Maliciously barking of apple-trees, or other fruit trees, is made felon by 37 Hen. VIII. c. 6.

By the French laws, all dealers are forbid to bark their wood while growing, on the penalty of 500 livres. This law was the result of ignorance; it being now found, that barking of trees, and letting them die, increases the force of timber.

BARKING is also a name given to the cry of dogs and foxes.

The term is also applied to certain quaint noises, made by sick persons in some diseases.

In cynic spasms, and epileptic fits, the patient sometimes snarles, howls, and barks, with all the notes of a dog. But it is in the hydrophobia that barking has been oftentimes observed; persons seized with this, are apt to rave, bite, foam, and make a harsh noise in their throats, which is called barking.—Vide Phil. Trans. No. 280. No. 323. No. 207.

And No. 242.

BARKING, in Geography, a market town in the county of Essex, seven miles from London, is so called from a creek on which it is situated. The town is of considerable extent, and chiefly inhabited by fisher-men, from whom the fish-markets of London are frequently supplied. The parish is divided into the four wards of Barking, Great Ilford, Chadwell, and Rippleward, abounding with fertile lands and beautiful prospects. It was to this place that William the Conqueror retired, shortly after his coronation, till he had erected such castles in London as might awe the people whom he governed; and here the great barons Edward and Morcar came and swore fealty. Very lately, the remains of an intrenchment were visible at this place; but the plough has nearly obliterated the whole. Much land in the parish has been recovered from the rivers Thames and Roding. The second number of the Saxons was founded at Barking by Erkineald, fourth bishop of London, in 666, for Benedictines; the bishop placing his father Ethelburga (afterwards canonized) as the first abbeys. She was constitution lady patroniz in all the monasteries within the half hundred of Becontice, and held of the king an entire barony, a privilege granted to only three other religious foundations in England, those of Wilton, Shaftesbury, and Winchester. At the dissolution, the revenues of Barking abbey were estimated at 862l. 12s. 5d. A gateway and a great part of the wall of this magnificent structure still remain adjoining the church-yard. In the township of Great Ilford is an ancient hospital for lepers. The parish church is a large handsome structure, which formerly belonged to the abbey, but is now in the gift of the warden and fellows of All Souls college, Oxford.

The market is held on Saturday, and a fair on October 22d for horses; another fair is held yearly on and round a famous oak denominated Fairlop, concerning which the following summary may be acceptable. Many years since, Mr. John Day, a worthy but whimsical character in Wapping, used annually to dine with his friends on lemons and bacon under the shade of this famous oak; hence arose the fair. Fairlop oak has sustained its dignity in the forest of Rainham for many centuries, and though it has very materially suffered, still maintains a majestic appearance peculiar to itself. About a yard from the ground, where its rough fluted stem is thirty-six feet in circumference, it divides into eleven vast arms, not in the horizontal manner of the oak, but rather in that of the beech. The fair held beneath its shade, which overspreads an area of 300 feet in circuit, has been injurious to the parent stem, by means of fires which the visitors have occasionally kindled in the cavities formed by the decayed roots of the tree. Mr. Ferlyth's composition, however, has in some degree remedied the decay; and a close fence five feet high, with a board on which is painted, "All good foresters are requested not to hurt this old tree, a plainer having been lately applied to his wounds," will, it is hoped, preserve Fairlop oak from further destruction.

BARKOW, a town of Poland, in the palatinate of Branlaw; 48 miles W.N.W. from Breslaw.

BARKU, a village in Africa, in the country of Agonza, where the Dutch have a fort. See AGONZA. Little Barku lies about a league and a half from the former.

BARKWAY, a populous and flourishing village of Hertfordshire, in England, is situated in the hundred of Edwindshire, three miles from Royton, 19 from Cambridge, and 34 north from London. This is a considerable thoroughfare in the road to Lynn, and has several good inns. At the time of the conquest, the lands here were divided between four great lords into as many manors. Barkway was an ancient market town, privileged by Ed. I. to keep a market on Tuesday, and an annual fair for five days. The market was altered in the reign of Eliza-abeth to Friday, and at last discontinued on account of its proximity to Royton. The church is a handsome spacious building, and the vicarage is in the gift of the Chetler family; within the building are several fine monuments and some curious painted glass. This village was greatly damaged by fire in 1738. Its houles amount to 147, and its inhabitants to 699.

BARLAAM, in Biography, a learned monk of St. Paul, flourished in the fourteenth century, and was born at Seminara in Calabria. Having in his youth visited Greece for the purpose of learning the Greek language, he settled at Constaninople in 1327, where he obtained by his extensive erudition the favour of the emperor Andronicus the younger, and also that of his confidential dominie John Cantacuzene, in whose house he resided. He was employed in teaching the languages and belles lettres; and in 1331, was made abbot of the monastery of the Holy Glied. Bar- lam is described by Petaruch and Boccace as a man of a di-minutive stature, though eminent for his learning and genius; of a piercing discernment, though of a slow and painful elocution.
Having visited the monks of mount Athos, he engaged with them in a controversy concerning the place of the soul and essence of God. These fanaticale sects, in their mental abstractions, pretended to see the light of mount Thabor, and were manifestly to the disciples in the transfiguration of Christ, a representation of the soul, conceived by them to be the seat of the soul; and this light was adored by them as the pure and perfect essence of God himself. Nor were these simple solitaries inquisitive, how the divine essence could be a material substance, or how an immaterial substance could be perceived by the eyes of the body. Barlaam ridiculed these monks, and accused them of hereby and blasphemy. His attack induced the more learned of the monks to renounce or dissemble the simple devotion of their brethren; and Gregory Palamas, who took a lead in this dispute on the part of the monks, introduced a scholastic distinction between the essence and operation of God. This distinction, however, did not escape the reproach of polytheism; and Barlaam charged the adherents of Palamas with holding two eternal substances, a visible and an invisible God. The dispute was violent, and Barlaam's life was in danger. However, he secured himself by a timely retreat; and Andronicus, who, with a view of obtaining the aid of the western princes against the Turks, wished to reconcile the Greek church with the fee of Rome, sent Barlaam, in 1339, to conduct this negotiation at the court of pope Benedict XII. at Avignon. Here he formed an intimate connection with Petrarch, whom he instructed in the Greek language; and Barlaam is said to have been the first who revived, beyond the Alps, the memory, or at least the writings of Homer. Being compelled, however, to relinquish a fruitful employment, he returned to Constantinople, and his dispute with the monks of Athos was renewed; and the censure of a council, held in 1341, obliged him to quit the city. After a separation of three years, he renewed his acquaintance with Petrarch in the court of Naples; and by his recommendation Barlaam was finally settled in a small bishopric of his native Calabria at Hieracium, now Gerace, where he died about the year 1348. He deputedly incurred the charge of inconstancy in religion; because, when he was a Greek monk, he wrote against the Latin communion, which he condemned after having been made a Latin bishop. Having adopted the sentiments and precepts of the Stoics, with respect to the obligations of morality and the duties of life, he digested them into a work entitled "Ethica ex Stoica." He also wrote a work on arithmetic, and some letters and orations. Mori. Gibbon's Hist. vol. xi. p. 588. vol. xii. p. 66. Molluin's Eccl. Hist. vol. iii. p. 305. 308.

Barlaamites, in Church History, the followers of the Calabrian monk mentioned in the preceding article. They are the same with those otherwise denominated Acin- dyntia. Barlaeus, Gaspar, in Biography, an eminent Latin poet of the 16th century, was born at Antwerp in 1584, and educated for the ministry at Leyden, where he afterwards settled in the exercise of his profession, and also as sub-professor and professor of logic. But in consequence of having joined the Armenian party, he was deprived of all his employments, and devoted himself to the study of medicine, for which purpose he took a doctor's degree at Caen. In the practice of physic, he made no great progress; but refuting the office of a tea her, delivered lectures in philosophy and the belles lettres to young persons at Leyden. From hence he removed in 1533, to the region of the university, in the public school founded at Amsterdam, where, on account of his attachment to Armenian principles, he was the object of jealousy to the orthodox, by whom he was unkindly treated, and unjustly charged with Socinianism. At length he fell into the hypochondriac maladies incident to literary men, and died in 1648. Barbaeus was a man of erudition as well as genius; and he principally distinguished himself by his Latin poetry, in which he has been thought to rival the ancients, and at least to be upon a par with Claudian. His "Poems," printed at Leyden in 1628 and 1631, contain three books of heroic pieces, two of elegies, and one of miscellaneous, consisting of abacisms, epigrams, &c. His Latin harangues, on various subjects, were admired. Every great event that occurred called forth his exertions; and he celebrated most of the greatest men of his age. His "Relation of the Transactions in Brasil under the government of count Maurice" was published in 1647; and his "Letters" were collected after his death, and printed in two volumes. He also published several controversial pieces, against the adversaries of Arminius. Gen. Dict.

Barlaeus, Lambert, the brother of the preceding, was born at Bommel in Guelders in 1595, and became professor of Greek in the university of Leyden. His inaugural oration "De Graecarum Literarum Praeclaria ac Utilitate," was pronounced in 1641. In 1642, he published the "Tition of Lucian," with notes; and after his death, which happened in 1655, his "Commentary upon the Theogony of Hesiod" was printed in 1658. Gen. Dict.

Barlaimont, of Barleman, in Geography, a town of the Netherlands, in the county of Hainaut; 4 leagues southeast of Le Quefnoy.

Barland, Adrian, in Biography, a writer of the sixteenth century, was born about the year 1488 at Barland, a village of Zeeland, whence he took his name. Having studied at Ghent and Louvain, he became first a private teacher at the latter place, and afterwards professor of eloquence in the university; in which station he continued till his death in 1642. His works, which were all written in Latin, were numerous. Some of the principal are "Notes on Terence, Virgil, Menander, and Phily the younger;" "An Abridgment of Universal History, from the birth of Christ to 1532;" "On the Doges of Venice;" "Chronicle of the Dukes of Brabant;" "History of the Counts of Holland;" "Life of Charles, Duke of Burgundy;" "Catalogue of the chief towns of Lower Germany;" "De literatis Urbis Romae Principibus." Several of his historical works were published together at Cologne, in 1603, 8vo. Moreri.

Barlanga, in Geography, a small island, is the principal of a cluster in the Atlantic ocean, about 3 leagues from the west coast of Portugal, with a fortress. These islands are called "Borings" by the English seamen, and all of them are merely rocks. N. lat. 39° 20'. W. long. 8° 41'.


Species, 1. **D. jagishana**. Anacoura. Pluk. Alm. 30. 1. 133. f. 4. Morr. 3. 11. f. 27. f. 5. "Spines of the whoro's fixfold; leaves eniform, very long, seabrows." The stem is erect, rough, obtusely quadrangular; leaves opposite, lanceolate-sword-shaped, entire, three to five times the length of the internodes; flowers in whorls, axillary; three spikes on each side of the stem of the length of the whorls. A native of the East Indies. Introduced here by Sir J. Banks, in 1781. 2. **B. johnsonii**. Plun. g. 51. 52. f. 1. "Spines axillary; leaves lanceolate, 'teeth-bloted." Stems erect, square, three feet high, with two oblong entire leaves at every joint, above which the flowers stand in whorls, surrounding the stalks, and under each whorl are fix sharp spines as long as the calyx; the flowers are blue, and more completely labiated than the other species of the genus. 3. **B. Hybrida,** hybrida frutes. Rumph. 7. 22. 13. "Spines axillary, twin, simple; leaves entire, lanceolate-ovate." Stem wand-like, not firm; branches scarcely angular; leaves smooth on both sides; axillary spines twin, simple, fimbrij, horizontal. A native of the East Indies. 4. **B. Priorii.** Coetla-Veetla. Rheed. Mal. g. 7. 41. "Spines axillary, pedicu, fourfold; leaves entire, lanceolate-ovate." Stem herbaceous, round, rift; leaves opposite, running down the petioles, pubescent underneath; between the branch and leaf a spine, with four sharp rays from the centre; calyxes acuminate-fimbrij. A native of the East Indies. 5. **B. Roxburghii.** Carachhuli. Rheed. Mal. 2. 91. 17. "Spines axillary, opposite, foliari; leaves roundish, dill." Stalks furcibly, five or fix feet high, with strong spines under the leaves; flowers in whorls towards the upper part of the foot; seed-vell is short, containing three or four flat seeds. A native of Jamaica and the East Indies. 6. **B. mésiira.** "Spines axillary, branchmg; leaves lanceolate, entire, cupdated; bracte ovate, fimbrij; tube elongated." Flowers blue, resembling those of B. buxifolia, but longer, and expaining during the night; bractes smooth. Observed near Tanjour by Koenig. 7. **B. retiflora.** Melanpyro cognata, &c. Mor. Hill. 3. 427. f. 11. i. 23. f. 7. "Leaves oblong, entire; two kaffets of the calyx broader, dilated, and two linear, acute." Stem round; leaves oblong-ovate, sharp at both ends; flowers axillary, fimbrij; two leaves of the calyx ovate, acuminate, fimbrij; two alternate, shorter, linear, acute, entire, spreading or cordate, blue, with ovate lobes. 8. **B. corenica.** Plun. g. 51. 52. f. 1. "Unarmed; leaves ovate, tooth-bitted, petioli." Stems smooth, four feet high; flowers scarlet, in whors at the joints, and appearing from July till September. A native of South America. 6. **B. purpur.** "Unarmed; leaves ovate, acute, purpure; bractes ciliate." Found at the Cape of Good Hope by Thunberg. 10. **B. ligust.** Gaertn. Flav. 255. "Unarmed; leaves ovate, fimbrij; bractes cordate, fimbrij; corollae very long." An underhbrb, with opposite fimbrij branches; leaves opposite, entire, on fimbrij; flowers terminal; bractes two or bivalve, fimbrij, nearly as large as the leaves, and below these four other bractes dissected crenate-wihe, linear, spreading, fimbrij, as long as the leaves; capulse pointed at each end, quadrangular; seeds much flattened, covered with waved bundles of opprilled hair. Found on the mountain of St. Thomas in Malabar by Koenig. 11. **B. auriculata.** Lour. Cochlin. 357. "Unarmed; leaves lanceolate, crenate, bifimbrij; heads terminal." This is a procumbent twisted round underhbrb; leaves opposite, broad-lanceolate; flowers yellow; bractes acuminate, ciliote; segments of the calyx subulate, hairy; capsule oblong, angular, with orbicular seeds. A native of China, near Canton. **Propagation and Culture.** All the species of this genus require the protection of a bark-florc. The second, fourth, fifth, and eighth were cultivated by Miller, but the others have not yet been introduced here. The second is to be propagated by seeds, which will sow themselves in the pots which are near them in the flower, when the plants are once obtained; but when the seeds are received from abroad, they must be sown on a hot-bed on the spring; and when the plants are fit to remove, they must be each planted in a separate pot, plunged into a hot-bed of tanners' bark, where they must constantly remain, and be managed in the same manner as other tender exotics from the same countries; giving them water frequently in summer, and allowing them fresh air every day in warm weather. They flower from June till November. The fourth has flexible perennial stalks, which, if cut off during the summer months and made into lengths of six or eight inches, and planted in pots, putting them into hot-beds, and duly watered and shaded from the sun, will soon put forth roots, when they may be each planted in a small pot and plunged into the tan-bed in the flower, where they are found to grow better than in the dry flower. This species rarely produces flowers in England. The fifth and eighth ports will produce seeds which are to be treated in the same manner as the former. See Martyn's Miller's Dic. **BAR**

**BARLETTA,** in Geography, a sea-port town of Italy, in the kingdom of Naples and country of Bari, on the Adriatic, four miles west of Trani. The site of this city is magnificently built, though it has from without a ruinous aspect, and is thinly populated. Frequent changes of masters, bad administration, and decay of commerce, have blasted its prosperity. Its streets are wide and well paved, and its houses large and lofty. The style of building fixes their date at the first emergence of the arts out of the chaos of barbarism; many of the houses still retaining pointed arches, short twisted columns, and other remains of Saracenical taste; while others are decorated with pillars, entablatures, and members characteristic of the ancient Grecian architecture. The city owes its embellishments to the policy of the Arragouna kings, who resided here to secure the allegiance of the Puglies. In the cathedral, which is remarkable for its antique granite columns, Ferdinand I was crowned. In the market-place stands a colossal bronze statue, fourteen feet three inches high, representing, as it is supposed, the emperor Heraclius, who began his reign in 610. The citadel is spacious, and commands the port, consisting of several irregular piers, but without any shelter from the north wind, which sweeps the whole baken. The exports from this place are salt, corn, almonds and liquorice, which latter grows spontaneously in the swamps. During the hot months the air is accounted unwholesome. Barletta is said to have derived its name from a tower, or drinking-hourse, situate on the road to Canne, having for its sign a barred," barilletta;" and when the cities of Canne and Canosa fell to decay, and the advantages of trade drew people to the coast, a numerous colony gathered round this tower, and in 484, pope Gelasius consecrated a church for the settlers, which became the cathedral of the united cities of Nazareth, Canne, and Montevideo. The emperor Frederick added greatly to Barletta, and has been by some called his founder. Others suppose it to have been the Bardali of the Itineraries. In the fifteenth century, Barletta was acclaimed one of the four strongest fortresses in Italy; the other three being Fabriano in the Marche, Pereto in Tuscany, and Crema in Lombardy. Swinh. Trav. vol. i. p. 275. N. lat. 41° 30'. E. long. 16° 32'.

**BARLEY,** in Botany, a gramineous, frumentaceous herb, whose seeds are of the largest fort, being covered with a hull, growing in a spike, and the grains bearded. See Hordeum.
BARLEY.

Pearl Barley, and French Barley, are barley sown from the hulk, and rounded by a mill; the distinction between the two being, that the pearl barley is reduced to the size of small flint, all but the very heat of the grain being ground away. In mills appropriate to this purpose, the mill-stone is round, the circumference of the edge of an under stone, and below it a wooden base, in which it revolves, and which, on the inside, is lined with a plate of iron pierced like a grater, with holes having their sharp edges turned upwards. The barley is thrown upon the stone, which, as it runs round, draws it in, frees it from the hulk, and rounds it; after which, it is put into sieves, and sifted. The first kind of barley-mills is a German invention. In Holland, the first was erected at Saardam, not earlier than the year 1660. This mill, which was at first called the Pollekkaan, fearcely produced in several years profit sufficient to maintain a family, but in the beginning of the last century, there were at Saardam fifty barley-mills, which brought considerable profit to their proprietors.

Barley, in Agriculture, a well-known kind of grain from which malt is made. Miller enumerates four different sorts of this useful grain: spring barley, long eared barley, short barley, and winter barley.

The spring barley has a double row of beards or awns flanging erect. This is the sort principally cultivated in the southern and eastern districts of both England and Scotland, and which the farmers distinguish into two different kinds, the common and the rath-ripe barley; but the two sorts are in reality the same, as the rath-ripe is only an alteration of the common barley, occasioned by being long cultivated upon warm gravelly soils. The seed of this, when sown on cold or strong land, will, the first year, ripen nearly a fortnight earlier than that taken from strong land, and therefore the farmers in the low districts generally procure their seed barley from the warm or gravelly lands; and when cultivated in the vales two or three years, it becomes full as late in ripening as the common barley of their own produce; on the other hand, the farmers on warm gravelly lands are obliged to procure their seed barley from the strong lands; otherwise their grain would degenerate in bulk and fulness, which by this change is prevented. This sort of barley is easily distinguished as above, and besides the rind is much thinner, and of course it is esteemed better for making malt.

The long-eared barley is likewise cultivated in many parts of England, and is a good sort; but some cultivators object to it, because from the ears being long and heavy they think it more apt to lodge. In this sort of barley, however, the grains are generally ranged in a double row, lying over each other, like the tiles of a houfe, or the scales of fish. It has no beards or awns; and its rind is very thin; and therefore it is esteemed better for making malt.

The short barley, which is sometimes also called Battadore, Fulbany, and Peising barley, from great quantities being cultivated in the neighbourhoods of those places, has thinner and broader ears than either of the former sorts; the awns or beards are longer, which tend greatly to preserve it from the birds, and the grains are placed together. It seldom, however, grows so tall as the other kinds; the straw is generally coarser, and therefore not so good as fodder for cattle.

The winter barley, which is called also square barley, bear barley, and big, is seldom cultivated in the southern parts of England; but in the northern counties, and in Scotland, it is the sort generally sown, as being much harder than the other sorts. There are two kinds of this barley, the one with four rows of grains, and the other with six, the latter of which is commonly distinguished by the name of barley big. The grain is large and plump; but the rind and chaff of it being thicker than that of either of the preceding sorts, it is less esteemed for making malt.

Barley, from its being that sort of grain which is confiderably next in value to wheat, is very generally cultivated. On dry, light, mellow, fertile, the thinnest, and largest-barled barley, which is always esteemed the best is quality, is produced. Even light poor soils, when dry, and from nature and situation warm, yield barley which is superior in quality to that which is commonly reaped from the strongest land when cold or of a moist nature.

In the corrected report of Middlesex it is observed, that the tender nature of this plant, in its infant state, unites it for cold and compact soils. It thrives best in a soil that is moderately dry and light, as a loamy land, and is esteemed rather a clean crop. As, for this crop, the soil is generally well tilled, late in the spring, it reduces the weeds very much; and from its occupying the ground only four months, they have not time to recover themselves and perfect their seed. This grain may and frequently is, the writer says, sown after every kind of crop, but always succeeds best after turnips, peas, beans, or others of an ameliorating quality.

In the preparation for this grain, the soil should invariably be well pulverized and rendered light, first by a thin ploughing and then by harrowing, which should be followed at as great a distance as the seafon will admit by a more deep crofs ploughing, harrowing, and rolling. The seed should then be ploughed in with a very small furrow, and immediately afterwards clover seed harrowed in with short-tined harrows, which leaves the land as light as possible. The next thing to be done is, with one horse to draw a very light roll over the land, in order to pres the mould gently on the seeds. These operations promote a more certain, speedy, and equal vegetation than can be procured by harrowing in the seed. Harrowing in the seed is, however, the more usual method, and is, he thinks, the cause of much grain being lost, and also of the crop being often of two or three growths. Many farmers potspone the last rolling until the first leaves of the seeds are up, but, it is believed, more from the hurry of the seafon than from choice. This perfect tilage seldom fails to secure a good crop of barley, and a plant of clover.

In the event of land-springs, or excessive rains, it may be advisable not to plough the land flat, but into ridgelets of about eighteen inches wide. These will drain themselves dry in any weather, at least so much so, that two or three dry days will prepare the soil for harrowing previous to the second ploughing; and if the seafon should fill continue favourable, the land on such second ploughing might be laid up in a similar manner till fowing-time; when two or three days more of fine weather would render it fit to be harrowed or scuffled down, and for ploughing in the seed: otherwise a third ploughing may be given, and the seed be harrowed in; which last is considered the better practice, where the soil is not quite so dry as could be wished. Scuffing the land, instead of the second ploughing, would in fine seafons dispatch the work, and be a saving of expense. In the clearest soil it would be equal to crofs ploughing, and in soils not quite free from root-weeds it would be much more useful by bringing them within reach of the harrows. It will perform more than double the quantity of work with the same number of men and horses, and leave the land equally ready for the harrow and roller before fowing the seed.

The author of the Synopsis of Husbandry observes, how...
ever, that it is improper to sow clover among barley on rich land, because the natural fertility of the soil haints on the vegetation of the grass, which will before harvest have advanced to a considerable height among the corn, and will occasion a longer time to be necessary for drying the straw; and thus, by lying abroad longer than would otherwise have been required, a total destruction of the crop may ensue; but in those lands, where there is not the danger of fo luxuriant an increase, clover, trefoil, and other grass-feeds may; he thinks, often be sown among barley; and if a favourable time can be procured for harrowing it, the flame may be greatly improved by the mixture of the clover or other grass, and become then a valuable fodder in the winter; but barley-straw simply is, he says, the most ordinary cattle-food of any.

Where barley succeeds turnips, the land is sometimes only once ploughed; but the author of modern agriculture says that it is a much better method to plough it twice, first early in the spring, and again before sowing the feed. This haft is the practice in Norfolk, where that species of grain is cultivated in a more perfect manner and to a greater extent after turnips, than perhaps in any other district. But when barley is sown after peas, beans, or oats, the land is commonly first ploughed in autumn; and the attentive farmer always takes care on this occasion to plough in such a manner as to expose as great an extent of surface to the influence of the air and frost as possible, and at the same time to form the ridges in such a way as to prevent the field from receiving any damage from excessive rains during winter. The second ploughing is given immediately after the oat-feeding is finished. This ploughing is intended to answer two purposes; in the first place, to loosen the couch-grasses and other root-weeds where they abound, so that they may be easily taken out by the harrows, which are immediately afterwards applied; and in the second place, to reduce the foil to a finer tilth, whereby the feed-weeds are encouraged to vegetate, and which the subsequent ploughing and harrowing at feed-time effectually destroy.

This sort of grain is also frequently sown after wheat, when the same mode of culture as just mentioned is adopted. But however common this rotation of cropping may be in some districts, there is no good reason, he says, why it should not be recommended to the general notice of farmers. For two white corn crops succeeding each other is undoubtedly an erroneous method, both for profit and improvement. Besides, it mostly happens, that where barley succeeds wheat, the crop is in some measure blighted, many of the stalks becoming white about the month of July; and where there are any grains in the ears, they are shrivelled and never come to maturity, though the soil may be well suited to the production of this sort of grain.

The author of the Survey of Middlesex indeed thinks, from the nature of corn crops, that barley ought not on any account to be sown after either wheat, rye, or oats; a much better practice being to sow it after turnips, potatoes, carrots, peas, &c. and in some cases, after hemp, flax, and rape. The land should not receive any further manure than what was laid on for the preceding crop, together with the dung and urine deposited by cattle during the time they are eating the green crops off the land.

The feed fowings for barley begins, in most of the southern counties, about the first week of March, and terminates in the more northern ones, towards the middle of June. But from the middle of March to the end of April may be reckoned the chief barley feed fowings, as within these periods by much the greatest proportion of that species of grain is put into the ground.

The author just mentioned observes, that barley, though usually sown during the months of March, April, and May, has succeeded when put in the first week in June; but it ought to be sown as early as the soil is sufficiently dry and in condition to receive it, and the prior attention which is due to the oat, tare, and other crops will permit. Let it always be kept in mind, says he, that barley will bear late sowing much better than those crops. Both the four and fix-rowed kinds of barley are frequently sown in the autumn nearly at the same time with wheat, not only in temperate climates, but also in very cold countries; their hardiness being such as to bear the severity of the winter season even in the mountainous parts of the northern countries. In hot countries, they are most frequently sown in January, February, and March.

All the other fowings are sown in the spring of the year in a dry time, as has been already seen; when this sort of grain is sown late on strong chayes soils, if the season does not prove very favourable, it is very late in autumn before it is fit to reap or now, unless it be the early or rath-rip fowings, which is often ripe in nine weeks from the time of sowing.

In the seventh volume of the Annals of Agriculture, Mr. Young gives the following experiments by Mr. Macro, on early and late sowing of barley; on November 17, 1785, he began his experiments by sowing two bushels of barley, which he harrowed in on clover land that had been folded the fame as for wheat; the first sowing, therefore, had only one earth. The barley came up about a week sooner than the wheat by the side of it, which was sown the fame day, and was exceedingly flourishing till the first sharp frost set in, which damaged the blade, but did not seem to affect the root. As near the middle of December as the weather would permit, he fowed two bushels more, on exactly the fame quantity of ground, and some about the middle of every month, till the month of May 1786. This and every fowing after, it had two earths; one call, or half the feed, was ploughed in, and the other half harrowed in; all the land was folded alike in the month of November. The second sharp frost killed some of this fowing, and a good deal of that sown in November; but they both, with that fown in January, fowed to fuller fill more by the sharp cutting winds in the month of March, when there was no snow to cover the blade, and it was injured by the frost. The sowings in February and March loft few, if any of their plants, and, what was somewhat remarkable, were both forward enough to be harvetted on the fame day with the three preceding sowings. That fown in April was full a fortnight later; and that fown in May, there not being any fo late fown in the neighbourhood, was entirely destroyed by vermin.

As he some years before intended trying the fame experiment, but was disapponted of knowing the event by the slpidity of his workmen, he determined this time to prevent any mistakes by mixing the different parcels in the barn, to threfh enough of the different sowings in the field to satisfy himself which was the most profitable crop, and accordingly attended the threfhing the whole day himself. As it was not at all necessary for the experiment to threfh the whole crop, he took three twathes of each sowing twelve yards in length, on the lowest part of the land, where he thought the soil was the most equal for the purpose of the experiment, which, he should have observed before, were by the side of each other on the fame piece of land. He had every parcel drefled and put into a fack by itself as soon as threfhed, and the account f/feed thus:

From
BARLEY.

The last fowling, as observed above, was entirely destroyed by the rooks; he believes it had not been flown more than three days before they began to scrape and pick it up, and completely devoured it. It was the fame with the very early fowlings, but that he expected, and was guarded against. It may however serve he thinks, as a lesson to farmers, that although early flying may in most cases be profitable, yet it will not answer in large open fields, where the lands are intermingled, unless neighbours low at the same time; for, if only one farmer fows early, he must have as many keepers as he has pieces of land. The barley of all the fowings was of the Zealand rock.

On the fame piece of land on which he tried the above experiments, which was a deep land, value about fix or leven shillings per acre, he tried two others, one about ten years fince, with chalk from different pits, fame of which was a dry chalk, and others greyly; he carried only one load of each, and laid it about the thickest of seventy loads to an acre. Neither of them did the leaf good, for he could not tell by any of the crops fince, without looking at the foil, where they were laid. The other was by deep ploughing, in the autumn of 1785, when he fowed part of the piece with wheat, by going with a fercond plough after the first for one ferch only, and tilling about three or four inches of foil that had never been turned up before; on viewing it about midsummer he could not find where it was by any apparent difference in the crop, nor could he fee that the barley fown in January was the best crop. By the fame rule, when he began to try the experiment before, that fown in February was the best, and it appeared fo on view, he remembers, all the farmers.

The quantity of feed barley allowed to the acre varies very much; and depends not only on the quality of the land and the fenafon, but on what was the preceding crop, and also on the condition of the land for receiving the feed. When barley succeeds turnips, the land being then in the best state for the feed, a lefs quantity is necessary than if it were to be fown after two or three succesfive white corn crops. The ufual allowance to the acre is from three bufhefs and a half to five; but four bufhefs and a peck may be confidered as the general average, fo large a quantity as five bufhefs being never sown but on lands exhausted and worn out by improper cropping.

Mr. Middleton remarks (in his Survey of Middlefex) that early fowling requires lefs feed than late; but on a medium foil in proper condition, fown bread-calf, in March three and a halt, in April four, and in May four and a half bufhefs per acre are fufficient. A rich foil makes fuch a great difference, that it can hardly be fown too thin; even one bufhef and a half early fown, has produced as much as could fland; whereas had three or four bufhefs been fown, the crop would have been lodged, and of a very reduced value.

It is obferved by Mr. Donaldfon, that if a statement of the average returns of barley by the acre was confided to England and the south of Scotland, it might be avered at thirty-two bufhefs; but when Wales and the north of Scotland are included, where, owing to the imprefed modes of fulture f still practifed, the crops are very indifferent, the general average over the whole will not probably ex-ceed twenty-eight bufhefs the acre. The author of the Agricultural Report of Middlefex states it as varying in England from fifteen to feventy-five bufhefs per acre. The average produce of the county of Middlefex, he fays, is about four quarters of corn and two lands of straw per acre. The straw usually fells at about a guinea a land delivered in, which, with chalk and thin grain, is equal to one bufhef and fixpence per bufhef on the corn; and as the corn has averaged three shillings, together they produce four shillings and fixpence per bufhef, or seven pounds four shillings per acre.

The ultimate defination of barley to be converted into beer and spirits, he fays, raises the value of this crop to more money per acre than that of any other grain. For after the farmer has disposed of it, the maltier, brewer, difiller, rectifier, and victualler, fucceffively draw the wages of labour and profit from it before it comes to the confumer. Including a revenue of five millions and one quarter a year, which it nets to government, but which costs the fubject between fix and seven millions, its entire expence to the confumer at this time is not lefs than thirty pounds an acre. He understands that porter is brewed in the ratio of 162 gallons from one quarter of malt: and is sold by the retailer after the rate of one shilling and two-pence per gallon, which produces nine pounds nine shillings; deduct the value of the hops, and there remains upwards of a guinea a bufhef for the malt, or full thirty pounds an acre. In the article of spirits, he thinks, it must necessarily yield much more. According to Mr. Donaldfon, barley is applied to various uses. In Wales, Weftmoreland, Cumberland, and in the north, as well as in several parts of the west of Scotland, the bread ufed by the great body of the inhabitants is made chiefly from barley. Large quantities of the barley cultivated in England are converted into beer, ale, porter, and what is called Britifh spirits, as English gin, English brandy, &c. The remainder, beyond what is neceffary for feed, is made into meal, and partly confumed in bread by the inhabitants of the above districts, and partly employed for the purpofe of fattening black-cattle, hogs, and poultry. There is a much greater care of the Scotch barley confumed in defillation in proportion to the quantity cultivated, than there is in England. Exclusive of what is ufed for feed, the Scotch barley is either converted into beer or ale; or made into pot barley, or into meal, for the ufe of the inhabitants in the more remote and lefs cultivated parts of the kingdom; or, laftly, into whiskey.

In the Report of Middlefex it is also stated, that much of the moft ordinary barley is given to poultry; the reft is fold to the maltiers, except fo much as is reserved for feed. In refpect to pearl barley it is observed, that a mill to manufacture it coûts about twenty pounds. A ton, or 160 flone, of pearl barley fells for twenty three pounds, which is rather under three shillings a flone, or thirteen shillings and four-pence a bufhef. Twenty-three flone and a half of common barley produces five flone and a half of pearl barley by the common method of manufacturing it; but by an addition to the mill, which would only cof two pounds, the barley corn would be split, and then the fame quantity would yield nine flone of pearl barley. This is fated on the
the authority of evidence before a committee of the London Society of Arts.

With regard to the choice of seed barley, it is necessary to observe that the best grain for sowing is that which is free from blackened at the tail, and is of a pale lively yellow colour, intermixed with a bright whitish tinge; and if the rind be a little shrivelled, it is too much the better, as it shows that it has sweated in the mow, and is a sure indication that its coat is thin. The husk of thick-rinded barley being too stiff to twist, will be smooth and hollow even when the inlaid flour has shrunk from it.

The necessity of a change of feed from time to time, by sowing that of the growth of a different foil, as has been observed, is in no instance more evident than in the culture of this grain, which otherwise becomes coarser and coarser every year. But in this, as well as in all other grain, the utmost care should be taken that the feed be full bodied.

It is easy to suppose that barley, like wheat, may be benefited by being steeped before it is sown. For as rain cannot always be depended upon soon after the sowing of spring corn, there is surely an equal reason for extending the practice to these sorts of grain as well as those which are sown in autumn. Liming indeed may hurt barley in some cases, but a little sprinkling of foot bids fair for improving it, at least it may prevent infects from preying upon the feed.

Mr. Fielden indeed remarks, that the feed is never steeped, and yet the farmers are continually complaining of its coming up at different periods, thus producing two crops which do not become ripe at the same time, and are injurious to the sample. Steeping the feed a proper number of hours, which might be ascertained by experiment, seems (he says) to be as well calculated to secure an uniform vegetation and prevent this complaint, as poising the feed appears to be to keep it from vermin.

According to Miller, the common method is to sow the barley-feed with a broad-cast at two fowings; the first being harrowed in at once, but the second not until the feed is buried. The common allowance of feed is four bushels to an acre: but (says he) if the farmers could be prevailed upon to alter this practice, they would soon find their account in it; for if a third part of that quantity be sown, there will be a much greater produce, and the corn will be much less liable to lodge, as he has many times experienced; when corn or any other vegetable lands very close, the stalks are drawn up weak, and thence incapable of resisting the force of the winds, or supporting themselves under heavy rains; but when they are at a proper distance, their stalks will be more than twice the size of the other, and therefore are seldom laid. He says he has frequently observed in fields where there has been a foot-path through their middle, that the corn which has hodd thin on each side of the path has hodd upright, when all the rest on both sides has been laid flat on the ground; and whoever will give himself the trouble to examine these roots near the path, will find them fuller, that is, have a greater number of stalks, to more than four times the quantity of the other parts of the field. He has been experiments made by sowing barley in rows across divers parts of the same field, and the grains hodd thin in the rows, so that the roots were three or four inches asunder in the rows, and the roots a foot distant; the intermediate spaces of the same field were at the same time hodd broad-cast in the usual way. The successe was this: the roots which hodd thin in the rows, tillered out from ten or twelve to upwards of thirty stalks on each root; the stalks were stronger, the ears longer, and the grains larger, than any of those hodd in the common way; and when those parts of the field where the corn was hodd in the usual way have been lodged, those parts hodd thin have supported their upright position against wind and rain, though the rows have been made not only lengthways but across the lands in several positions, so that there could be no alteration in regard to the goodness of the land, or the situation of the corn. Where therefore such experiments have been made, and always attended with equal success, there can be no room to doubt which of the two methods is most eligible. Indeed, if the crops were only supputed to be equal in both, the saving two thirds of the corn hodd is a very great advantage, and deserves a national consideration, as such a saving in scarce times might be of very great benefit to the public. This saving of feed-corn (says he) must be understood to regard such as is hodd broad-cast; for if it be hodd in drills, an eighth part of the feed usually hodd will be sufficient for an acre of land, and the produce be greater; for all sorts of corn are naturally inclined to send out several stalks from each root, which they rarely fail to do where the roots are at a proper distance and have room; nor do the stalks grow in this case near so tall, but are much stronger than when they are near together, when they rarely have more than two or three stalks, whereas those roots which have proper room seldom have less than ten or twelve. He has had eighty stalks upon one root of barley, which, by their weight pressed the stalks of the other, and the grain was better filled than any he ever saw grow in the common method of husbandry, and the land on which this grew was not very rich; but he has frequently observed on the sides of hot-beds in the kitchen gardens, where barley straw has been used for covering the beds, that some of the grains left in the ears have dropped out and grown, the roots have produced from thirty to sixty stalks each, and those have been four or five times larger in size than the stalks ever arrive at in the common way. But to this, he knows, it may be objected, that although upon rich ground in a garden these roots of corn may probably have fo many stalks, yet in poor land they will not have such produce; therefore, unless a greater quantity of feeds be hodd, the crop will not be worth fianding; which is (he says) one of the greatst fallacies that can be imagined; for to suppose that poor land can nourish more than twice the number of roots in the same space as rich land, is such an aburdity as one could hardly suppose any perfon of common understanding guilty of: and yet so it is; for the general practice is to allow a greater quantity of feed to poor land than for richer ground; not considering that where the roots stand fo close, they will deprive each other of their nourishment, and consequently starve themselves, as is always the case when the roots stand close, which any perfon may at first sight observe in any part of the fields where the corn happens to scatter when they are sowing it: or in places where by harrowing the feed is drawn in heeps, those patches will starve, and never grow to a third part of the size as the other parts of the same field; and yet, common as this is, it is little noticed by farmers, otherwise (says he) they would not continue their old custom of sowing. He has made many experiments for several years in the poorest land, and has always found that all crops which were hodd or planted at a greater distance than usual, have succeeded best upon such land: and he is convinced, if farmers would be prevailed upon to quit their prejudices and make trial of the method of sowing their corn thin, they would soon see the advantage of this husbandry.

The experiments of Mr. Young, however, lead us to a different conclusion. On April 25th, 1791, upon a land of moif loam on a wet marl bottom, worth about sixteen shillings an acre, he marked four beds, each eight feet long
long by three feet broad, and dibbled them with four-rowed barley.

No. 1, 91 holes, and four seeds in each hole.
2. 198 ditto, three seeds in each.
3. 198 ditto, one seed in each.
4. 198 ditto, two seeds in each.

No hoeing given; but before they ripened a net was suspended over the whole, to guard the barley from the ravages of birds.

On Sept. 9th he reaped them, and clipping off the ears, weighed them.

No. 1, 28½ ounces.
2. 31.
3. 20½.
4. 24.

In No. 1, 13 grains of seed give one ounce produce.
2, 19 grains of seed, one ounce produce.
3. 9½ ditto, ditto.
4. 16½ ditto, ditto.

In No. 1, 17 grains of seed per square foot.
2. 24 ditto, ditto.
3. 8 ditto, ditto.
4. 16 ditto, ditto.

It seems (says he) remarkable, that comparing No. 1 and 4, the seed are nearly same, yet the crop is different, and very considerably in favour of the seed being crowded together in clutters, rather than spread much more equally over the ground. This (continues he) is a most singular circumstance; it coincides very much with the modern practice of dibbling wheat, which has been changed gradually from one grain in a hole, to two, three, and even four, and this clatter-fowing has been found to answer best. But upon what principles? and owing to what cause? Theory would seem to tell us, that plants flanding close would have regular spaces for the roots to feed in, without struggling with each other for nourishment; but there must be some other circumstance which more than balances this advantage. The farmers say that the plants siffit each other: but how? Is it by shelter? it is by an accelerated fermentative motion from additional warmth? Very obscure all this, but highly deserving further repeated and varied experiments. Mere quantity of seed appears to have much effect; No. 2, the malt feed, has of all the greatest crop.

It is a common practice in some parts, to scatter the dung of pigeons, poultry, &c. over barley and other grain after they are fown; but if this method be purified, care should be taken to scatter such dung on immediately, because then the shoot will easily make its way through; but when laid on later, it is apt to burn up and deftroy the blades of the young plants.

It often happens, on the more stiff soils, from unfavourable weather and an extremely dry spring, that it is impossible, by the common method, to break the clods and prepare the ground sufficiently for fowing barley; in which case it has been the usual method to break the clods with a large beetle, called from its ufe a clatter-beetle: but this being a very expensive and tedious method of preparing land, induced the ingenious Mr. Randall of York to construct an instrument, which he calls a Jokly roller, by the assistance of which a large quantity of land may, in such a dry season, be soon reduced to an exceeding line tilth, with very little trouble. See Spike Roller.

After the barley is fown and harrowed in, the ground should be rolled after the first shower of rain, to break the clods and lay the earth smooth, which will render it easier to mow the crop, and also cause the earth to lie closer to the roots of the corn, which may be of great service to it in dry weather: and also when the barley has been up three weeks or a month, it may be a good method sometimes to roll it over with a weighty roller, which will again press the earth close to the roots of the corn, and thereby prevent the sun and air from penetrating the ground in dry seasons; and this rolling of it before it flakes, may likewise cause it to tiller out into a greater number of flakes; so that if the plants should be thin, it may cause them to spread fast so as to fill the ground, and likewise strengthen the stems.

If the corn should grow too rank, as is sometimes the case in a wet spring, mowing is then much better than feeling it, because the hay takes off only the rank tops, but the sheep feed upon all indifferently; nor should they even in any case be left upon it too long, because, being particularly fond of the sweet end of the flack next the root, they bite so closely as to injure the future growth of the plant.

Barley is ripe when the red ear, as the farmers term it (a reddish colour on the ear), is gone off, or when the ears droop and fall as it were double against the straw, and the flacks have lost their verdure. If it be full of weeds, it must lie in the swath till they are dry. It is not apt to shed, but in wet weather it will be apt to sproat or grow mufly; and, therefore, every fair day after rain it should be shook up and turned; and when it is tolerably dry, let it be made up into shocks: but be careful never to house it till thoroughly dry, left it may burn, which will make it malt worse than if it had spired in the field.

BARLEY.

Caulic Indian. See Verbasium Scordilla.

Barley Water (Decataum Hordei P. Lond. & Ed.) It is of some conquence that the preparations which generally fall under the care of the nurse, should be made with as much attention as those of the apothecary. Barley water, either by itself or with a variety of additions, forms an agreeable and valuable drink for the sick room. When prepared in the following manner, it is smooth, uniform, and palatable. Take of pearl-barley two ounces, water five pounds: first wash the barley from the mealy matter that adheres to it, with some cold water; then boil it a little with about half a pound of water to extract this colouring matter; throw this away, and put the barley thus purified into five pounds of boiling water, which is to be boiled down to one half, and strained.

Barley Water Compound. (Decataum Hordei Composition P. Lond.) Take of the preceding barley water two pints; sliced figs two ounces; liquorice root, sliced and bruised, half an ounce; raisins, itsone, two ounces; water one pint; boil to two pints, and strain. This decoction is more valuable than the former, and is very palatable; it forms a good demulcent liquor in fore throats of every kind, and is very considerably nourishing. It is apt, however, to cloy the stomach if taken in large quantity; lemon juice, or any other acid, may be added to it with advantage.

Barley-bird, in Ornithology, a name given in Suffolk to the Sifkin.

Barley-corn, is used to denote a long measure, containing in length the third part of an inch, and in breadth the eighth.

The French carpenters also use barley-corn, grain d'orge, as equivalent to the line or the twelfth part of an inch.

Barley-corn, grain d'orge, is also used, in building, for a line midway between the mouldings of joiners' work, lending to separate or keep them aliduer; thus called because made with a kind of plane of the same name.

Barley-sugar. See Sugar.

Barley-corn, in Geography, a creek on the south-west coast
coast of Ireland, between Mizen-head, the Notum of Pto-
keny, and Browhead in the county of Cork. N. lat. 51°
24'. W. long. 9° 40'.

BARLOWE, WILLIAM, in Biography, was a descen-
dant of the ancient family of the Barlowes in Wales, and born
in the county of Essex. He was at first a monk in the Augu-
dine monastery of St. Oith in Essex; and having
 commenced his education in this place he finished it at Ox-
ford, where he obtained the degree of doctor in divinity.
He afterwards became prior of the canons of his order at
Bisham in Berkshire, and at the dissolution of the monas-
tery he resigned his vows, and proceeded on many abbeys and
hospitals to follow his example. In 1525 he was appoint-
ed bishop of St. Asaph, and in 1576 translated to St. Da-
vil’s, where he formed the unsuccessful project of removing
the episcopal see to Caermarthen, as being situated more
in the centre of the diocese. He was a favourite of king Henry
VIII., and was employed by him in the matter of his di-
 vorce; and he was also much esteemed by lady Ann Boleyn.
In 1547, he was translated to Bath and Wells; but as he
was attached to the protestant religion, he was deprived of
his bishopric in 1553, upon queen Mary’s accession, on
pretence of his being married, and committed to the Fleet
prison. Having made his escape from confinement, he re-
tired with many others to Germany; where he remained in
a poor and disreputable condition till the happy inauguration
of queen Elizabeth. On this occasion he returned to his
native country, and in 1559, was promoted to the see of Chi-
chester, where he died in 1568. He was reckoned a learned
prelate; but appears, notwithstanding his profession of the
protestant religion, not to havepossessed the spirit of a mart-
try. Besides other pieces which he wrote, he was concern-
ed in the composition of the treatise entitled “The Godly and
Pious Institution of a Christian Man,” commonly called the
“Bishop’s Book,” printed at London in 1557; and in
the reign of Edward VI. he is said to have translated into Eng-
lish the “Apocrypha” as far as the book of Wisdom.
He had five daughters, all of whom were married to bishops.
Biog. Brit.

BARLOWE, WILLIAM, son of the former, was born in
Pembroke-shire, and in 1560 entered at Bath college. He
afterwards travelled, and became skilful in navigation.
On his return he took orders in 1575, and obtained several
premiers in the church, the last of which was that of the
archdeaconry of Salisbury, to which he was promoted in
1614. He died at Eafon near Winchelsea in 1625. In
his acquaintance with the nature and properties of the loam-
stone, he seems to have preceded Dr. William Gilbert, and
wrote upon this subject twenty years before Gilbert’s book
was published. He was the first that made the inclinatory
instruments transparent, and to be used hanging with a glass
on both sides and a ring at the top; and he also contrived
to hang it in a compass box, and to adapt it for use at
sea. He was also the first person that discovered the
difference between iron and steel, and their respective tem-
peratures, for magnetical purposes. He also shewed the right
method of touching magnetic needles, and shewed how to
piece and cement lead-plates. Moreover he explained the
reason why a lead-plate being double caked, takes up so
great a weight. In these subjects he wrote the
Lond. 1597; “Magnetic Advertisements, &c.” 4to.
Lond. 1616; and “An Answer to Dr. Ridley’s Animad-
versions on this work.” Biog. Brit.

BARLOW, THOMAS, a learned English bishop of the
17th century, was born at Langhill in the parish of
Orton in Wiltshire in 1607, and educated at Queen’s
college in Oxford. In 1635, he was appointed reader of
metaphysics in the university, and his lectures were pub-
lished. On the surrender of Oxford to the parliament in
1646, he retained his fellowship, and in 1652 was appointed
keeper of the Bodleian Library. In 1657, he was chosen
provost of his college. Upon the restoriation he contrived
to be chosen one of the commissioners for restoring the
members that had been wrongfully ejected in 1648, and
in 1660 was created doctor of divinity and Margaret pro-
fessor in that department. In this year he wrote “The
Cafe of a Toleration in Matters of Religion,” which he
extended farther than any delines of that age. As he
was distinguished for his zeal in the civil and canon law,
he was often applied to as a counsel; and in 1671, he wrote
Mr. “Cottington’s Cafe of Divorce.” In 1675, he was
promoted, notwithstanding the opposition of archbishop
Sheldon, to the bishopric of Lincoln; and after his ad-
vancement wrote several pieces particularly against popery,
which served to found the alarm with respect to the danger
of a popish successor. However on the accession of James
II., he was one of the most forward in procuring thanks to
the king for his declaration in favour of liberty of con-
science, and he vindicated the regal power of dispensing
with penal laws; which conduct some have confused as ma-
nifecting an unwarrantable accommodation to the times,
and others have ascribed to his love of toleration. With the
revolution he adopted its principles, and avowed his allegiance
to the succession of James. As to his sentiments, he was in
theology a rigid Calvinist; and in philosophy a strict Arif-
totelian, and an enemy to the new mode of experiment en-
couraged by the Royal Society. As a bishop he neglected
his duties in his cathedral and diocese, and refuted con-
stantly at his manor seat at Bugden; nevertheless his tolerating
spirit and opposition to popery seem to have produced in
the author of the “Confessional” a singular predilection in
his favour. He died at Bugden in 1691, in the 85th year
of his age; and he was eminently distinguished by his learn-
ing and liberality. The works of this bishop, printed after
his death, were a volume of “Cafes of Confidences,” re-
 solved by him, 8vo. 1692; and his “Genuine Remains,”

BARLOW, FRANCIS, a painter of birds, beasts, and fish,
was born in Lincolnshire, and excelled in drawing every spoc-
cies of animals with great correctness; but his knowledge of
colouring was very imperfect. This artist died in 1702.
Pilkington.

BARM, otherwise called yeast; the head or workings
producing by the fermentation of ale or beer. It is
the froth that forms on the surface of beer or wine of
grains during their fermentation; which, mixing with
dough, raises it more quickly and better than leaven, and
makes the lightest bread. See Leaven, and Yeast.

BARMACH, in Geography, a lofty mountain of Peria,
in the province of Schirvan near the Caspian sea.

BARMANCOTTY, a town of Afi, in the country of
Thibet, five miles south of Sirinagur, and thirteen north of
Deuprag.

BARMEA Haven, is a large bay, situated about four
miles S.W. by W. from Cape Machicaco, two leagues N.E.
by N. from Placentia, and four from Bilboa.

BARMEN, a town of Germany, in the circle of West-
phalia and duchy of Berg, situate in a fertile valley to
which it gives name, five miles north of Laump.

BAR-MINE denotes such mine or orejas is adjudged
at a court of bargemote.

BARMOUTH, in Geography, is a small watering place
in the parish of Llanaber, Merionethshire, North Wales. The
houses
houses are singularly placed at the bottom and on the side of a steep hill which overlooks a narrow winding valley to the south, and the bay with St. George's channel on the west. The situation of the houses affords matter of adornment to most travellers; some being placed on the sands close to the beach, and others at such varied heights on the rocks, that in some of the winding paths a person may look into the door of one house on his right hand, and down the chimney of another on his left. This place is at the mouth of the river Mawddach, which at high tide forms a bay of about one mile over; but the entrance is rather unsafe on account of the sand banks. The Welsh call it Aber-maw, i.e. the mouth or confluence of the river Maw. Barmouth is much frequented as a convenient bathing place during the summer by many genteel families. There are a few bathing machines for the use of ladies, but the gentlemen commonly bathe from the boat. This place is the port of Merionethshire, and great quantities of flannel and hogs are annually exported hence. Mr. Pennant states that forty thousand pounds' worth of the former and ten thousand pounds' worth of the latter have been shipped from this port in one year. About one hundred vessels belong to this place, some of which fall up the river nearly to Dolgelly.

Not far from Barmouth, the river Mawddach divides into two arms, and forms a small island called Yays y Bradau, or the Friar's island. The number of houses in this parish is 317, and its inhabitants amount to 1463. Bingley's Tour round North Wales.

BARN, in Rural Economy, a covered building constructed for the purpose of laying up and preserving all sorts of grain, hay, straw, &c. Arable as well as hay farms should in general be provided with barns proportioned to the quantity of grain or hay they produce; though since the practice of flacking hay and grain and of threshing by mills has become more general, there seems to be much less need of large barns.

Buildings of this sort should have a dry, rather elevated situation; and be placed on the north or north-east side of the farm yard, but not by any means contiguous to the house or such offices as are connected with it.

Barns may either be constructed on wooden frames and covered with the outgates with weather-board, or built of brick or stone; which ever the country affords in the greatest plenty; but in either case, there should be such vent-holes or openings in their sides or walls as may be sufficient to afford free admission to the air, in order to prevent the mouldiness that would otherwise from the leat damp lodge in the grain. The gable ends of such buildings are probably always best be built up of brick or stone, on account of their greater solidity; the whole may be roofed with either thatch or tiles as can be most conveniently procured. They should have two large folding doors facing each other, on each side of the building, for the convenience of carrying in or out a cart or waggon load of corn in heaps or any other sort of bulky produce; and these doors should be of the same breadth with the thinner floor, to afford the more light and air; the former for the thrasher, and the latter for the purpose of winnowing the grain. Over the thinner floor, and a little above the reach of the flail, poles are often laid across from one beam to another, to form a kind of upper floor, upon which the thrasher may throw the straw or halm, to make an immediate clearing till he has time to follow it properly elsewhere; and on the outside over the great doors, it is sometimes convenient to have a large pent house, made to project sufficiently to cover a load of corn or hay, in case a sudden storm should come on before it can be hauled, and also to shelter the poultry in the farm yard from too great heat or bad weather of any kind.

It was formerly much the custom in countries that abounded in corn to have separate barns for wheat, for forring-corn, such as barley and oats, and for peas, tares, clover, sainfoins, &c. but where the grain, hay, and other similar produce can be thacked, the heavy expense of so many buildings of this kind may be avoided, and at the same time the different articles be preserved with equal safety and convenience. In the corn barns it was formerly also much the custom to have hay or large separate chambers formed in their sides or ends for the purpose of containing the grain when threshed out, straw, and other articles; but these at present are not so much in use. The hay barns should commonly be constructed of wood and not made too close. They are sometimes formed in such a manner as to be capable of being moved to different places by having low wheels or rollers fixed on the bottom frame. In grazing farms that do not afford a supply of straw for thatching the flacks with, movable roofs erected on strong upright polls of wood, or what are sometimes termed Dutch barns may be useful; as they may be raised or lowered at pleasure by screws or levers so as to accommodate themselves to the quantity of hay, either in proportion to the crop or its consumptions; while at the same time they are cheaper, more airy, and less troublesome in cases of heating, than close barns.

It is observed in the sixteenth volume of the Annals of Agriculture, in speaking of the construction of barns, that the underpinning should be of brick or stone, two feet high above ground, and the sides boarded; the roof of the barn is best covered with reed or straw, and thole of the flaches on its sides with slate or glazed tile; because they must be more flat, and the water which runs from the roof of the barn would injure most other coverings. At each end of the barn, and over the back door, small doors four feet square should be fixed at the height of twelve feet from the ground; the two former for putting corn in at the ends, and the latter for filling the middle of the barn after the hays are full. All the hays should have a floor of clay or marls, and the threshing floor be made with hard bricks, which will be sufficient for all sorts of grain except wheat and rye; and for threshing them it will be good economy to have planks of oak or red bricks fitted together and numbered, to be laid down occasionally and confined by a frame at their ends. A barn built on such a plan would hold a great deal of corn and be filled most conveniently; and if the flacks of corn were built at each end, they might be taken in without any carting. If more buildings are requisite, two may be added on the back side like the flatches in front; otherwise if doors are made under the eaves on the back side, as directed at the ends, and flacks be placed opposite to them just far enough to avoid the eaves dropping, by placing a waggon between them and the barn by way of a stage, these flacks may be taken in without carting; which method spares a great waste of corn and much trouble. The eaves of the roofs of the flatches rest upon the upper eills of the sides of the barn, and the outside wall of the flatches is eight feet high; the barn supplying the highest eill and one end of each flack, and the flatches in return are butterscots to the barn and strengthen it greatly.

It is remarked by the author of the Agricultural Survey of the county of Somerset, that the practice lately introduced of placing barns on a declivity cannot be too much recommended, as a warm commodious range of stalls for cattle, covered by the same roof, is by that means obtained.
Besides, the barn-floor, by being thus elevated, is rendered more durable, and left subject to vermin; the grain is kept more dry and sweet than on a ground floor, and cannot slip through it without discovery. The plan is indeed, in his opinion, also of unquestionable. Barns, when built in this way, should have a fourteen-sided, the arches of the eath falling in that way. Mr. Marshall, in the "Rural Economy of Yorkshire," also speaks highly of the advantages of barns formed in this manner.

In respect to the size of barns, the same writer has observed, that in Gloucestershire fifty-two by twenty feet in the clear, and from sixteen to twenty feet in height to the plate, is considered a good barn; these dimensions admitting of four bay of ten feet each, with a floor in the middle.

The advantage of having buildings of this sort conveniently situated, is extremely great both in regard to the feeding of cattle, sheep, and hogs, and likewise in the economy of labour, and the preventing of waste in different kinds of fodder.

The invention of thrashing machines has, in some measure, altered the construction of barns, as where they are made use of there should be contrived chiefly with a view to the distribution of the straw; the machines being built in the centre, with the grain flacks adjoining them, in such a manner as that they may be supplied without the annoyance of carts or horses. The barns in these cases need not be so large, but they should have granaries provided in them, which may probably be most conveniently placed over the floors. In most old barns, thrashing machines may be erected without much inconvenience or trouble.

But, notwithstanding the superiority of flacking grain in the open air has been fully shewn by different writers, and of course the necessity of large barns in a great measure obviated, there are still many agriculturists attached to the method of housing corn in the straw; it may therefore be proper to give a few plans and descriptions of such as appear to be the best calculated for that purpose.

At fig. 1, Plate I. of Agriculture, are given the elevation and ground plan of a small common barn used in most parts of the kingdom for the smaller kinds of farms. The thrashing-floor is in the middle; on one side of which acroft wall is sometimes raised to the height of about three feet, in order to keep the thrashed corn from being mixed with that which is unthrashed; is a space for containing the thrashed grain till it be cleaned, or a large quantity be accumulated for that purpose. It is about three feet in height, being covered over with boards, and only open on the side next the thrashing-floor of the barn.

At fig. 2, the elevation and ground plan of a double barn with two thrashing floors are given. In this fort of barn a wall is sometimes raised across the middle. These barns are often built of large dimensions, but possess few conveniences, except for piling up the grain while in the straw.

At fig. 3, the elevation and ground plan of an improved barn are given, in the middle of which is the thrashing floor, and on one side near the end a place for deposing the thrashed corn, with flails up to a small granary, below which is a place for putting potatoes, &c.; and on the other a division that may be made use of for different purposes, such as the rearing of calves, preferring implements, &c.

And at fig. 4, the elevation and ground plan of an open improved barn are shewn, the thrashing floor of which is placed towards one end. And on each side of it below are divisions for a great variety of different purposes; the corn being kept above in the straw till thrashed out. In this barn much expense is saved in masonry by the great number and largeness of the openings in the upper part, and at the same time the air is admitted more freely.

Fig. 5, is the representation of a Dutch movable barn which has many conveniences, and at the same time is capable of being made to cover the parts of such hay flacks as are cutting. It moves on fixed wheels each two feet in diameter, and costs, when complete, about sixty pounds.

Some degree of art, which must be the result of practice, is necessary in placing and piling up the theses in barns; and it may not be useless to observe, that it is always necessary to press them as close to the walls of the barn as possible, to be able to afford the largest room for rats or other vermin to creep in between them, for if they once get admittance, they will soon penetrate farther, lodge themselves in the mow, and do prodigious damage to the grain. Where this misfortune happens, the only remedy is to take down the mow, destroy the vermin, and pile it up anew in a more careful manner.

As the introduction of thrashing machines has made considerable alteration in the construction of barns, it may not be improper to give a few plans or representations by which the manner of their attachment to them may be rendered more clear and comprehensible. These machines may be wrought by different powers, as water, wind, or animals; but the first, when it can be obtained, is by much the best and most regular.

At fig. 1, Plate II. of Agriculture, are given a front and end elevation, with the plan, of a small barn adapted for a two-horse thrashing machine. The barn is only fifty feet in length within the walls, and fifteen in width. The walls are ten feet in height, which admits of a granary, or room thirty feet long above the machine, as is shewn by the dotted line in the elevation, which denotes the extent of the granary as well as the height of the floor from the ground. The floor is not continued the whole length, in order that there may be more room left in the other end for containing the unthrashed grain, which is introduced at a, fig. 2, and 3. At e, fig. 2, is seen the space occupied by the machine within the barn, which is only ten feet by fourteen, including the distance from the wall; c, d, fig. 2 and 3, shew the horse beam or lever; which is twenty four feet in length, and which gives motion by a laying shaft through the wall, to the machine within. In this there is no fixed or cover over the horse path and parts of the outside of the barn, as is usual, except g, h, fig. 2, which is closely boarded to protect the wheels of the first movement from the effects of weather, a part of one side being fixed with hinges for the purpose of opening to apply grease. The expense of a machine on this plan will be from thirty to forty pounds, according to the strength and manner of its being put together.

And at fig. 4, are seen the front and end elevations, with the plan, of a barn and horse thrashing machine upon a much larger scale, being intended for three or four horses or other forts of cattle; and designed to winnow or clear the grain at the same time that it is thrashed out. It may likewise be contrived as to be built up to the granary above, to split beans, cut straw, and perform several other operations, such as churning, pumping, grinding, &c. Such a barn and machine will suit a farm of almost any extent. The fixed over the horse-path and first movements is mostly made with a conical roof merely for the purpose of covering them; but as the expense is considerable, it is here made to answer other uses. It is square, as shewn at fig. 5, by a, b, c, d; the dotted circle is the horse-path, in the corner of which stands the upright axle e, fig. 6. Above this, by raising the pillars to a proper height, may be obtained a convenient place.
place either for putting corn in the straw till threshed out, or for keeping straw or hay, or as a granary. But in either case the floor must be so constructed as to support the weight upon it without sinking in the middle. A communication with the barn may be made near the threshing machine at $j$, $k$, which will afford an easy access to the machine in case grain be deposited there to be threshed. In this barn, the machine is erected on a floor raised seven or eight feet above the ground-floor, in order that there may be sufficient room for the farmer or windowing machine below. This floor may be extended the whole breadth of the barn and fifteen feet or more towards $i$, from the back part of the machine at $j$, by which, and being properly partitioned below, a very necessary and useful division $f g h i$, will be obtained for containing the grain till hoisted up to the granary. The doors of this place may be locked by the farmer, if thought necessary, during the time of threshing. The space $k$ will contain the chaff blown by the farmers. There is a door through at $g$ to render the communication more easy and expeditious from the part $i$, where the unthreshed grain is deposited; as it may be proper to look often while the machine is at work: there likewise be a door in the partition at $h$; but this is not so very necessary, as the farmer can easily see what his servants are about at $m$, where the straw goes, by looking on the threshing-floor, to which there should be steps up at $n$. This machine may also be so constructed as to raise away the straw, and throw it down to $m$; which leaves the labour of a perfect in raking from the machine.

The expense of a machine on this plan, when made to clean the grain and raise away the straw only, will amount to about sixty pounds exclusive of flooring, &c.; and when made so as to hoist up the grain, split pease or beans, and cut straw, from six to ten pounds in addition for each.

Other more powerful machines of this kind will be described under the article Threshing Machine.

BARN FLOOR, in Rural Economy, the space or floor on which the grain is threshed out by the flail. It is for the most part made in the middle of the barn, and should be so formed as to be perfectly close, firm, and strong. It is sometimes termed threshing-floor. In constructing these floors, various sorts of materials are employed; such as compositions of earthy kinds, fluxes, brick, and wood. The last, when properly laid and put together, is probably the best and most secure from such causes as are liable to injure grain. The floors of barns, when made of wood, are sometimes so contrived as to be moveable at pleasure, which is a great convenience in many cases. Barn floors are made of different dimensions, but from twelve to fourteen by eighteen or twenty feet may be considered as good sizes.

As the floor or threshing-place, is the principal part of every barn, the greatest care ought to be taken in making it. In order to this, in some places the surface of the intended threshing-place is dug away to the depth of about six inches; and the earth thus taken out, when of a proper kind, after being well cleared of stones, is mixed with the strongest clay that can be procured, and with the dung of cattle. This mixture is then worked together with water till it is of the consistence of stiff mortar, and the compost thus made is spread as smooth and even as possible with a trovel upon the spot from whence the earth was taken. As it cracks in drying, it must frequently be beaten down with great force, or rolled with a heavy roller, until all the crevices are filled up; and this must be continued till it is quite solid, hard, and firm. Earthen floors are not however to be recommended, except where the materials are extremely good, and the method of forming them well understood, which is but seldom the case.

The best barn floor, both for threshing upon, and for keeping corn, is that which is the driest, smoothest, most completely solid, and consequently the most free from cracks and holes in which insects and vermin may shelter themselves and breed. The ancients were remarkably careful in this last respect, as is evident from the writings of Cato, Varro, and Columella. The loft of these relates particularly the great pains they took, first to dig up the ground to some depth, in order to moisten it with fresh loops of oil, but not with any that had saline matters in them; then to mix it thoroughly with chaff, and ram it down as close as possible; afterwards, as it dried, to flop all the cracks and crevices that appeared; to continue heating it down with great force to render it quite level; and, lastly, to strew it again with chaff, which they trod in, and then left it to be completely dried by the sun. All of them agree, that the lees of oil thus used prevent the growth of weeds in the floors, and contribute to preserve the corn from being plundered by the mice and ants. In this they were, however, probably mistaken. Their barns were always heated high, and as dry as possible. A floor made in the above manner, though not good, was probably preferable to either stone or the earthen floors formerly common in many parts of this country, from which such granaries have been communicated to the corn, as has rendered wheat, for example, slippery or a flailing bushel worse either for keeping or exporting. Bricks, when hard and well laid, may form a tolerable floor for many purposes; but, from their attracting moisture, are not by any means to be recommended where grain is to remain much upon them. And most parts of these are liable to the same objection.

Wood is by much the best for this use. Boarded threshing floors, made of sound, thick, well-seasoned planks of oak, are excellent for threshing upon, will last a long time, and may be converted into good floorings for rooms, by planing them down after they are become too uneven for the purpose originally intended.

There are various ways of laying and constructing barnfloors, when made of wood. The most common method is that of nailing the planks, after their edges have been true and well jointed, down to wooden sleepers firmly placed on the ground. But in the midland counties another method is followed, which, Mr. Marshall says, is that of first having the floors laid with bricks, and then covering them over with the planks, without any other confinement than that of their being dovetailed together, or ploughed and tongued and their ends let into the floor or walls placed in the usual manner on each side of the floors. The advantages of this method of making the floors are, that when the brick work is well executed and made perfectly level, vermin cannot be concealed underneath them, nor damp air be communicated; besides, floors formed in this way are found to wear better than those laid firmly upon sleepers. The planks employed in this way should, however, always be well seasoned. It is evident, notwithstanding, that where barn floors can be made hollow, they must be much better for the purpose of threshing upon than such as are either placed on brick work or the ground, from their greater elasticity; the grain is of course threshed out with more ease and certainty. But in whatever manner these floors are constructed, they become expensive, and do not last any great length of time. Such as are laid on the common ground, upon three fells, with two-inch oak planks, will in general cost from eighteen to twenty pounds; and only last fifteen or twenty years; and such as are made hollow, and placed wholly on brick work,
or only on brick quoins, with two-inch and half oak planks, are still considerably higher, being often from twenty-five to thirty-five pounds or more, and not much more durable. Beech floors, which were lately introduced instead of oak, have been found not to last more than seven or eight years; consequently to be by no means advantageous.

In order therefore to obviate the continued heavy expenses of these floors, as well as the great consumption of timber in the construction of them, and also to guard against the great waste of grain in threshing upon them after they begin to decay, another kind of barn floor has been invented by Mr. Upton of Petworth in Sussex, which has been found on trial to prevent these inconveniences in a great measure, and at the same time to afford other great advantages, such as those of being more easily drawn upon by loaded waggons or carts; providing, when down, comfortable shelter for hogs; and, when turned up, being capable of being employed as a stable, ox-stall, hovel, or cart-house. This is the moveable barn floor, which, it is said, can be placed or displaced in a few minutes by two persons.

This new-constructed hollow floor, is composed of oak planks five feet eight inches in length, and one inch and an half in thickness, and cools from twenty-three to twenty-four pounds, by these dimensions being considerably less than those used in common barn floors, much advantage is gained in respect to timber. besides, planks of deal, beech, or elm, may be made use of, as they will not be liable to decay from there being little or no dampness, and in this way the expense be lessened; and when timber from the estate is employed, it may be still further diminished; as these floors may be composed of stuff of small scantlings, which may be had from short timbers of but little value in comparison to those made use of in other kinds of barn floors. It is supposed that floors constructed in this method will last an hundred years, or as long as the barns; as they are perfectly free from damp from their being so much raised from the ground when down; also from their being movable; when there are more barns than one in the same yard, they may be conveyed from one to another, and by that means save the expense of having different floors.

At fig. 7. Plate II. of Agriculture, may be seen the representation of a barn floor of this kind; one part of which affords a view of the floor as laid down for threshing upon, and the other part is raised up, with racks for feeding cattle, &c. a rack boards, b slip boards for admitting air, c wood floor, floor for the slip boards d to rest upon, e movable floor, to one part of which are wooden legs serving to support it when it is necessary to put the displaced timbers into the receive; f a receive for receiving the threshold grain before it is winnowed or for containing the moveable timbers; g an iron hook to lift the floor up with when not used for threshing upon; there are two of these hooks employed in the barn; h the moveable timbers that support the floor, having grooves along their surfaces to prevent the loss of grain; two of these timbers are represented larger at i; one being the cross piece with a leg and tenon for fixing in the floor mortises, the other intended to lie lastly, and level with the floor of the barn; in the ground are fixed stones with mortises in them to receive the tenons of the timbers described above; j the ground, which should be made of materials sufficiently hard to prevent the horces, carts, or waggons from making depressions in it; k pegs with iron halps, to support the floors when out of use, l racks for feeding cattle at, when the barn is applied to other purposes than threshing upon. When the floor is not wanted for threshing upon, the floors may be first turned up and fixed with the iron pins, bolts, and halps; then the middle timbers are taken out and placed on the ground, on the side opposite to the receive where they were to be deposited when out of employ; afterwards that part of the floor which has legs to support must be let down, putting the timbers into the receive, and turning the floor up again.

Though floors of this kind may be highly convenient and useful in particular instances of large barns, where much threshing by the flail is required, yet from their complexity, and their requiring much room when out of use as floors, they do not seem well calculated for those of the smaller kinds.

• Barn, or White Owl, in Ornithology, is in England the common name of that species of Strix, which is found about barns and out-houses, and which is specifically called flammeus by Gmelin, and some other naturalists.

BARNABAS, Saint, in Biography, a teacher of Christianity contemporary with the apostles, was a Levite of the country of Cyprus. His original name seems to have been "Joseph," and the appellation of "Barnabas," signifying "Son of Consolation or of Exhortation," was conferred upon him by the apostles. He was one of those Christians who, soon after the resurrection of Christ, sold their property and laid the money at the apostles' feet. Acts, iv. 36, 37. By him St. Paul was prefented to the other apostles three years after his conversion, or about the year 37 of the vulgar era; and he was appointed a missionary to Antioch, in order to confirm the disciples. From thence he went to meet Paul at Tarus, and they reposed together a year at Antioch; and were afterwards entrusted with the conveyance of alms to the Christian brethren at Jerusalem. A. D. 45. Here he declared joint apostle of the Gentiles with Paul, whom he accompanied to various places and with whom he co-operated in preaching the gospel. At length a division occurring between them with respect to Mark, whom Paul refused to accept as a companion; they separated, probably in friendship and mutual good will; and Barnabas with Mark as his associate went to Cyprus. St. Luke bears this honourable testimony to Barnabas, that he "was a good man, and full of the Holy Ghost, and of faith." Such is the substance of the account given of him in the New Testament. Some of the ancients, however, have supposed that he was one of Christ's seventy disciples, whom he employed during his ministry as a preacher in the land of Judaea. It has been said that he suffered martyrdom, being stoned to death by the Jews of Cyprus at Salamis; that he was buried by Mark in a cave near that city; and that his body was discovered in this island in the reign of the emperor Zeno about A. D. 488, with the gospel of St. Matthew written in Greek with his own hand, upon his breast. Lardner's works, vol. ii. p. 11, &c.

BARNABAS, Epistle of, in Ecclesiastical History, an epistle full extant, ascribed to St. Barnabas. It consists of two parts; the first being an exhortation to constancy in the belief and profession of the Christian doctrine, particularly as to its simplicity without the rites of the Jewish law, and the second part containing moral instructions. Learned men have differed with regard to the genuineness of this epistle. It is cited by St. Clement of Alexandria and by Origen. Eusebius reckons it among those books that are fruitful, meaning probably by the term, contradictory. St. Jerome says, that it was read for edification among the apocryphal Scriptures. Amongst the moderns, Pearson, Cave, Du Pin, Wake, Dr. Clarke, and many other learned men, suppose it to be a genuine epistle of Barnabas the companion of Paul. Some are doubtful, as Cotelierus, who inclines to think that it was not written by Barnabas. The objections against the genuineness of it are strongly urged by Balnage.
Bapore, and also by Mr. Jeremiah Jones. To this purpose he alleges that it is not in any of the ancient catalogues of sacred books; that it is not cited in scripture by any of the fathers; that it was not read in the assemblies of the primitive Christians; that it contains contradictions, notorious falsehoods, and grofs mistakes; and also many things that are trifling and silly.

Motheim says that it was the production of some superstitious Jew, whose attachment to Jewish fables, as well as mean abilities, shew that, notwithstanding the uprightness of his intentions, he must have been a very different person from the true Barnabas who was St. Paul's companion. Mr. Jones supposes that it was written by a peron who had been originally a Gentile or Pagan.

Dr. Lardner thinks it most probable, that it was written by Barnabas, soon after the destruction of Jerusalem by Titus, in the year of our Lord 71 or 72; and that it was addressed not to Jews, as archbishop Wake supposes, but to Gentiles, or perhaps rather to Christians in general, and intended to abate their respect for the peculiar rites and institutions of the Jewish laws and to shew that they were not binding upon Christians. It was written in Greek; but the first five chapters or sections, and a part of the fifth, are wanting in the Greek copies. It is however entire in an ancient Latin version. This epistle has no inscription, as it is not directed to the Christians of any particular place; and on this account it has been sometimes called a Catholic epistle. Lardner's works, vol. ii. 12, &c. Jones's New and Full Method of settling the Canonical Authority of the New Testament, vol. ii. p. 509, &c. Motheim's Eccle.

Hist. vol. i. p. 113.

Barnabas, St., Gospel of, a furious gospel mentioned by pope Celestus, in his decree against apocryphal books. The Turks have a gospel under this name, in which there are many things injurious to Christ and honourable to Mahomet. It was composed in Arabic, as M. de la Croze thinks, under the emperor Frederic II., A.D. 1211 to 1245, and was translated into Italian about the middle of the 15th century. Professor White has given extracts from this gospel at the end of his "Sermons at the Bampton Lectures."

Barnabas's St., Day, in the Calendar, a Christian festival celebrated on the 11th of June.

Barnabas, Cape, in Geography, lies in the north-west of America, in N. lat. 57° 13', between Trinity island and Cape Greville.

Barnabas, St., Island, is situated at the mouth of a small river of this name which falls into the river St. Lawrence, and is remote to the north-east on the southern or backshore more in coming down from Quebec.

Barnabites, in Ecclesiastical History, an order of religious thus called from the church of St. Barnabas at Milan, where they were first established, and which was bestowed upon them in the year 1545; and not as some have imagined because St. Barnabas was their patron; in reality, St. Paul is the patron of the Barnabites. The Barnabites are regular priests of the congregation of St. Paul. Their habit is black, and the same with what they wore when first established, in 1535, by the express bulls of pope Clement VII. and afterwards confirmed by Paul III. Their office is to instruct, catechize, and serve in mission.

Barnaca, in Geography, a small island near the west coast of Ireland, situate in Black Sound Bay.

Barnacles, in Ancient Geography, a town of Hispamia Tarraconensis, in the territory of the Carpathians. Ptolemy.

Barnacle, or Barnacle, in Conchology, is the common name of the species of Lepas called Anatifera; and is applied also in a general manner to all the shells which belong to the Lepas genus.

Barnacle-Goose, of Bernacle-Goose, in Ornithology, the common English name of that kind of goose which was deemed the offspring of the Lepas Anatifera in the sixteenth century. See Anatifera, and Anas Erythrophus, the latter being the Linnaean name of the Barnacle goose.


Gen. Ch. Col. common, somewhat ventricose, spreading at the tip, imbricate; scales numerous, gradually longer from the base to the tip; the inferior or exterior, ovate, close imbricate, sharp, pungent; the superior or interior, subulate, flat, spreading, pungent. Cor. compound, rayed; corollae hermaphrodite, tubular, very few (three or four), remote, in the disk ligulate, in a simple series, in the ray. Proper to the former, funnel-form; tube very short; border hairy, five-parted; parts converging. Proper to the latter, ligulate, lancolate, spreading at the base, incurved at the tip, and split, outwardly very hairy; tube longer than the calyx. Stam. filaments five; stamens cylindric, tubular.

Pfl. germ ovate; style filiform, longer than the stamens; stigma bihidi; stigmas spreading, ovate-rounded. Per. none; calyx converging; feeds very many, ovate, hairy; hairs reversed. Down of the flowers of the disk brantly; rays fimbriate, fluff, broken backwards, naked or covered with minute hairs; of the radial flowers long, erect, spreading, many-rayed, feathery, flos. Recept. flat, villous, without chaff.

Eff. Gen. Ch. Col. naked, imbricate, pungent. Cor. radiate; down of the ray feathered, of the disk brilly, broken backwards.

Species. Barnadesia spinosa is a shrub with very smooth branches, set with a pair of thorns at their origin, which at first were flipples; they are petalous, brown, fimbria; leaves alternate, simple, ovate, entire, sharp, flat, veined, somewhat hairy on both sides, with small cushions; petals very short; flipples in pairs, small, fimbriate; flowers in panicules, terminating; calyx pubescent. The flower is singular in having two sets of down. This is the only species of this genus, is a native of South America, where it was discovered by Muttis.

Barnard, or Bernard, John, in Biography, was born at Calcot in Lincolnshire, and educated at Queen's college in the university of Cambridge. In 1634, he was admitted by order of the visitors appointed by parliament, fellow of Lincoln college at Oxford. After the restoration, he was confirmed, and was promoted to be prebendary in the church of Lincoln. He died at Newark, on a journey to the Spa, in 1683. He was in good repute for his learning and orthodoxy principles, and was author of the following books: viz. "Centum Clerior, against Scandalous Ministers," &c. 4to. 1663; "Theologico-Historicus, or the Life of Dr. Heylyn," whose daughter he married, 8to, 1683; "An Answer to Baxter's false accusation of Heylyn;" and a "Catechism" for the use of his parish. Biog. Brit.

Barnard, Sir John, a patriotic citizen and distinguished magistrate of London, was born at Reading in Berkshire, in 1685, of parents who were quakers, and educated at a school belonging to persons of this persuasion at Wandsworth in Surry. In early life he was distinguished by the integrity and candour of his mind, so that all differences among his school-fellows were submitted to his decision. In the intestant year of his age, his father, who was now settled
London in the wine trade, introduced him into his own business; and his conduct was such as fully to justify the confidence that was reposed in him. Among other occupations that occupied his thoughts and time, he directed his particular attention to religion; and without doubt from conviction, renounced the professions of his parents, and became a professed and private member of the established church. Accordingly he was baptised by Dr. Compton, bishop of London, after several previous conferences, at his chapel in Fulham, in 1703. It was the uniform practice of Mr. Barnard, from his earliest youth, to associate with persons of riper age than his own, and with such as were distinguished by their talents, learning, and religion; and his improvement in knowledge and virtue corresponded to the election he made of his companions and friends. In this course of religious application to mental culture as well as to secular employment, Mr. Barnard persevered till he had attained the thirty-sixth year of his age; and he was only known in private life by the excellencies of his character. About this time a bill that materially affected the wine trade had passed the commons, and was depending in the upper house. The merchants that were likely to be injured by the operation of this bill, appointed Mr. Barnard to state their objections before the lords; and such were the abilities which he manifested on this occasion, and such was the success that attended his exertions, that in 1721 he was proposed, without his knowledge, as a candidate to represent the city of London at the next election, which took place in the following year. The contest was as warm as any that had ever been known in the city; but Mr. Barnard, though he declined all personal solicitation, succeeded by the zeal and activity of his friends. His parliamentary conduct, during a period of forty years, was in the highest degree independent and respectable; and he derived from his character as well as talents singular influence. He distinguished himself by his opposition to the measures of administration, then conducted by Sir Robert Walpole, and particularly to the extenuation of the excise, which he condemned both in a commercial and political light, and which, by his vigorous and affiduous efforts, he induced the minister at length to abandon. Headlee of popularity in measures which in his judgment concerned the good of his country, he attempted to reduce the interest of the national debt from four to three per cent.; and by his endeavours incurred a temporary odium. In 1732 he had obtained the honour of knighthood, on occasion of presenting a congratulatory address to King George II.; and in 1737 he was raised to the dignity of the chief alderman of the city of London, and in thus supporting his character he executed with singular reputation to himself and advantage to the public. So attentive was he to the duties of this office, that he would not sleep a single night in his house at Clapham, lest any person should be injured by his temporary absence. No magistrate was ever more vigilant in his attention to the internal police of the city over which he presided; and blended lenity with severity in the administration of it with so much dexterity. He would never suffer any person to be committed to prison for a single night, till the accusation against him had been fairly heard; for he well knew the danger to which unguarded youth would be exposed even by a short abode in those receptacles of infancy. The state of our goals had been the object of his particular investigation, and he was fully apprized of those abuses that needed correction and restraint. In 1745 Sir John Barnard took the lead in signing an agreement to take bank notes in lieu of public credit at a period of peculiar danger. In 1749, he became the father of the city; and the London merchants had previously, in 1747, testified their regeneration of him by erecting his statue in the Royal Exchange. This token of respect, however, he disapproved; as he thought that no character was entitled to it, till its perseverance in integrity had been vexed by death: and such was his modesty, that he never after transacted business within this edifice. In 1754 he was for the last time, without solicitation and in opposition to his own wishes, elected a representative of the city; but his infirmities increasing, he thought proper, in 1758, to resign his alderman’s gown. After some years of honourable retirement, he died at Clapham in 1764, leaving one son (distinguished by his talent in the polite arts, and by his admirable collection of pictures) and two daughters. Few persons ever cultivated a character so uniformly respectable as Sir John Barnard. He was not only blameless, but eminently exemplary in the various relations and offices of life. To the faithful and active discharge of the personal and social duties, he added a most devout sense of religion. The first hour, at least, of every day was employed in the exercise of devotion and the study of the scriptures. He attended public worship twice on a Sunday, and was confiant in receiving the communion. He had such a high reverence for the bible, that he always expressed a great dislike of any attacks which were made upon its sacred original and authority. Although he re- habited the profession of his youth, he retained, in a considerable degree, that simplicity of manners and plainness of drefs which distinguished the respectable body to which his family belonged. But though he was modest in his deportment, he was firm and fearless in the discharge of his duty. His language was clear, concise, and unaffected; and his wisdom and knowledge were recognized by persons of the first character in his time; insomuch that he was urged in 1746, by King George the second, to accept the office of chancellor of the Exchequer, which he refused. Lord Granville and Mr. Pulteney frequently consulted him on affairs of moment; and lord Chatham, when Mr. Pitt, has been known to flile him the great commoner. The nure of Pope, by exhibiting him in contrast to worthless wealth and title, has immortalized his name.

"Barnard in spirit, sense, and truth abounds;
Pray then what wants he? Fourscore thousand pounds?"

Biog. Brit.

BARNARD, in Geography, a township of America, in Windor county and state of Vermont, containing 673 inhabitants. It gives rise to the northern branch of Water- quee river, and is distant 65 miles N.E. from Bennington.

BARNARD CASTLE, or CASTLE BERNARD, a town of Durham, in England, 246 miles N.N.W. from London, and 26 from Durham. The town is about a mile in length, and consists of several streets; the principal of which is upwards of forty yards in width, and is mostly filled with halfdoe modern buildings. The air of this part of the country is remarkably salubrious, the market is abundantly supplied, and the situation pollutes every advantage to render it pleasant. The woollen manufacture has declined of late from the great use of cotton goods; much business is done by the tanners; and the floating trade is particularly flourishing. This town is mentioned as existing soon after the conquest; though it was then probably but an insignificant place, as it derived its chief consequence as well as its name from the magnificent castle founded here by Bernard Baliol about the year 1176. This fortress is situated on the summit of a high rock, and the most southern part of the town, and was anciently of much importance; maintaining a number of officers, and being walled with high privileges.
Iges by its different possessor. We find the names of John Balliol father to the king of Scotland, the celebrated Guy Beauchamp earl of Warwick, and Richard duke of Gloucester afterwards Richard III., occurring among the proprietors of the castle. The latter founded a college for a dean, 12 secular preists, 10 clerks, and 6 choristers; but it is presumed that his intentions were in part frustrated by the subsequent trouble of his reign, as no traces of this foundation are now discernible. In the reign of Charles 1., this castle, after being several years in the possession of the crown, was purchased by an ancestor of the present earl of Darlington, and gives a title to his lordship's eldest son. In the year 1699, it was created a barony by king William III. The present remains cover about six acres of ground. The parts of chief strength hard on the brink of a steep rock about eighty perpendicular feet above the river Tees, and every way command a most beautiful prospect. Many fragments of the ruins have the arms of Richard the third, who is supposed to have considerably contributed to this building. Though we can readily ascertain from the above that this fortress must have been a place of great strength and extent, yet it is not possible to form any competent idea what it was in its original and perfect state. Leland in particular mentions parts of which there are left but the ruins remain. The environs of the town are remarkably beautiful; the vale of the Tees abounding with a great variety of picturesque, pastoral, and augial scenery. From the castle cliffs northward, the river is bordered by a hanging forest of oaks on one hand, and on the other by fine meadow land. The extended battlements, the circular tower and the most flatly parts mantled with ivy, the brown rocks fringed with bristly wood, the brighter yellow towers, and the dark and shaded battlements, are contrasted by the azure lake on whose surface they are reflected. Near the path on the margin of the river is a fine new bridge of one arch, lately erected by Saurey Morriss, Esq. of Kokeby Park. The number of houes in the town-ship is 312, and its inhabitants 2966. Hutchinson's History of Durham, vol. iv. 460.

BARNARDO ISLANDS, are five islands on the north coast of South America, laid down in modern charts off the north point of the entrance into Morroqullo bay. They lie S.S.W. from the harbour of Carthagena, in the direction of the coast. To the west of four from them is the gulf of Darien, which is the limit between North and South America. These islands form a large bay and harbour in N. lat. 6° 35', and W. long. 70° 20'. The outermost island is called St. George's, the innermost is St. Gi- bertus, and Goeree island lies between them. The river Chenu is the outlet of these islands. BARNASNE, mountains of Ireland, in the county of Kerry, 8 miles S. W. of Killarney.

BARNaul, a town of Siberia, on the west side of the Obi, 100 miles S.S.E. of Kolyvan. It is situated on the Obi, in the government of Kolyvan, famous for its silver and copper mines, which also produce gold. These mines are much more productive than those of Nerchinske; for the pits hitherto opened in the latter have not continued or fledly veins, are never powerful, and seldom terminate in large reefs, are always poorer as they proceed in depth, and change their contents at every fathom. The mines of Barnaul belong to the crown. About 48,000 boors earn their capitation tax in working at them, and above the miners and other workmen properly belonging to them. The quantity of gold produced at Barnaul and the Shlangenberge from 1743 to 1780, amounted to 686 poold, 16 pounds, 49 solidrks of pure gold. BARNEGAT INLET, called in some maps New Inlet, is the passage from the sea into Flat-bay found, on the south-eastern coast of New Jersey, 68 miles N.E. from cape May, N. lat. 39° 47' 30", W. long. 74° 13'.

BARNER, James, in Biography, born at Elbing, in Weil Prussia, in 1641, applied himself early to the study of chemistry, in which he made such progress, that in 1670 he was engaged to give lectures in that art at Padua. After residing some years in that university he went to Leipzic, where he practised medicine with success. Retiring at length to Elbing his native country, he died there in 1686. Barner left several works on the subject of chemistry, but that by which he is principally known is his "Chymia philosophica, cum doctrina salubre, medicamentis fine igne culinari parabilius!" published at Nuremberg 1689, three years after his death, a work rather curious than useful. Haller Bib. Med. Eloy Dict. Histol.

BARNERA, in Geography, a small island of Scotland, near the west coast of Lewis, separated from the main land by a strait, called Loch Barnera, about a mile in. N. lat. 56° 25', W. long. 7° 3'.

BARNES, Joshua, in Biography, an English divine and classical scholar, was born in London in 1654, and educated in grammar-learning at Chrift's hospital, where he was distinguished by his proficiency in Greek, and by some Latin and English poems. In 1671, he was admitted a scholar of Emanuel college in Cambridge; and in 1678, he was elected a fellow of the same college. In his numerous writings, which were critical, poetical, and historical, he displayed more industry and fancy than taste and judgment. His memory was singularly retentive, so that he could write and converse in the Greek tongue with great readiness; though Dr. Bentley facetiously remarked of him, that he understood as much Greek as a Greek cobbler. But if he excelled in tenaciousness of memory, he was notoriously deficient in solidity of judgment; and therefore some persons recommended this pan to be inferred upon his monument: "Joshua Barnes, Felicis Memorie, Judicium expectans."

The enthusiasm of his temper was manifested in various singularities of opinion and conduct. Believing that charity never fails in this life of obtaining due recompense, he has given his only cost to a common beggar; and he used to recite strange stories of some unexpected remuneration which he had derived from charities of this kind. Of his talents and learning, and particularly of his acquaintance with the Greek language, he was vain and boastful; and at the same time he was prone to deprecate and abuse others. Of his works the most respectable were his editions of the Greek classics; and those he dedicated, without much appropriate felection, to persons of high rank. In 1669, he was elected Greek professor of the university of Cambridge. In 1700, he married a widow with a handsome jointure, who is said to have made the full advances; and, with a view to her amusement, and in order to induce her to supply him with money towards defraying the expense of his edition of Homer, he wrote a copy of English verses, designed to prove that Solomon was the author of the poems under Homer's name. He died in 1712, and was buried at Hemingford in Huntingdonshire, where a curious monument was erected to him by his widow, with an inscription partly in Latin and partly in Greek Analectics. The following memorandum is annexed: "Mr. Barnes read a small English bible, that he usually carried about him, one hundred and twenty-one times over at leisure hours." Of his numerous publications, the principal are the following: "A Poetical Paraphrase on the History of Esther," intitled, "A Διαδοχος παραφρασην," or "The Courtier's Looking-glass, &c." The story is paraphrased in Greek.
Greek verse, with a Latin translation in the opposite page and Greek scholia; to which is added, "An Homeric Parody on the same Story," "The History of that most victorious monarch Edward III. &c.;" Camb. fol. 1688. This historical work, for which the author's talents seem to have been very ill adapted, abound in false inferences and tedious digressions; and in long and elaborate speeches, after the manner of Thucydides and other ancient historians, which seem to be the result of his own imagination; the whole displaying neither the judgment of a politician, nor the taste of a good writer. "Euripidesque extant omnia, &c." Camb. fol. 1694. Defends a correction of the text of Euripides, this edition contains a preliminary dissertation on the ancient Greek tragedy, and another on the life and writings of Euripides. "Anacreon Teius, &c." Camb. 1705. In this edition, the poems of Anacreon are corrected, and much enlarged by the addition of several whole pieces and fragments. The life of Anacreon is annexed; and in the Prolegomena, the author treats of the antiquity and invention of lyric poetry, and the peculiar character and metre of that poet. The dedication to the duke of Marlborough is followed by a Greek Anacreontic ode upon the victory at Blenheim. The editor has also subjoined the epigrams of the ancients and moderns upon Anacreon, and some odes of his own composition under the title of "Anacreon Christianus," "Homeri Hias et Odysseus, &c.," 2 vols. 4to, Camb. 1710. This edition is furnished with an exact Latin translation, with the ancient Greek scholia, many notes upon the text and scholia, and various readings; to which are subjoined the "Barrochomymachin," the "Hymns and Epigrams," the "Fragments," and "Two Indexes." This edition of Homer has been generally esteemed as correct and complete; though in the Acta Eruditorum for Jan. 1711, there are some objections against it, which have been ascribed to Dr. Bentley. Barnes's editions of the Greek classics have of late years been sinking into disrepute; and modern critics place little confidence in his judgment or criticism. He has been charged, in some of his various readings, by the learned Dr. Clarke, with audacity and unskillfulness.

As for his other works, both in prose and verse, it would be tedious to enumerate even their titles; and this is the less necessary, as they are now no more confuted to total oblivion. Biog. Brit. 2

BARNET, also High and Chipping Barnet, in Geography, a town of England, situated in the hundred of Cauho and county of Hertford, 11 miles north of London. It has a market on Mondays, which has existed since Henry II.; and here are also three fairs annually. At this town, which is a great thoroughfare, the north road divides for York and Liverpool. Being situated upon an eminence, the prospects are extensive and agreeable; but there are no public buildings worth notice, except the church and a grammar school. The latter was founded by queen Elizabeth, and afterwards endowed by alderman Owen of the Filonomers company of London, for the education of nine children gratis. There are likewise alms-houses for widows, founded by James Ravencroft Esq. and his wife, in 1672. At the twelfth mile stone beyond the town, is erected a pillar to commemorate a signal battle fought on that spot on Easter day, April 14, 1671, between the house of York headed by Edward IV., and that of Lancaster conducted by the flour lord of Warwick, who, with many of the nobility and nearly 10,000 men, were slain. This was a decisive victory for the Yorkists, as it firmly established Edward IV. on the throne; although in a subsequent battle at Tewkesbury, the queen of Henry VI. and her son were taken prisoners. Barnet is governed by a magistrate, high constable, and other officers; and a court leet is held at Easter. In the town are 225 houses, inhabited by 1258 persons. Salmon's History of Hertfordshire.

BARNET, a township of America, in Caledonia county, and state of Vermont, containing 477 inhabitants, and distant 112 miles N. E. from Bennington.

BARNEVELDT, John Holden, in Biography, a minister of Holland, unanimously disinherited by his abilities and patriotism, was born in 1527. In his early negotiations on behalf of the states general with France, England, and the neighbouring powers, he gave great satisfaction to those who employed him, and gained equal credit and esteem in the judgment of Henry IV., and queen Elizabeth. As grand pensionary of the states of Holland, he obtained extensive influence; and firmly attached to the liberty of his country, he observed the growing power of the house of Orange, directed by the warlike and aspiring prince Maurice, with jealousy and apprehension. Amidst the collision of different parties, he was regarded as the leader of the opposition to the measures of that prince. The authority of Maurice depended in a great measure, on the continuance of the war with Spain, and Barneveldt was very diligent of terminating it. By his zealous endeavours to effect this purpose under the mediation of the king of France, he incurred the violent odium of the adverse party. At length, however, he succeeded by obtaining, in 1669, a truce for 12 years; the first article of which recognized the independency of the united states. Soon after this event, the disputes between the Arminians and Calvinists, or Remonstrants and Contra-remonstrants, curiously agitated the Dutch provinces. Barneveldt, inclined to the former, and the advocate of toleration, exerted himself in procuring for the Arminians or Remonstrants that liberty of conscience to which they had an equitable claim. Prince Maurice placed himself at the head of the other party, which was the most numerous; and probably took pleasure in the opposition and calumny encountered by Barneveldt in his endeavours to promote the cause of religious freedom and moderation. At this time, notwithstanding the suspicions excited against Barneveldt, as if he wished to subject his country again to the yoke of Spain, he was essentially forcing it by negotiating with James I. the reformation of the terrors of Flushing, Nieuwpoort, and the Brille, which had been put into the hands of Elizabeth as security for the money which she had lent to the states. Barneveldt's successes in this negotiation added James to the number of his enemies.

The religious disputes, which had been appealed in the province of Holland by the influence of Barneveldt, prevail'd so much in the other provinces, that a national synod was assembled at Dordrecht in 1618 in order to bring them to a termination. To this synod the kings of England and France, and most of the Protestant states of Europe, sent deputies; and the Arminians, who did not comply with the citation to appear before this assembly, incurred a formal condemnation. On this occasion, Barneveldt, Grotius, and other Remonstrant chiefs of the anti-Orang party, were arrested and imprisoned in the castle of Leiden. Barneveldt, however, was the devoted victim. Many accusations were alleged against him, as the fomenter of the disturbances that had occurred at Utrecht, and as an enemy to the public liberty; and being tried by a court, composed chiefly of his enemies, and admitting inadequate proofs, he was capitally condemned. Prince Maurice, to whom application was made from various quarters in his favour, remained inexcusable; as he would only promise a pardon upon condition of his being solicited by the family of Barneveldt: but they refused to do an act, which would imply the guilt of their
their venerable chief. Barneveldt prepared for death, and without asking any favour for himself, merely solicited the protection of his children. On the morning of execution, Barneveldt proceeded to the scaffold with a serene countenance; but being somewhat disturbed on his arrival, he exclaimed, with uplifted eyes to heaven, “O God! what is man!” Having prayed with the minister who attended him, he rose from his knees with composure, declared his innocence to the spectators, and refused the executioner to perform his office. His head was struck off at a blow, in his 72d year, May 13th 1619. The popular hatred soon subsided; his memory was revered as that of the purest of patriots, and most respectable men, and his death left a stain on the character of prince Maurice, which all his great qualities and services were not sufficient to efface. The states of Holland, in the register of his death, added these words, which may serve as a testimony to his character: “He was a man of great conduct, industry, memory, and prudence; yes, singular in all. Let him who flanders, take heed he fall. God be mercifull to his soul! Amen.” Never (says the French ambassadour De Maurier) was there so wise and virtuous a man as M. de Barneveldt. He had a majestick presence, and spake much in few words, with a grave and suddain eloquence.” Barneveldt left two sons in considerable employments; who being deprived of them by prince Maurice, engaged in a conspiracy against his life. One was beheaded, and the other made his escape. When the mother of him, who was taken and condemned, fell at the feet of Maurice supplicating his life, the prince expressed his surprize that she who had refused to ask her husband’s pardon, should condescend to intercede on behalf of her son. “I did not ask pardon for my husband,” said the mother with a noble spirit, “because he was innocent. I ask it for my son, because he is guilty.” Mod. Un. Hist. Gen. Biog.

Barneveldt’s Islands, in Geography, are two small flat islands, close to each other, on the west side of Terra del Fuego, partly surrounded by rocks, and 24 leagues distant from the fruits of La Maire. S. lat. 55° 49’. W. long. 66° 78’. Barneveldt, a town of France, in the department of the Channel, and chief place of a canton in the district of Volognes, 54 leagues S.S.W. of Cherbourg. The place contains 850 and the canton 876 inhabitants; the territory includes 215,516 kilometres, and 19 communes.

Barnfield, in Ornithology, is an aquatic bird, of which Oviedo speaks in his “Hift. des Indes,” book 14, c. 2; but which it is impossible to ascertian from what that author has said of it.

Barnsley, in Geography, a small market town of England, in the west riding of Yorkshire, 15 miles from Doncaster, and 176 north-west from London. It is situated on the side of a hill, and about five furlongs in extent. The town, though well built of stone, is called Black Barnsley; probably from its smoky furnaces, or rather from the foot of the moors with which it is surrounded. The land is very productive in wheat and other grain, and coal is also exceedingly plentiful. The abundance of stone, timber, iron, stone, &c. and the cheap living necessary for population, render this place very appropriate for any kind of trade. At present its wine works are surpassed the best in the kingdom; and the wire is of two sorts; the hard, made into teeth for cotton and wool cards, the soft for flocking-frame needles. Precedes of a leffer kind are weaving of linen, in which 500 looms are employed, and a glass manufactury of black bottles. Barnsley has a well built church, which is a chapelry under Silkstone, a free grammar school, a mar-
BARNSTAPLE, the Mattachees or Mattacheet of the ancient Indians, is a port of entry and post town, and the chief town of Barnstable county in North America. It extends across the peninsula, and is washed by the sea on the north and south, having Sandwich and the district called Mashpee or Mashpee on the west; and is about 5 miles broad and 9 long; 67 miles S. E. from Boston. Sandy-neck on the north shore, running east almost the whole length of the town, forms the harbour, and embosoms a large body of salt-marsh. The harbour is about a mile wide and four long; and the tide rises in it from 8 to 14 feet. Its bar, running off N. E. from the neck several miles, prevents the entrance of large ships; but small vessels may pass any part of it at high water. There is another harbour on the south, called Lewis's bay. Its entrance is within Barnstable, and extends almost 2 miles into Yarmouth. This harbour is commodious and safe, and is completely land-locked. In Barnstable there are but 20 or 30 ponds. The land here produces about 25 bushels of Indian corn to an acre, and rye and other grain in proportion. Wheat and flax are cultivated; the latter with success. From 12 to 18,000 bushels of onions are raised for the supply of the neighbouring towns. The fishery, which is annually increasing, employs about 100 men. The people who are in number about 2610, are generally healthy; and many instances of longevity occur. Many of the farmers are occasionally feamens, and many mariners and masters of vessels, who sail from other parts, are furnished by this town. N. lat. 41° 43'.

BARNSTEAD, a township of America, in Strafford county, New Hampshire, containing 807 inhabitants; 32 miles N. W. of Portsmouth, and 10 E. by S. from Canterbury on Connecticut river.

BARNSTORF, or BERNDORF, a town of Germany, in the circle of Welfphalia, and county of Diepholz, 8 miles north of Diepholz.

BARNTRUP, a town of Germany, in the circle of Welfphalia, and county of Lippe, 4 miles N. E. of Blomberg.

BARNWELL, a village situated about half a mile north-east of Cambridge, in England, was formerly of great consequence from its ancient priory, which, at the dissolution, was valued at 351 l. 15 s. 4d. The village has suffered very much by fire. Barnwell has a fair kept in its neighbourhood, commencing annually on Midsummer-day, and continuing a fortnight. This fair derives its origin from a custom of the children in the neighbourhood assembling on Midsummer-eve at Barnwell's well. A number of pedlars resorted to the plot, and exposed their merchandise for sale, so early as the reign of Henry I.; the articles brought being mostly pottery, the festival obtained the appellation of Pot Fair. It appears, however, to have assumed its legal form in the reign of Henry III. by whom it is said to have been chartered and granted to the priory. The fair is still proclaimed on Midsummer-eve, and the field in which it is held, is called Midsummer Green. But Barnwell is most famous for the great affembledge of merchandise annually held in a large meadow, called Sturbridge Fair; the origin of which Dr. Stukely was induced to ascribe to his hero Carausius: it is however evident that King John granted the whole for the use and maintenance of an hospital for lepers, who had an ancient chapel here; and the chaplain claimed the dues, till Hen. VIII, in consideration of 1000 marks paid by the corporation of Cambridge, gave them the grant of the fair, which was confirmed by Elizabeth. The field in which it is held is about half a mile square, having the rivers Cam and Stour on its northern and eastern sides. The booths are built in regular order, each row being particularly named, as Ironmonger's row, Bookseller's row, &c.; the centre is called the Dodderly, and chiefly occupied by droppers, merchers, and wholesale dealers in cloth. Sturbridge Fair is solemnly proclaimed on the 15th of September, by the vice-chancellor, proctors, and other officers of the university; and afterwards by the mayor and aldermen. The fated time for its continuance is fourteen days. Dramatic exhibitions are forbidden within nine miles of the university, except during this fair, and the week preceding. This was formerly the greatest mart in England; but its bullocks declining, owing to the circulation of commerce throughout the country, its consequence is very much diminished. Beauties of England and Wales, vol. ii.

BAROACH, BROACH, or BARUM, the ancient Baryceas, in Geography, a town of Hindoostaan, in the country of Guzerat, lying in the route from Surat to Amedabad, and fested on the great river Nerbuddah, about 25 miles from its mouth. Broach has been, in different ages, a port common both to Nearchus, the capital of Guzerat, and Tagara, supposed to be the modern Dowlatabad. The former was eight journies, the latter ten, from Broach. It is situated about 217 British miles north from the Pithana of Arain, or the modern Patham; and all kinds of mercantile goods dis throughout the Deccan were annually brought to Tagara, and from thence conveyed on corts to Baroach or Barygara across the Balha-Gaut mountains. Broach is famous for its manufacture of very fine batis and other cottons; and the water of the river Nerbuddah is said to have a peculiar property for bleaching of cloth to a perfect white ness. Agates are likewise an article of trade at this place; which are brought from the mountains near Bangour, and are mostly dipped at Cambaya. The fortresses of Baroach is large and square, standing upon a hill, which is the only eminence for many miles, and might be made very strong. The Dutch factory was established here in 1617, but is in a low state. N. lat. 21° 45'. E. long. 72° 58'.

BARROCCIO, FREDERICK, in Biography, an eminent painter of history and portrait, was born at Urbino in 1528, and instructed in the principles of painting by Battista Venetiano, and in that of perspective by his uncle Bartolommeo Genga. Having availed himself of their instructions till his 20th
the year, he removed to Rome, and pursued his studies with such facility and success, that he became one of the most

graceful painters of his time. At Rome he was particularly

encouraged by the protection of cardinal della Rovere, and

by the commendation of Michael Angelo. On his return to

Urbino he gained great applause by several pictures, and

more especially by that of a St. Margaret, which induced

pope Pius IV. to invite him to Rome, and to employ him,
in conjunction with Federigo Zuccaro, in the decoration of

his palace of Belvedere. It has been said that his superior

merits excited the jealousy of his brother artists to such a
degree that they gave him poison at an entertainment.

Whether this be true or not, his health declined; and for

the recovery of it, he was under a necessity of returning to

his native air, and of interrupting his labours. However,

by the attention, his life was prolonged to the advanced age

of 84 years. His genius principally inclined him to the

painting of religious subjects: and his works evince that

it was his chief ambition to imitate Correggio in his colouring,

and Raphael in his manner of designing. It is easy to ob-

serve, that he endeavoured to re semble the former illustrious

artist in the sweetness of his tints, in the harmony of his

colouring, in the graceful airs of the heads, in the disposi-
tion of his draperies, and the forms of his Bambinos,

though he sometimes expressed the molecular parts of the

human body too strongly. He seldom painted any his-
torical figure without having either modelled it in wax, or

placed some of his disciples in such attitudes as he wished to

e xpress: his father was the model for the Madonnas, and

his child for his Bambinos. He is said to have employed

seven years in painting at Assisfe, the birth-place of St.

Francis, a picture called the "Pardon," in which the figure of

the saint kneeling, by the force of thade, seems to rise from

the canvas. The works of this master are numerous; the

principal of which are at Rome, in the Belvedere, and several

curches; at Urbino, Assisfe, Corotna, Anconne, and other

towns in Italy; in the gallery of Florence; the Escorial;

and the duke of Orleans's collection. Barocci engraved

four of his own pieces with peculiar spirit, and more than

thirty more have been published by different engravers.

Pilkinson and Strutt.

BAROCHNE, in Geography, a town of France, in

the department of the Orne, and chief place of a canton in

the district of Domfront, 4 miles S.E. of Domfront.

BAROCCO, in Logic, denotes the fourth mode of the

second figure of syllogisms.

A syllogism in baroco has the first proposition universal

and affirmative, but the second and third particular and

negative: and the middle term, the attribute or predicate in

the two antitheses:—For example:

" BA Every virtue is attended with discretion;"

" RO Some kinds of zeal are not attended with discretion;"

" CO Therefore some kinds of zeal are not virtues."

" BAR Nulius homo non est bipes;"

"" OC Non omne animal est bipes;"

" O Non omne animal est homo."

BAROLITE, in Mineralogy. See WITHITE.

BAROMETER, compound of baro, weight, and

metre, an instrument for measuring the weight of the

atmosphere and its variations, in order chiefly to determine

the changes of weather, and the height of mountains, &c.

The barometer is frequendy confounded with the baroscope,

though somewhat improperly: the latter, in frictio, being

an instrument that barely shews an alteration in the weight

of the atmosphere: but it is one thing to know that the

air is heavier at one time than another, and another to

measure how much that difference is: which is the business

of the barometer.

The barometer is founded on the Torricellian experiment,

as it is called from its inventor Torricelli, who, in con-

sequence of the previous suggestion of Galileo, with regard

to the ascent of water in a pump, upon drawing up the

pillow, proceeded, in 1643, to fill with mercury a glass-tube,

hermetically sealed, or closed at one end, the other end

being open and immered in a basin of flagrant mercury.

Judging

that, in the former case, the water was filled in the

pump by the pressure of the air on the water in the vessel,

in which its open end was immered, and that it was the

measure of this pressure, he hence concluded that mercury

would in like manner be supported by it in the tube, and at a

height which was also the measure of the air's pressure, or

about 13 times less than water. His experiment was com-

pletely verified; for he observed that the mercury defended

in the tube, and finally settled at the perpendicular height

of 29 1/2 Roman inches, whether the tube was vertical or

inclined, according to the known laws of hydrostatical

pressure. This famous experiment was repeated and diver-

sified in various forms, with tubes filled with other fluids, such

as water, wine, oil, &c.; and the result being the same, the

weight and pressure of the air were establlished beyond con-

duction or doubt. Those who had any remaining doubts

were completely satisfied by a beautiful experiment exhibited

by M. Azout. He provided a small box or plain

EFGH (Plate IX. Pneumatics, fig. 74) into which he in-

serted two glass tubes, A B, C D, each three feet long,

in such a manner that they were firmly fixed at one

end, and reached nearly to the other end. The tube A B

was open at both ends, and C D was closed at D. This

apparatus being completely filled with mercury, by uncer-

rowing the tube A B, and filling the box and the tube C D,

and then lowering the tube A B and also filling it, was in-

verted, whilst a finger was held on the orifice A, and set up-

right in the manner exhibited in Fig. 75, immering the

orifice A of Fig. 74, or a of Fig. 75, in a small vessel of

quicksilver. Upon this, the mercury ran out at the orifices

A B, till its surface m m within the tube, defended to the

top of the tube b a. The mercury began also to defend in

the tube d e (Fig. 75) corresponding to D C in Fig. 74, and

flowing over into the tube b a, escaped at a, till that in d e

was very nearly on a level with m m. In b a, the mercury

stood at b, 29 1/2 inches above the surface e f of the mercury

in the cistern, as in the Torricellian tube. Indeed, this

whole apparatus may be first considered as a Torricellian

tube of an uncommon form, from which the mercury would

flow out at a. But when any of it escaped, a vacant space

would be left above m m, and the mercury in the tube d e

would also defend, and running over into b a, supply its

waite, till d e became almost empty, and could no longer

supply b a. The inner surface being therefore deprefsed as

much as possible, till it became level with b, no more mer-

cury could enter into b, and yet its column being too heavy

to be supported by the pressure of the air on the mercury in

the cistern e f, it must defend in b a, till it finally settled

at the height e f, equal to that of the mercury in the Torricel-

liian tube. In this state if a small hole g were made in the

upper cover of the box, the external air would rush in by its

weight, and press on the mercury in the box. This pres-

sure would immediately cause the mercury to rife in the tube
to k, 29 1/2 inches above m m. It likewise presses on the

mercury in the box at k in the tube b a, balancing the pressure of the air on

the mercury in the cistern. The mercury in the tube, therefore, must defend to the bottom by its own weight.

By this experiment the doctrine of the gravity and pressure
BAROMETER.

of the air is decisively established. See Air, Weight of, and Experiments with the Air-Pump.

Notwithstanding the satisfactory demonstration of the air's pressure, afforded by the Torricellian experiment, some attempts were made by the advocates of a plenum for evading it, and for explaining the phenomena of this experiment by some other hypothesis. Accordingly Linus contended, that in the upper part of the tube there is a film, or "rope of mercury," whence his hypothesis was called "the funicular hypothesis," which extended through the seeming vacuity; and that, by means of this rope, the rod of the mercury was suspended, and kept from descending into the basin. In proof of this absurd and ridiculous hypothesis he alleged the following experiment. Take, says he, a small tube, about 20 inches long, open at both ends; fill it with mercury, and stop the lower orifice with your thumb. Then clapping the upper end with your finger, immerse the lower end in flagrant mercury; and upon the removal of your thumb, there will be a feizable friction of the finger into the tube; and both the tube and mercury will adhere to it so closely, that they may thus be carried about the room. Hence he infers, that the internal cylinder of mercury in the tube is not suffused by the pressure of the external air; for this, he argues, would not account for the strong friction, and the adhesion of the tube to the finger. If the tube be not quite filled with mercury, but a small interval of air left at the top, after the tube is immersed in flagrant mercury, a considerable friction will be perceived. From these experiments, which actually furnish evidence of the air's pressure, the funicular hypothesis of Linus derived support for some time; but it has been long since exploded. When it was perceived that the mercury on the top of a high mountain suffused, and stood at a lower height than on a plain, and that in the vacuum of an air-pump it descended to the bottom of the tube, this hypothesis could have no advocates. However, an experiment mentioned by Mr. Huygens, in which mercury well purged of its air remained suffused in a tube at the height of 75 inches, fuggled a more considerable difficulty, which has been variously solved. See an account of it, under the article TORRICELLIAN. For an explanation of the phenomenon of a siphon, which discharges water under the exhausted receiver of an air-pump. See SIPHON.

BAROMETER. Common, the Construction of it.—A glass tube (A B. Plav IX. Parumetetic, fig. 75.) open at one end, and hermetically sealed at the other A, having its diameter about one-third or one-fourth of an inch, and its length thirty-three or thirty-four inches, is filled with mercury so finely as not to have any air over it, nor any bubbles adhering to the sides of the tube; which is best done by means of a small paper or glass funnel, with a capillary tube. If a small bubble of air be moved backwards and forwards in the tube, it will help to clear the mercury; which will appear, when pure, like a polished rod of steel. The orifice of the tube, filled after this manner, so as to overflow, is then closely prefled by the finger, so as to exclude any air between it and the mercury, and thus immerged in a vesiil of a convenient diameter, fo however as not to touch the bottom: at the distance of twenty-eight inches from the surface of the mercury are fixed two plates, C E and D F, divided into three inches, called "the scale of variation," and these again subdivided into any number of small parts. Lastly, the tube is inclosed in a wooden frame, to prevent its being broken; the box, though open to the air, secured from dust; and the barometer is complete. As the lowest lation of the mercury in this country is about 28 inches, and the highest about 31 inches above the surface of the mercury in the basin, the former point is the lowest in the scale of variation, and in the common barometers, called "weather-glasses," it is marked formy; and the latter is marked on one side very dry for the summer, and on the other very cold for the winter. To the next half-inch below this highest point are annexed set fair on one side, and set fair on the other. At the height of 30 inches, the word fair is marked on one side, and froid on the other: at 29½ is marked the term changeable both for summer and winter; at 29 are inscribed on the one side rain, and on the other snow; and at 28½ inches are the words much rain on one side, and much snow on the other. Each of these larger divisions is subdivided into ten parts, and by means of a small sliding index adapted to the instrument, the ascent or descent of the mercury may be ascertained for any number of divisions. Each of these tens is again sometimes divided into ten more, or hundredths of an inch, by means of a sliding piece of brass, with a scale called NOVINUS and VERNIER; for the use of which see the terms, and the sequel of this article.

As the common barometer is the best, and most to be depended upon in accurate observations, it may be proper to add some directions for preparing it: they are collected chiefly from the publications of Mutienbrock, Desaguilers, and De Luc on this subject. It appears from many experiments, that the mercury floats higher in tubes of a larger, than in those of a narrower bore; and therefore when observations are made with different barometers, some regard should be paid to the difference of their diameters, and it would be desirable to have them constructed of tubes of the same diameter. The bore of the tube should be large, in order to prevent the effects of the attraction of cohesion; not less than one fourth of an inch; but if they are one-third of an inch diameter, they are better. If a cimeter be used as a resevoir for the flagrant mercury, it should be large in proportion to the diameter of the tube, at least ten times greater; that the addition or subraction of the mercury, contained between the greatest and least altitudes, may not sensibly affect its depth; for the numbers marked on the scale annexed to the tube, shew their distance from a fixed point, and cannot truly indicate the height of the column above the mercury in the cimeter, unless its surface coincide with this point, and be immovable. In order more effectually to preserve the lower surface at the same height from division on the scale affixed to the instrument, the father of the late Mr. George Adams first applied to the barometer a floating gage, by means of which the same sense is rendered the barometer portable, regulates the surface of the mercury in the cimeter, so that it is always at the place from whence the divisions on the scale commence. See Portable Barometer.

The tube should be preferred free from dust till it is used; and for this purpose it may be hermetically sealed at both ends, and one end may be opened with a file, when it is filled. If this precaution has not been observed, the inside should be well cleanly, by washing it with alcohol highly rectified, and rubbing it with a little pith of flanne-ny leather fanned to a wire. The mercury should be pure; and may be purged of its air, by previously boiling it in a glazed earthen pipkin covered close, and when the tube has been uniformly heated and rendered electrical by rubbing it, the hot mercury should be poured into it in a regular current, through a glass funnel with a long capillary tube, so that the air may not have room to pafs between the parts of the quicksilver. M. De Luc directs, as Mr. Orme had practised many years ago in the construction of his improved diag-onal barometers, that the mercury should be boiled in the tube,
tube, as the most effectual method of purging it of its air and moisture. The process is briefly this: he chooses a tube of 21 lines or 3 lines bore, and not exceeding half a line in thickness; he fills it with the sealed end lowest in an inclined position over a charge of a sift of burning charcoal, preceding first the sealed end to the fire, and moving it obliquely over the chafing-dish. As the mercury is heated, the air bubbles appear like so many fluids on the inner surface of the tube, and gradually running into one another, ascend towards the higher parts of the tube, which are not heated; here they are condensed and almost disappear; and after successive emigrations, they acquire a bulk by their union, which enables them at length to escape. When the mercury boils, its parts strike against each other, and against the sides of the tube, with such violence, that a person accustomed to this operation is ready to apprehend their force to be sufficient to break the tube. The mercury is thus freed from all the heterogeneous particles contained in it, together with their surrounding atmospheres, and the air which lines the inside of the tube, which cannot be easily expelled in any other way, is discharged; when this last-mentioned fluid of air is thus expelled, the tube may be afterwards emptied, and filled even with cold mercury, and will be found nearly as free as air as before. The mercury in the tube thus prepared by a determinate quantity of heat, will rise higher than in those of the common form, and the barometers will more nearly correspond with each other; whereas there will be a difference of six or eight lines in the ascent of the mercury in common barometers. When this operation is completed, the mercury generally remains suspended at the top, and will not descend to its proper level without shaking the tube to bring it down. The tubes, which should be chosen not less than three feet long, may now be filled to their proper length.

Barometers of this kind rise uniformly in a heated room; whilst the mercury in those that had been prepared in the common way descended, and in different proportions. When the room cooled, the former descended uniformly, and corresponded with each other; the latter rose with the same irregularity with which they had before descended, nor were they found, at the close of the experiment, to stand at the same relative heights as they did at the beginning of it. The reason of which is obvious, from the effects of heat on the air remaining in unequal quantities; the tubes in the one case, and on the purer mercury in the other.

Another circumstance that requires attention in the construction and use of barometers is the temperature of the air; for unless this remains the same, the dimensions of a given quantity of mercury will be variable; and the altitude of the mercury will be an uncertain measure of the weight of the atmosphere, because it is diluted by heat, and contracted by cold, when probably its weight and precise measure. M. De Luc attended particularly to this circumstance, and contrived to eliminate the effects of heat on the quicksilver in the barometer, when it is used for accurate observations, by means of a thermometer; the scale of which is divided in such a manner as to indicate, with little labour of calculation, the correction to be made on account of heat. As an increase of heat that is sufficient to raise the mercury in the thermometer from the point of melting ice to that of boiling water, will lengthen the column of mercury in the barometer six lines, he divides each line in the scale of the barometer into four parts, each of which may be safely subdivided into four lesser parts, or sixteenths of a line. The scale of the thermometer marking the interval between the freezing and boiling points, and answering to the six lines of the barometer, is divided into nine-six equal parts; each of which will correspond to the sixtieth of a line in the motion of the mercury in the barometer diluted by heat which must be added to or subtracted from the height of the mercury in the barometer, for every degree of the variation of the thermometer so graduated. A scale of this kind, continued above boiling or below freezing water, is annexed to his Portable Barometer and Thermometer. M. de Luc prepared two barometers with their respective thermometers graduated in the manner above explained; he placed one pair in the cellar of one house, and the other pair in the upper room of another house in a lower situation, to as to be exactly on a level with the cellar; he found that the thermometer in the room rose nine degrees, and the barometer 0° of a line higher than those in the cellar; whereas he found, that without allowing for the effect of heat, the difference in the heights of these two barometers would have indicated a difference of about forty-five feet in the heights of these two places, though they were exactly on the same level. M. De Luc's Recherches, &c. vol. i. p. 193—199. See Atmosphere, and the sequel of this article.

The common barometer is a kind of chamber barometer, and serves for observing in a fixed place the changes of the atmosphere; but is not adapted for removal from one place to another, and in this respect differs from the portable barometer. It is sometimes combined with a thermometer, and is sometimes also with a hygrometer, and in this form prepared by the mathematical instrument makers. An instrument of this kind constructed by Meisser, optician in London, is exhibited in fig. 8., and consists of a barometer d., thermometer e., and hygrometer r., all in one metal frame. The thermometers or hygrometers of this apparatus may be conveniently separated from the frame, and occasionally used apart, if it be necessary. The thermometer is separated by means of two levers a. and the hygrometer, by unscrewing a brass pin at the back of the frame. The index of the hygrometer is set at any time, merely by moving with the finger the brass wheel seen at e.; and the two sliding index marks of the barometer and thermometer are moved by rack-and-wheel, set in action by the key j. placed in the holes f. and r. The divisions of the barometer plate are in tenths of an inch from 28 to 31 inches; and the are subdivided into hundredths, by the Nautilus or Vernier scale, placed on a sliding slip of brass, similar to that of the common barometers. This Vernier (fig. 8.2) is divided into ten equal parts, all of which are equal to eleven of those on the scale of inches or to eleven tenths. By this artifice, the height of the mercury at E is evident merely by inspection to the one hundredth part of an inch. For understanding this, it should be considered that the part of 0°th of an inch is the 0°th part of an inch. But every tenth of an inch in the scale B is divided into ten equal parts by the or Vernier A; for since ten divisions on that exceed ten on the scale by one division, than is, by one tenth of an inch, one division on the Vernier will exceed one division on the scale by one tenth part, and two divisions on the Vernier will exceed two divisions on the scale by two tenths, and so on; therefore every division on the Vernier will exceed the same number of divisions on the scale by so many tenths of a tenth, or by so many hundredths parts of an inch. Consequently the ten equal divisions of an inch on the scale B must be considered as to
many ten hundredth parts of an inch, and numbered accordingly, 1, 2, 3, 4, 5, 6, 7, 8, &c. parts of an inch: then the
Vernier gives the unit to each tenth; thus: let the index very
accurately to the top of the surface of the mercury E, and
if at the same time, the beginning of the divison C
coincide with a line of division in the scale B, then it shews
the altitude of the mercury in inches and tenths of an inch
exactly. But if the index line C of the Vernier fall between
two divisons or tenths on the scale B, then there will be a
coincidence of lines in both at that number of the Vernier,
which shews how many tenth parts of that tenth the index
of the Vernier has passed the last decimal division of the
scale. E. G. Suppose the index of the Vernier were to
point somewhere between the six and seventeeth tenth above
30 on the scale; then, if by looking down the Vernier, you
observe the coincidence at number 8, this shews that the al-
titude of the mercury is 30 inches, and 68 parts of a hun-
dredth of another inch, or simply thus, 30.68 inches. See
VERNIER.

The barometer belonging to the house of the Royal Soci-
ety is of the cilmber kind; and the Hon. Mr. Cavendish
prefers this form to that of the pyknom kind, because both
the trouble of observing and the error of observation are
less, as in the latter we are liable to an error in observing
both legs. Moreover he remarks, that the quicksilver can
hardly fail of setting more exactly in the former than in the
latter; for the error in the setting of the quicksilver can
proceed only from the adhesion of its edge to the tides of
the tube. In the latter the adhesion may take place in two
legs, but in the former only in one; and besides, as the air
has necessarily access to the lower leg of the tymbarom-
er, the adhesion of the quicksilver to the tube will
most probably be different according to the degree of dry-
eness or cleanliness of the glasses. It is true, as M. De Luc ob-
erves, that the citalk barometer do not give the true
pressure of the atmosphere; the quicksilver in it being a
little depressed on the same principle as in capillary tubes.
But it appears by calculation, that in the barometer of the so-
ciety, the error arising from the alteration of the height
of the quicksilver in the citalk can scarcely ever amount to
so much as \(\frac{1}{8}\) th of an inch. In this barometer, the
height of the quicksilver is estimated by the top of its con-
vex surface, and not by the edge where it touches the
glasses; the index being properly adapted for that purpose;
and this manner of observing is more accurate than the other.
Phil. Trans. vol. lxvi. p. 381.

As soon as it was discovered that the different heights of
the mercury indicated by the barometer were in some degree
connected with the state of the weather, and that it might
be applied to the purpose of a "weather glass," many at-
tempt were made to render the changes in it more fen-
sible, and so to measure the variations of the weight of
the atmosphere more accurately; and these attempts have
given rise to a great number of barometers of different
structures, deviating from the simplicity of the common
barometer, and at the same time less accurate. Hence the
wheel barometer, diagonal barometer, horizontal barometer,
pendant barometer, &c.

Des Cartes suggered the first method of increasing the
apparent fenibility, or enlarging the scale of variation, of
the barometer, though he did not live to execute it. He pro-
posed a tube \(AB\) (Plate IX. Pneumatics, fig. 77.) about twenty-
seven inches long, terminating in a cylindrical vessel \(CD\); one half of which vessel, connected above with a long tube
of a very small bore, sealed at top, and exhausted of its air,
was to be filled with water extending up into the small tube; the other part of the vessel, and the lower part of the tube,
were to be filled with mercury. Whenever the mercury rose
in the cylinder, it would force up a proportional quantity
of water into the narrow tube, where it would have a
considerably larger range than that of the mercury in the
cylinder; neglecting the weight or pressure of the water,
the motion of the water and of the mercury would be in the inverse ratio of the figures of the diameters
of the vessels containing them. But the water presses on
the mercury according to its height; and therefore if the
whole range of the mercury in the cylinder, or in a common
barometer, were supposed to be two inches, the specific gravity
of water to that of mercury as 1 to 14, and the differ-
cence between the diameters of the cylinder and tube a
maximum or infinite, then the entire scale of variation in
this instrument would be twenty-eight inches; or the extent
of this scale would be to that of the common barome-
ter in the inverse ratio of the specific gravity of water to
that of mercury. It is evident that in practice it would be
somewhat less than twenty-eight inches. Huygens con-
structed a barometer of this kind; but here, though the
column suspended was larger, and consequently the variation
greater, yet the air imprisoned in the water getting los-
sey by degrees, filled the void space in the top, and so ruined
the machine.

Huygens then thought of changing the construction of the
barometer, and of placing the mercury at top, and the water
at bottom, in the following manner: \(ADG\) (fig. 78.) is a
bent tube hermetically sealed in \(A\), and open in \(G\); the
cylindrical vessels \(BC\) and \(FE\) are equal, and about twenty-
ine inches apart; the diameter of the tube is about a line,
that of each vessel fifteen lines, and the depth of the ves-
sels is about ten; the tube is filled with mercury (the com-
mon barometer standing about twenty-nine inches) which
will be suspended between the middle of the vessel \(F\), and
that of the vessel \(B\); the remaining space to \(A\) being
void both of mercury and air; lastly, common water, tinged
with a sixth part of \(\text{aquæ regis}\) to prevent its freezing, is
poured into the tube \(EG\) till it riseth a foot above the mer-
cury in \(DF\).

When the mercury rising above the level of that con-
tained in \(FE\), through the tube \(AD\), becomes a balance to
the weight of the atmosphere, as the atmosphere increases,
the column of mercury will increase, consequently the water
will descend; as the atmosphere again grows lighter, the
column of mercury will descend, and the water ascend. This
double barometer, as it was called, which is nearly the same
with that of Dr. Hooke, will therefore discover much minute
alterations in the air than the common one; for, instead of
two inches, the fluid will here vary two feet; and by en-
larging the diameters of the cylinders, that variation may
be still increased; but it has this inconvenience, besides
others, that the water will evaporate, and so render the al-
terations precacious; though the evaporation be in some
measure prevented by a drop of oil of sweet almonds swim-
mimg at top; the column of water will likewise be sensibly
affected by heat and cold.

The double barometer of Dr. Hooke was invented in the
year 1668, and is described in the Phil. Trans. No. 185.
The invention was claimed by Huygens and De la Hire;
but it sufficiently appears, that Hooke was the original in-
ventor. (See De Luc's Recherches, vol. i. p. 18.) This
conflicts of a compound tube \(ABCDEF\) (fig. 79.), of
which the parts \(AB\) and \(DE\) are equally wide, and \(EFG\)
of which the parts \(AB\) and \(EG\) are made as cylindrical as possible.
BAROMETER.

The part HBCDI is filled with mercury, having a vacuum above in AB. IF is filled with a light fluid, and FG with another light fluid, which will not mix with that in IF. The cilind G is of the same diameter with AB. It is plain that in this instrument the range of the separating surface at P must be as much greater than that of the surface I, as the area of I is greater than that of P; and this ratio may be selected at pleasure. This barometer is the bolt of thole with an enlarged scale; it is most delicately moveable, and is the best adapted to a chamber for the purpose of amusement, by observations on the changes of the atmospheric pressure. It rises or falls by the slightest breeze, and is continually in motion. The most accurate method for graduating such a barometer would be to make a mixture of vitriolic acid and water, which should have a of the density of mercury. Then, let a long tube stand vertical in this fluid, and connect its upper end with the open end of the barometer by a pipe with a branch to which the mouth may be applied. By straining through this pipe, the fluid will rise both in the barometer and the other tube; and the rise of ten inches in this tube will correspond to a defect of one inch in the common barometer. Thus every point of the scale may be adjusted in due proportion to the rest. But nothing except actual comparison can determine what particular point of the scale corresponds to some determined inch of the common barometer. When this is done, the whole becomes equally accurate. It is liable, however, to several inconveniences. Although the heights of the contained fluids are always the same in a constant temperature, nevertheless their weight or pressure on the base is not always the same on account of the difference of their specific gravity; and though there be no sensible difference in the action of these fluids against the sides of the tube, yet there is a continual action, and therefore the movements of this barometer cannot be so free as those of the simple barometer. These differently coloured liquors mingle with one another, and form a deposit on the sides of the tube, so that their respective boundaries cannot always be ascertained with precision. The fluid of this barometer is also subject to evaporation; and heat acts upon the fluids which it contains. On account of these and such defects, others have had recourse to an

Horizontal or rectangular barometer ABECD (fig. 80.); the tube whereof is bent into the form of a square BCD: at the top of its perpendicular leg it is joined to a vessel or cilind AB; and its variations accounted on the horizontal leg CD. Now here the interval, or space of variation, may be made of any extent at pleasure, and so the minute effect in the air become sensible. For the diameter of the tube CD being given, it is easy to find the diameter of the vessel AB, so as that the scale of defect in the tube DC shall have any given proportion to the scale of ascent in the vessel AB; the rule being that the diameter of the vessel is to that of the tube in a subduplicate reciprocal ratio of their scales. The diameters then of CD and AB being given, together with the scale of ascent of the mercury in the vessel, the scale of mercury in the tube is found thus: as the square of the diameter of the tube is to the square of the diameter of the vessel, so reciprocally, is the scale of mercury in the vessel, to the scale of mercury in the tube.

Caffini was the first inventor of this kind of barometer, though the same construction had been thought of, and first published by M. J. Bernoulli, in the year 1710.

This and the preceding contrivance of Huygens are founded on a theorem in hydrostatics; viz. that fluids having the same base, gravitate according to their perpendicular altitude, not according to the quantity of their matter: whence the same weight of the atmosphere supports the quicksilver that fills the tube ACD, and the cilind B, as would support the mercury in the tube alone.

This list, however, with its excellencies, has great defects; for, by reason of the attraction between the parts of the glass and of the mercury (which Dr. Jurin has shown to be considerable), with the length of the scale (emphatically the quantity of motion), and the attrition against its sides, especially in sudden rises and Descents, the mercury breaks, some parts of it are left behind, and the equality of its rise and fall ruined. Some therefore prefer the

Inclined barometer, or diagonal, of Sir Samuel Moreland, where the space of variation is considerably larger than in the common one, and yet the rise and fall more regular than in the others. Its foundation is this: that in a Toricellian tube BC (fig. 81.) inclined at any angle to the horizon, the cylinder of mercury equivalent to the weight of the atmosphere, is to a cylinder of mercury equivalent to the same in a vertical tube, as the length of the tube DC to the perpendicular height DC.

Hence, if the height DC be subtriple, subquadriple, &c. of the length of the tube, the changes in the diagonal barometer will be triple or quadriple, &c. of the changes in the common barometer. This barometer of the scale allows its tube to be inclined to the horizon at a few angle than 45°, without undergoing the inconvenience of the horizontal one.

Mr. Orme, in order to obviate some of the objections to which the diagonal construction of the barometer is liable, purified the quicksilver from its dross and earthy particles by distillation; and when the tube was filled with a certain quantity of mercury, discharged the remaining air by an intense heat sufficient to make the mercury boil; and he continued this operation for four hours. In the process, an innumerable quantity of small particles were emitted, and when no more bubbles rose in the tube, the mercury appeared extremely bright, but sunk lower in the tube than when it first put in, by two inches. Phil. Trans. Abr. vol. viii. p. 455.

The wheel barometer was a contrivance of Dr. Hooke, in 1668, to make the alterations in the air more sensible; the foundation of this is the common vertical barometer, with a large ball above, and turned up at the lower end, with the addition of a couple of weights A and B (fig. 82.) hanging on a pulley, the one of them playing at liberty in the air, the other resting on the surface of the mercury in the inverted tube, and rising and falling with it.

Thus is the motion of the mercury communicated, by means of the pulley, to an index which turns round a graduated circle; and thus the three inches of vertical ascent are here improved to five, six, or more, at pleasure.

But the friction of the axis of this index, and more especially when it has contracted some rust, generally renders this sort of barometer useless; and, at best, the graduation of inches on the circle can only be considered as a scale of motions of the mercury in its tube; for the great variation of the height of the surface of the mercury in the tube below will perpetually falsify the inches and tenths upon the plate above. In a just or standard barometer, the inferior surface of the mercury in the cilind or tube below should either be invariable, or reducible by a pressing screw to a fixed or determinate gauge point.

The wheel barometer has lately been obtruded upon the public by the frowning Italian hawkers in our streets; but the imperfect manner in which these barometers are constructed,
fluctuated, as well as their defective principle, renders them mere mechanical pictures, and not scientific instruments, in the proper sense.

An instrument of this kind, with considerable improvements, has been constructed by Mr. Fitzgerald, F. R. S. It is furnished with two pulleys that move on friction-wheels; each of which turns an index on the centre of a graduated circle. The smaller circle is four inches in diameter, and divided into three equal parts, each of which is again subdivided into fifths; and the changes corresponding to the rise or fall of the mercury from 28 to 31 inches, are marked on the margin of it, as they are on the scales of common barometers. The larger circle is divided into 300 equal parts; and being about 30 inches in circumference, the index belonging to it will mark distinctly the 600th part of an inch in the rise or fall of the mercury.

On the centre of this circle two regители are fixed, which are placed along the index when the instrument is adjusted; one of them is carried round with the index, and left behind on its return; so that their distance will determine the limits of the variation from one observation to another. Phil. Trans. vol. ii. 12th. No. 10.

The pendant barometer, invented by M. Amontons, in 1695, is a machine rather pretty and curious than useful (fig. 83.) It consists of a glass tube, placed vertically, its upper and smaller extremities hermetically sealed; it has no bell or cylinder, its closed figure supplying that defect; for when filled, like the reit, there will be as much mercury sustained as is equivalent to the weight of the atmosphere; and as that varies, the same mercury takes up a different part of the tube, and so becomes of a different weight.

Thus, when the weight of the atmosphere is increased, the mercury is driven up into a narrower part of the tube, by which means its column is lengthened, and for the reason just given, its weight increased. Again, the atmosphere decreasing, the mercury sinks into a wider part of the tube; by which means its column is again shortened, and its pressure accordingly weakened. Thus, the same mercury is still a balance to the atmosphere under all its variations. The inconvenience in this barometer is, that to prevent the mercury and air from changing places, the bore of the tube must be very small; which facility of the bore renders the friction so feebler as to impede its playing.

The marine barometer is a contrivance of Dr. Hooke, in 1702, to be used at sea, where the motion of the waves renders the others impracticable; it resembles that of Amontons invented in 1695. This is nothing more than a double thermometer, or a couple of tubes half filled with spirit of wine; the one hermetically sealed at both ends, with a quantity of common air inclosed; the other sealed at one end, and open at the other.

Now the air, we know, is able to act on the spirit of wine, and raise it, two ways; partly by its gravity, as in the Torricellian tube; and partly by its heat, as in the thermometer. If then the two tubes be graduated, so as to agree with each other at the time when the air is inclosed, it will easily follow, that, wherever the two agree afterward, the pressure of the atmosphere is the same as at the time when the air was inclosed. If in the thermometer open to the air the liquor stand higher, confounding at the same time how much the other is risen or fallen from the other space of heat or cold, the air is heavier; on the contrary, when it is lower, compared with the other, the air is lighter than at the time when the instrument was graduated. Here the spaces answering to an inch of mercury will be greater or less, according to the quantity of the air inclosed, and the smallness of the tubes; and they may be increased almost in any proportion. But it must be remembered, that the density and rarity of the air, on which this machine is founded, do not only depend on the weight of the atmosphere, but also on the action of heat and cold. This, therefore, can never be a just barometer; but may properly enough be called a manometer, or instrument to shew the density of the air. See Manometer.

Nevertheless, the instrument is said to be of good use in giving notice of all bad weather at sea, as also of veerable winds, and of the neighbourhood of ice. Phil. Trans. No. 429. p. 153.

Improved marine barometers. In the bed of the sea barometers, Meffrs. W. and S. Jones apply a small ivory floating gage, or index, to an aperture in the citerin of mercury below; the index floats on the mercury; a mark is cut on its stem, and another on the socket in which it moves; these two marks are brought to a coincidence by turning the screw below; and thus the surface of the mercury in the citerin is made to be just to the divisions of the plate above.

Mr. Nairne, an ingenious artist in London, constructed a marine barometer for captain Phipps, in his voyage to the north pole; the upper part of which was a glass tube, about three-tenths of an inch in diameter, and four inches long, to which another glass tube was joined, with a bore about 1/3 of an inch diameter. These two glass tubes formed the tube of this barometer, which was filled with mercury, and inverted into a citerin of the same. The instrument was fixed in gimbals, and kept in a perpendicular position by a weight fastened to the bottom of it, and was not liable to the inconvenience attending the common barometer at sea. Voyage to the North Pole, p. 123.

The marine barometer, as it is commonly constructed, differs from the common one merely in having the bore of the tube small for about two feet in its lower part, but above that height it is enlarged to the common size. Through the small part of the instrument the mercury is prevented from ascending too hastily by the motion of the ship, and the motion of the mercury in the upper wide part is consequently lessened. Much depends upon the proper suspension of this instrument; and Mr. Nairne has found by experiment the point from which it may be suspended so as not to be affected by the motion of the ship.

We shall here subjoin the description of two kinds of marine barometers, which are constructed by Meffrs. W. and S. Jones of London, and which seem to be well adapted to marine purposes. In Plate X. fig. 86. one of these barometers is represented as supported on its stand in the cabin of a ship, ready for observation; a b c are the folding mahogany legs, about three feet each in length; A is a circular brass plate, with two hollow brass tubes fixed perpendicularly upon it; a gimbal brass ring with its axis is made to turn between these tubes; and on two spiral springs placed in the tubes, the axis of the gimbal ring acts. The barometer frame B is attached inwards to this ring by an axis and two screws, in a position at right angles to the axis in the uprights, yet left free to move; the three legs are screwed down to the floor of the cabin. Whatever heave or motion the ship may receive, the barometer, by its action on the gimbal, on the springs in the tubes, and on its axis, will always tend to keep its vertical position, and as speedily as possible attain to a state of equilibrium; d is a screw that serves to move the slidingNomeo scale upon the plate above; e is a small mahogany door that is fastened on the tube and plate, to prevent them when this instrument is not in use. On the top of the frame there is a pendent brass ring, by which the barometer,
Rom, without the fluid, may be hung on a neck against the wall of a room or side of a cabin: the screw at the bottom of the frame serves to compress the mercury in the cylinder, in order to force it up to the top of the tube, as in the common barometers. By the barometer's being moveable from its stand, and the fluid folding up into a small extent, the whole apparatus may be packed up in a convenient form for carriage.

The principal inconvenience that has been found to attend this barometer has been the ground occupied by the foot in the cabin when the instrument is in use; this being sometimes more than a mariner can spare; and besides, it is liable to be flung against by a headlong by-stander. To obviate this inconvenience, another principle of mounting has been adopted (see fig. 87. The barometer in this figure is in every respect the same as the preceding, but its mode of filling is as follows: on the sides of the frame, at its centre of gravity, are fixed two iron centres: as an axis to these there is fixed a brass frame a, and brass pillar; one end of this pillar is framed on a vertical joint, having only one motion upwards, and checked by a brass socket shoulder below, to keep the pillar and arm in a horizontal position; thus causing the barometer to be suspended in a vertical direction. The length of the pillar and arm together is about 14 inches; the joint socket at the end of the pillar is attached to a strong round brass plate b, about 3 inches diameter, with four counterbore holes for receiving screws, by which the whole instrument may be fixed securely to the side of a cabin, in any convenient or safe situation. When the instrument is in a state of suspension for observation, it will be about 15 inches from the side of the cabin, and being also free to act on its axis of suspension at a, it is evident that notwithstanding any common motion or roll of the ship, the barometer will tend to keep a vertical position, or to recover it after having been agitated. The only circumstance to be apprehended is the possibility that, by a violent motion, the bottom of the barometer should strike against the side of the cabin, and endanger the glass tube; but this is easily avoided by fixing a temporary leather cushion against that part of the cabin against which alone it could strike. When the instrument is not wanted for any observation, while the ship is in motion, it may be moved upwards upon the joint, and it will close to the side of the cabin or wall, and may be buckled fast by a leather stop and buckle, c, attached for that purpose (see fig. 86.), and thus be out of any danger from any person suddenly or unguardedly coming to it; and it will answer the purpose of the common chamber barometer.

M. Pallentin, an ingenious artificer at Paris, accommodates the barometer to nautical uses, by twisting the middle part of the common barometer into a spiral, confining two revolutions: by this contrivance, the impulsion which the mercury receives from the motions of the ship, are destroyed by being transmuted in contrary directions. De Luc's Recherches, &c. vol. i. p. 34.

The flasht barometer, or baroscoop, used by Mr. Boyle, Otto de Gouvric, &c. confined of a large glass bubble, about the size of a large orange, and blown thin as to weigh only 70 grains. This being balanced by a brass weight, in a nice pair of scales, that would turn with the 30th part of a grain, was found to act as a barometer; for this obvious reason, that the surface of the bubble was opposed to a much larger portion of air than that of the brass weight, and consequently was liable to be affected by the varying specific gravity of the atmosphere; so that when the air became specifically light, the bubble descended, and vice versa. Thus (says Mr. Boyle) he could perceive variations of the atmosphere no greater than such as would have been sufficient to raise or depress the mercury in the common barometer an 8th part of an inch. Nevertheless, the two bodies being of equal gravity, but unequal bulk, if the medium in which they equiponderate be changed, there will follow a change of their weight; so that if the air grows heavier, the greater body, being lighter in specific weight, will rise to its original height than the lesser body in the same medium: but if the medium grow lighter, then the bigger body will outweigh the less.

The barometer of Mr. Cuswell, described in the Philosophical Transactions, has been much commended for its accuracy; the structure of it is as follows: suppose ABCD (fig. 88.) a bucket of water, wherein is the barometer spheriform, consisting of a body strm, and a tube eyq. The body and tube are both concave cylinders, communicating with each other, and made of tin, or rather glass. The bottom of the tube eyq has a lead head to sink it, so that the top of the body may just swim even with the surface of the water, by the addition of some grains weights on the top. The water, when the instrument is forced with its mouth downwards, gets up into the tube to the height yq. There is added on the top a small concave cylinder, which we call the pipe, to distinguish it from the other at bottom which we call the tube; this pipe is to sustain the instrument from sinking to the bottom; m is a wire, m s and d e two threads oblique to the surface of the water, performing the office of diagonals. Now, while the instrument sinks more or less by the alteration of the gravity of the air, there where the surface of the water cuts the thread is formed a small bubble, which ascends up the thread as the mercury of the common barometer ascends, and vice versa.

This instrument, as appears from calculation which the author gives, shews the alterations in the air more accurately than the common barometer, by no less than 1200 times. He observes, that the bubble is seldom known to float till a minute; that a small blast of wind that cannot be heard in a chamber will make it float sensibly, and that a cloud always makes it descend, &c.

Mr. Rowning, (Phil. Trans. No. 427, and Syllen of Philosophy, part ii. diff. 4.) has described a barometer, in which the scale of variation may be infinitely extended. ABCD (fig. 89.) is a cylindrical vessel, filled with a fluid to the height W, in which is immersed the barometer SP, consisting of the following parts: the principal one is the glass tube TP (represented separately at tp), whose upper end T is hermetically sealed; this end does not appear to the eye, being received into the lower end of a tin pipe GH, which in its other end G receives a cylindrical rod or tube ST, and thus fits the tube TP. This rod ST may be taken off, in order to put in its stead a larger or a lesser as occasion requires. S is a flat on the top of the rod ST, and serves as an index by pointing to the graduated scale IA, which is fixed to the cover of the vessel ABCD. MN is a large cylindrical tube made of tin (represented separately at me), which receives in its cavity the smaller part of the tube TP, and is well cemented to it at both ends, that none of the fluid may get in. The tube TP, with this apparatus, being filled with mercury, and plunged into the bason MP, which hangs by two or more wires upon the lower end of the tube MN, must be so poised as to rest in the liquid contained in the vessel ABCD; and then the whole machine rises when the atmosphere becomes lighter, and vice versa. Let it now be supposed that the fluid made use of is water; that the given variation in the weight of the atmosphere is such, that by pressing upon the surface of the water at W, the
the surface of the mercury at \( X \) may be raised an inch higher (measuring from its surface at \( P \)) than before; and that the breadth of the cavity of the tube at \( X \), and of the bafon at \( P \), are such, that by this ascent of the mercury there may be a cubic inch of it in the cavity \( X \) more than before, and consequently in the bafon a cubic inch less. 

Now, upon this supposition, there will be a cubic inch of water in the bafon more than there was before, because the water will succeed the mercury to fill up its place. Upon this account the whole machine will be rendered heavier than before by the weight of a cubic inch of water; and therefore will sink, according to the laws of hydrostatics, till a cubic inch of that part of the rod \( W'S \), which was above the surface of the water at \( H' \), comes under it. Then if we suppose this rod to sink that a cubic inch of it shall be 14 inches in length, the whole machine will sink 14 inches lower into the fluid than before; and, consequently, the surface of the mercury in the bafon will be raised more than it was before, by a column of water 14 inches high.

But the preface of 14 inches of water is equivalent to one of mercury; this additional preface will make the mercury ascend at \( X \) as much as the supposèd variation in the weight of the air did at \( P \). This will give room for a second cubic inch of water to enter the bafon; the machine will therefore be again rendered so much heavier, and will subside 14 inches farther, and so on in infinitum. If the rod was so formed that more than 14 inches of it were required to make a cubic inch, the variation of this machine would be negative with respect to the common barometer, and instead of coming nearer to an equilibrium with the air by its ascent or descent, it would continually recede farther from it; but if less than 14 inches of rod were required to make a cubic inch, the scale of variation would be finite, and might be made in any proportion to the common one.

The same author has also contrived a compound barometer, in which the scale of variation shall bear any proportion to that of the common one. \( ABC \) (fig. 93.) is a compound tube hermetically sealed at \( A \), and open at \( C \); empty from \( A \) to \( D \), filled with mercury from thence to \( B \), and from thence to \( E \) with water. It appears from the nature of a fihon, that if \( HH', BB', GG' \) be in the same horizontal line, the column of mercury \( DH \) will be in equilibrio with the column of water \( GE \), and a column of air of the same bafe, and will therefore vary with the sum of the variations of these. He has subjoined a calculation, whence it appears, that if the tubes \( AP \) and \( FC \) are of an equal borse, the variation in this is less than that of the common barometer, in the proportion of 7 to 13; but if the diameter of \( AF \) be to that of \( FC \) as 5 to 1, the variations will be to those of the common barometer, as 175 to 1; but if the proportion of the diameters be greater, the variations will be infinite in respect to those of the common barometer. Of the practical utility of this construction the author had no experience. Rowlins's Nat. Phil. part. ii. diff. 4.

Another contrivance for enlarging the scale of the barometer is exhibited in fig. 91. \( A'B \) is the tube of a common barometer, open at \( B \), and sealed at \( A \); the end of a lever which moves on the fulcrum \( E \). \( D \) is a glass tube fixed, and serving for a ciferon, which is wide enough to admit the free motion of the barometrical tube \( A'B \). When filled with mercury, is nearly counterbalanced by the long end of the lever. When the atmosphere becomes lighter, the mercury descends in the long tube, and the surface of the mercury rising in the ciferon, pushes up the tube \( A'B \), which causes the lever to preponderate, and to point out by its index moving along a circular arc, the most minute variations. This apparatus, however, is subject to the inconvenience of the friction as well as weight of the lever, when put in motion by the rise or fall of the tube \( A'B \). 

Whilst some have endeavoured to enlarge the variations of the barometer, others have endeavoured to make it more certain by reducing the length of the tube. M. Aumonts, in 1688, first proposed this alteration in the construction of barometers, by joining several tubes to one another, alternately filled with mercury and with air, or some other fluid; and the number of these tubes may be increased at pleasure; but the contrivance is more ingenious than useful.

M. Mairan's reduced barometer, which is only three inches long, serves the purpose of a nanometer in discovering the dilatations of the air in the receiver of an air-pump; and instruments of this kind are now generally applied to this use. See Air-Pump, and Gage.


The barometer lately invented by Alexander Keith, Esq. F. R. S. and F. A. S. Edinb., marks the rise and fall of the mercury from two different times of observation. This instrument consists of a glass tube \( A'B\) (fig. 92.) bent in the manner represented in the figure, open at \( D \), and hermetically sealed at \( A \). The length from \( A \) to \( B \) is 8 inches, and its calibre about \( \frac{1}{4} \) of an inch; from \( B \) to \( C \) is \( 3\frac{1}{2} \) inches long, and about \( \frac{1}{4} \) inch calibre; and from \( C \) to \( D \) 4\frac{1}{2} \) inches long, and \( \frac{1}{2} \) inch calibre. The tube is filled with mercury, the length from \( A \) to \( E \) being 29\frac{1}{2} \) inches. When the tube is hung perpendicularly, the mercury will fall from \( A \) towards \( E \), leaving a vacuum from \( A \) to \( B \). When the atmosphere becomes heavier, the mercury falls in the tube \( DC \); and when lighter, it rises. The range of the scale is about 3 inches, being equal to that of a common barometer of the clock construction, which has a bafon with a very broad surface. This instrument moves in a direction contrary to that of the common barometer, the one rising while the other falls. The tube \( DC \) is represented on a larger scale in fig. 93; \( F \) is the float, having the float-wire fixed to it, terminating in a knee at a right angle between the indexes \( L L' \), where it embraces a very small wire stretched along the scale, and thereby raises or lowers them as the mercury rises or falls in the tube \( DC \). The barometer is prepared for observation, by bringing down the one and raising the other index, till both touch the knee of the float-wire. When next observed, the upper index will point out the greatest depression of the mercury, or lightness of the atmosphere; and the lower the greatest rise of the mercury, or weight of the atmosphere since the scale was prepared. By these means, the variations of the atmosphere are more truly pointed out than by the common barometer; for it often happens that during tempestuous weather, or before it, the mercury both rises and falls within a few hours, or during the night time; which variations cannot be noticed by any of the barometers now in use. The sudden fall and rise, or even the rise and fall of the mercury, always denote an extraordinary agitation in the atmosphere. In a common barometer the mercury may be at the same height in the morning that it was the night before; which leads to a conclusion that as there has been no agitation of the mercury, there will be calm or settled weather; but this new barometer will often flow in such cases, that the one float has been raised \( \frac{1}{2} \), and the other depressed so much; which instead of indicating calm weather denotes that tempestuous weather may be expected.

The weight of the atmosphere at great heights might be discovered by suspending this instrument to an air balloon. Edinb. Trans, vol. iv, 1798.
The portable barometer is so contrived, that it may be carried from one place to another without being disfigured; and since it has been applied to the measurement of altitudes, it has undergone many improvements in its construction and appendages. The most common instrument of this kind consists of a tube composed of two pieces, or of two tubes (see fig. 94.): one of these tubes is thirty-four French inches in length, and straight from the top but bent at the bottom in form of a phiphon; the other tube is eight inches long, open at both ends, of the same diameter with the former, and communicating with its open end by means of a cock. When this barometer is carried from one place to another, it is inverted very slowly to prevent the intrusion of any air; the quicksilver rises into the long tube on which the key of the cock is turned; and to preserve the cock from being too much pressed by the mercury, the barometer is conveyed in this inverted posture. When an observation is to be made, the cock is first open; the tube is then turned upright very slowly, to prevent, as much as possible, such vibration of the mercury as would disturb the observation; and according to the weight of the atmosphere, the mercury will fall in the longer branch, and rise up through the open cock into the shorter. The cock is wholly made of ivory, except the key; and is composed of two small ivory cylinders a and b, open through their whole length, and admitting the free passage of the tube, and of a square piece of ivory, thirteen lines long, as many broad, and nine lines thick, having two holes, one for receiving the key d e, and the other in a vertical direction with two short tubes, h, i, at its extremity, adapted to the holes in the small ivory cylinders above mentioned. The most essential part of the cock is the key, which serves to open and close the communication between the two glass tubes. The part of the key that turns within the cock and passes through the opening in c to f, is formed of cork, and the outward part or handle d e, is made of ivory. The cork is firmly fastened to the ivory by means of a broad thin plate of steel, which cuts both the ivory and cork, lengthwise, through the centre, and reaches within to the hole of the key. This plate serves to counteract the flexibility of the cork, and to make it yield to the motion of the handle, although it is compressed in a very considerable degree by the ivory, in order to preserve it tight. But that this compression may not contract the diameter of the hole of the key, it is lined with a thin hollow ivory cylinder of the same diameter with the tubes. The extremities of the tubes are wrapped round with the membrane employed by the gold-beaters covered with fish-glue in order to fix them tight, the one in the lower, and the other in the upper end of the vertical canal of the cock. On the upper end of the shorter tube is fixed, during the intervals of observation, a kind of funnel, with a small hole in it which is shut with an ivory stopple. This is intended for keeping the tube clean, for replacing the mercury that may have escaped through the cock in consequence of any dilatation; and also for replacing the mercury taken out of the shorter tube, after flushing the cock; when any observation is completed; because when the mercury is left exposed to the air, it contracts on its surface a dark pellicle that settles both itself and the tube. The shorter tube should be cleaned occasionally, by a little brush of sponge fixed to the end of a wire adapted to the purpose.

The barometer thus constructed, and described more in detail by the author (Recherches, vol. ii. p. 6, &c) is placed in a long box of sif, the two ends of which are lined within with cushions of cotton covered with leather. This box may be carried on a man's back like a quiver in its natural position, though the inverted position is to be preferred, either walking or riding; and,
should be defended from the rain by a cover of wax-cloth. In order to prevent its being unduly affected by heat, it should be kept at a distance from the body of the man who carries it, and be protected from the sun by an umbrella, when it is near the place of observation. To the apparatus a phialmet should be annexed, in order to ascertain its vertical position, and a three-legged frame or tripod will serve to keep it firm in that position at the time of observation. The scale of this barometer is annexed to the long tube; it commences at a point on a level with the upper end of the short one, and rises in the natural order of the numbers to 21 inches. Below the above point, the scale is transferred to the short tube; and depends upon it in the natural progression of the numbers to 7. The interval of 27 inches, comprehended between the point marked 20 in the upper tube, and that which corresponds to 7 in the lower, is divided into 27 parts, which are inches. These inches are again divided into lines, fourths, sixteenths, and even thirty-sixth parts of lines. The adhesion and friction of the mercury in the tubes will not allow of a more minute subdivision. As the mercury falls in the one tube, it will rise in the other; and therefore the total altitude will be found by adding that part of the scale which the mercury occupies in the long tube, to that part of which the mercury does not occupy in the short one. In estimating, however, the total fall or rise in the long tube, every space must be reckoned twice; because in barometers of this kind, half the real variation only appears in one of the branches.

One of the thermometers, exhibited in fig. 05, is designed for ascertaining the corrections that are to be made in the height of the thermometer on account of any variation in the temperature of the air by heat and cold. For this purpose it is placed near the middle of the longer tube, that it may partake as much as possible of its mean heat. The ball is nearly of the same diameter with that of the tube of the barometer, that the dilatations or condensations of the fluids contained in them may more exactly correspond; and this ball should also be enclosed in wood that it may participate, as well as the barometer, of the heat of the bottom of the box. The scale of the thermometer is divided into 96 parts, between the points of boiling water and melting ice. M. de Luc, having found that an increase of heat, sufficient to raise the thermometer through this interval, augmented the height of the mercury in the barometer, when it was at 27 French inches, precisely fix lines, was led to divide it into 96 equal parts; so that one of these parts corresponded to \( \frac{1}{48} \) of a line in the height of the barometer: and this quantity therefore must be added to or subtracted from the fixed height, for every degree of variation of the thermometer thus graduated. He placed the term \( \sigma \), one eighth part of the above interval above the lower point: so that there are 12 degrees below, and 84 above it; because as 27 French inches express the mean height of the barometer, so the 12th degree above freezing is nearly the mean altitude of the thermometer. Hence by taking these two points, the one for the mean altitude and the other for the mean heat, there will be few corrections necessary for reducing all observations to the same scale, than if any higher or lower points had been taken. The divisions above \( \sigma \) or zero, are considered as positive and denoted by +, and those below as negative and expressed by —.

If the barometer remains at 27 French inches, and the thermometer at 0, according to the above explained graduation, no corrections are necessary. But if, while the barometer continues at 27 inches, the thermometer should rise any number of degrees above 0, so many sixteenths of a line must be subtracted from the 27 inches, in order to obtain the true height of the barometer produced by the weight of the atmosphere, and to reduce this observation to the flat of the common temperature. On the other hand, if the thermometer should fall any number of degrees below 0, while the barometer remains at 27 inches, so many sixteenths must be added to that height in order to obtain the true altitude. These corrections are very simple and easy when the height of the barometer is at or near 27 inches. But if it falls several inches below this point, as the portable barometer frequently must, according to the directions in which it is placed for the purpose of measuring altitudes, the dilatations will no longer correspond with the degrees of heat, after the rate of \( \frac{1}{48} \)th of a line for every degree of the thermometer; because the columns of mercury being shortened, the quantity of fluid to be diluted must be diminished; and, according to a general statement, the quantity of dilatation for the same degree of heat will be as much diminished as the column is shortened. If, then, it should be found convenient to reckon the dilatations by sixteenths of a line, these sixteenths must be counted on a scale, of which the degrees should be as much longer than the degrees of the first scale, as the shortened column of mercury is less than 27 inches, the height to which the length of the degrees of the first scale was adapted. E. C. Let the mercury descend, in consequence of the elevation of the first point, to \( \frac{1}{2} \) inch; and let the thermometer ascend ten degrees above the mean heat; then according to the rule \( \frac{3}{4} \)ths should be deducted from the mean column for this temperature; but ten half-sixteenths only or \( \frac{1}{4} \)ths must be subtracted from the column of 13\( \frac{1}{2} \) inches, because the sum of dilatations will be half that of the former; the quantities of fluid being to one another in that proportion. As it would occasion considerable embarrassment to subdivide the sixteenths of correction into smaller fractions proportional to every half inch of descent in the barometer, the same end may be obtained in a much more easy manner by reckoning the corrections on different scales of the same length, with the degrees longer as the columns of the barometer are shorter. E. G. The degree of correction on a scale applicable to the column of 13\( \frac{1}{2} \) inches will be double in length to those of the same degrees adapted to the column of 27 inches, and consequently the number of corrections will be reduced to likewise one half.

M. de Luc continued, in the manner which he has minutely described (Recherches, vol. ii. p. 26, &c.), on a piece of vellum, scales with these properties for no less than 23 columns of mercury, being all those between 28 inches and 29 inclusive, reckoning from half inch to half inch, within which extremes every practical case will be comprehended. This vellum he wrapped on a small hollow cylinder, including a spring, like a spring curtain, and he fixed it on the right side of the thermometer. The vellum was made to pass from right to left, behind the tube of the thermometer, and to move along its surface. The observer, in estimating the necessary corrections, draws out the vellum till the scale corresponding to the observed altitude of the barometer, touches the thermometer, and he counts them on that scale. The vellum is then let go, and it is gently furled up by the screw. M. de Luc, having provided the necessary apparatus for the accurate mensuration of heights, proceeded to establish by experiment the altitudes corresponding to the different degrees of the mercury; and he made choice of Salève, a mountain near Geneva, about 3000 French feet high, for the scene of his operations. The height of this mountain was twice measured by levelling, and the result of the mensuration, at the interval of six months, gave a difference of only 10\( \frac{1}{2} \) inches. On this mountain he selected no less than 15 different stations, rising at the rate of nearly 200 feet one above another; and here he proposed to make such a number of observations as would
would serve either to establish a new rule of proportion between the heights of places and the densities of the mercury, or to justify the preference of some one of those that had been formerly discovered.

Soon after he had commenced his observations, an unexpected phenomenon occurred. Having observed the barometer, at one of the stations (Recherches, vol. ii. p. 49, &c.) twice in one day, he found the mercury higher in the second observation than in the first; and this variation he naturally ascribed to a change in the weight of the atmosphere, which must have affected his other barometer stationed on the plain in the same manner. But he was not a little surprised when, on examining the rate of the latter barometer, he found that it had purged a contrary course, and that it had fallen while the other rose. As this difference could not proceed from any inaccuracy in the observations, it was so considerable as to discourage his progress and to disappoint his hopes of success, unless he should be able to explain its cause, and to make due allowance for its effects. The experiment was carefully repeated at different periods. An observer on the mountain, and another on the plain, took their respective stations at the rising of the sun, and continued to make their respective observations, both of the barometer and thermometer, every quarter of an hour till the sun set. It was found, that the lower barometer gradually descended for the first three quarters of the day; after which it reascended, till in the evening it stood at nearly the same height as in the morning. But the higher barometer ascended for the first three quarters of the day, and then descended, so as to regain likewise about the same latitude of the sun in the morning. The following theory seems to afford a satisfactory solution of this phenomenon. When the sun rises above the horizon of any place, its beams penetrate the whole of the atmosphere of which that horizon is the base; but falling very obliquely on the greater part of it, they communicate little heat, and consequently produce little dilatation of its air. As the sun advances, his rays become more direct, and the heat and rarefaction of the air increase. However, the greatest heat of the day is not felt when the sun is in the meridian and his rays are most direct, but it increases after mid-day while the place receives more heat than it loses, just as the tide attains not its highest altitude till the moon has proceeded a considerable way to the west of the meridian. Besides the heat of the atmosphere is greatest at the surface of the earth, and seems not to ascend to any great distance above it; and therefore the dilatations of the air occasioned by the sun will be found principally, if not solely, near the earth. A motion of the adjacent air, in all directions, must take place in order to allow the heated air to expand itself. The heated columns, extending themselves vertically, will become longer, and also specifically lighter in consequence of the rarefaction of their inferior parts. As the motion of air, till it rises into wind, is not rapid, these lengthened columns will take some time to dilate their summit amongst the adjacent less rarefied columns that are not so high; at least they will not do this as speedily as their length is increased by the rarefaction of their bases.

In order to apply this theory to the solution of the phenomenon above mentioned, it should be considered, that the barometer on the plain begins to fall a little after morning, because the column of air that supports it becomes specifically lighter on account of the rarefaction occasioned by the heat of the sun. It continues to fall during the three first quarters of the day, because the heat and consequent rarefaction are continually increasing. After this period it rises again, because the cold and condensation coming on, the specific gravity is augmented by the rising in of the adjacent air. Thus the equilibrium is destroyed, and the mercury returns to the altitude of the morning. The barometer on the eminence rises after morning, and continues so to do for three fourths of the day, for two reasons. The density of the column of air is greater near the earth, and decreases as the distance from it increases. The higher therefore we ascend in the atmosphere, we find air specifically lighter. But by the rarefaction of the base of the column that supports the mercury of the barometer on the eminence, the denser parts of that column are raised higher than they would naturally be if left to the operation of their own gravity. On this account, the higher barometer is prefixed with a weight nearly as great as it would sustain, if it were brought down in the atmosphere to the natural place of that denser air now raised above it by the prolongation of the base of the column. The other reason is, that as the rarefaction does not take place at any great distance from the earth, little change is produced in the specific gravity of the portion of the column that preserves on the higher barometer, and the summit of that column dilates itself more slowly than it increases. Thus we see how this barometer must ascend during the first three fourths of the day, and pursue a course reverse to that on the plain. The condensations returning after this time, the denser air subdues, the equilibrium takes place, and the mercury descends to its first position.

This phenomenon suggested to M. De Luc (Recherches, vol. ii. p. 54, &c.) the idea of a second pair of thermometers, in order to measure the mean heat of the column of air intercepted between the barometers. These thermometers are extremely delicate and susceptible. Their tubes being the finest capillary, the glass very thin, and the diameters of the balls only three lines; the balls are filled with the kernels of fine brass wire covered with silk; by this contrivance the air has free access to the balls and sides; and if the direct rays of the sun be intercepted at some distance by a scrap of paper or by the leaf of a tree, the thermometers will quickly mark the true temperature of the air. For the nessesity and utility of these appendages to the author's apparatus, see the sequel of this article.

A new kind of portable barometer for measuring heights has been invented by Dr. J. A. Hamilton, and described in the transactions of the Royal Irish Academy (vol. ii. p. 95). Instead of the leather bag which confines the mercury in the common portable barometer, Dr. Hamilton substitutes a cylindrical cylinder of ivory, about two inches long and upward of one inch in diameter, with a serrated bottom and open top, somewhat contracted into a shoulder that receives internally a found, clean and porous cork, about 3 of an inch in length, and one in diameter, through which the glass tube is nicely inserted and pushed down midway. The construction depends upon this principle, that spongy cork affords a ready passage through its pores to the particles of air, but prevents the escape of quicksilver, melts a very powerful pressure be applied. Nevertheless, as it is not through the pores of that substance, but through the minute interfaces between the cork and the inside of the ivory cylinder, that the air infiltrates itself, some caution and experience are requisite to prevent the stopper from being fitted too tight: nor can the observer be always assured, that the confinement of the cork will occasion no inaccuracy in the results; for it will evidently require a considerable time, through the extremely slender communications, to restore the balance between the external and internal air, if ever that balance can rigorously obtain. Dr.
BAROMETER.

Hamilton gives very copious and circumstantial directions, together with an annexed engraving, for the construction, adjustment, and application of this instrument. AB (fig. 96.) represents a section of the barometer longitudinally, when put together and ready for use. F, the ivory cylinder, CD, the scale, with a vernier that slides in to cover the aperture when the instrument is put by. E, the attached thermometer in its case, and GG the brass caps that secure the ends. AB (fig. 97.) represents a section of the ivory cylinder with its cork C, and its tube T; SS is the surface of the mercury; M its mass; EE the shoulders that keep the cork C in its place; and FF is the bottom that forms in right.

Dr. Hamilton remarks, that mercury is best cleaned by shaking it repeatedly in a phial with fresh portions of water; and the remark deserves attention. For correcting the errors of altitude caused by the fluctuation of the surface of the mercury in the basin, he recommends the computation of tables from the proportion which the aperture of the tube bears to that of the cylinder. His paper contains practical precepts for calculating heights from observations of the barometer, in a form adapted to practice; and he proposes to delineate vertical sections of a country, by means of a series of such observations, made during settled weather. In the same volume (p. 117, &c.) we have remarks and hints for the further improvement of barometers, by Dr. H. Hamilton, dean of Armagh, occasioned by the preceding communication. He observes, that the pores of cork may in time become choked with dust or moisture; and he therefore proposes, that instead of cork, the box should have a top of ivory with a hole to drop in a floating gage, which might be occasionally filled with a peg or screw, to render the instrument safely portable; on which, it would be better, to have a cover screwed over the top of the box, and a hole in it corresponding with that in the box. When these two holes are connected, the box is open; and it is shut, when the holes are removed from each other by turning the cover and screwing it tight to the top of the box; and if there be a plate of soft leather between them, it will be sufficient to keep the mercury when the instrument is agitated by carriage. The dean had a barometer made in this form, and found it to answer all the purposes of an open and of a portable one. Instead of making tables for correcting the error occasioned by the variation of the level of the mercury in the basin, he thinks it would be more convenient to contract proportionally the divisions of the scale. This obvious plan is illustrated at length. It is suggested, that the close barometers would serve just as well at sea as on land; and the hint merits attention; as a marine barometer is still an important desideratum.

Various improvements in the construction and use of the portable barometer, with its annexed apparatus, have been suggested by Sir George Sluckburgh and Gen. Roy; and they have been adopted by several instrument-makers in London. An instrument of this kind, possessing all the advantages of those by Mr. Ramden and M. de Luc, and from its principles free from some inconveniences and errors to which theirs is liable, is constructed by Mr. William Jones, an ingenious artist in Holborn. It is represented in (Pl. XII. fig. 100.) as included in its mahogany case by means of three metallic rings, b, b, b. This case is in the form of a hollow cone divided into three arms or legs from a to e, and is so carved in the inside as to contain readily the body of the barometer; and the arms, when separated, form three firm legs or supports for the barometer, when it is used for making observations. (See fig. 101.) The instrument is suspended at the part of the case, by a kind of improved gimbals, and thus, by its own weight, it will be sufficiently ready when exposed to the weather. In that part of the frame where the barometer tube is visible, a, there is a long slit or opening, so that the altitude of the mercury may be seen against the light, and the vernier piece a brought down to coincide with the edge of the mercury to the greatest possible exactness. When the instrument is placed on its support, the vernier is to be let down, so that the mercury may subside to its proper height; and also a peg at p must be fastened, to give admission to the action of the external air upon the mercury contained in the box b. The vernier piece, or head of observing what is called the zero, or external division of the column of mercury, is by means of a small floating ivory index or item that rises up through the brass box from the etern below in a hole made for that purpose. This will rise and shew itself directly under a small plate and screw fixed over as a cover, and is unfixed to move upwards. With one eye even with the upper surface of the box, the hand at the regulating screw at the bottom of the frame must so turn the screw till the top of the index is very exactly even with the surface; thus will the adjustment for reading off he made after the stations. The vernier piece at a that determines the altitude of the column of mercury is to be brought down by the hand to a near contact, and then accurately adjusted by a small adjusting screw attached to the top of this vernier scale. This barometer has usually two different sorts of scales inserted on it: that on the right at a is a scale of French inches from 19 to 31, measured from the surface or zero of the mercury in the box b below divided into twelve parts of lines, and each line subdivided by the vernier into ten parts, so that the height of the column of mercury may be ascertained to the 32nd part of a French inch. The scale which is on the other side, or the left of observation, is of the same length; but divided into English inches, each of which is subdivided into 20ths of an inch, and the vernier subdivides each 20th into 25 parts so that the height of the mercury is thus ascertained to the 500th part of an English inch (viz. 200 x 25 = 5000). But this vernier is figured double for the convenience of calculation: the first 5 divisions are marked 10, the 20 marked 40, and the 25 marked 50; and each exact division is reckoned as the two thousandths of an inch, which amounts to the same; for 21.5 = the same in value as 21.5 x 25 = 500. A thermometer is always attached to the barometer, and indeed it is indispensably necessary: it is fastened to the body at c, counterpoised by the surface of the frame, which makes it least liable to be broken; the degrees of the thermometer are marked on two scales, one on each side; viz. that of Fahrenheit and Reaumur, scales generally known: the freezing point of the former being at 32, and the latter at 0. On the right hand side of these scales there is a third, called a scale of correction: it is placed opposite to that of Fahrenheit, with the words add and subtrah; and it serves as a necessary correction to the observed altitude of the mercury at any given temperature of the air blown through the thermometer. There are several other valuable appendages to this instrument that cannot be distinctly represented in the figure: but its nature and use may be apprehended from the above description.

In complete observations, such as those to which we now refer, the observer should be provided with two barometers, or rather three, for fear of danger, and two or three separate thermometers. See the sequel to this article.

By very small additional contrivances this instrument may be rendered equally useful for making observations at sea, with any marine barometer that has hitherto been invented.

The editor has been furnished with the following description...
BAROMETER.

ition of the cillen, &c. of the portable barometer, according to the construction of Mr. Hales, lately an eminent instrument-maker in London. A section of the cillen is represented in Plate XII., of Pneumatics, fig. 102. A A A A B B is the cillen: the part A A A A, which contains the quicksilver, is made of leather, and covered with a bottom of leather C, glued on the wooden ring D D. and prefled close over the wooden cylinder by means of the screw at E E, which screws on the brass cover or collar FF that covers the cylindrical cillen AA. This cillen has a flap at the top, as seen at C C, to prevent its filpping, while it presses the ring D D against the wooden cylinder AA. When screwed tight, the quicksilver III is prevented from filpping. If part of the tube of the barometer, drawn nearly to a point, and covered with an ivory cap KK for defending it against injury, I L is a screw with a broad circular top Q Q, by means of which the leather C forces up the quicksilver to as to fill the tube, when the instrument is carried from one place to another. In order to prevent the oscillations of the quicksilver from breaking the tube by sudden jerks, a pin a with a head b b, is through the screw LL; this pin has on the under side of the head a spiral spring to counteract the violence of a sudden motion. The two nuts M N, are used to raise or depress the screw LL, and consequently the quicksilver; the proper height of which is indicated by the floating gage gage, the top of which item P corresponds to the top and outside of the cillen. When the barometer is not in use, the gage and aperture are covered by the plate e, which effectually confines the quicksilver, the under side of b being covered with leather. The lower end of the screw LL is flit up as high as a, and carries a crofs pin d passing through the bottom of the pin a b to prevent it from rising too high. Fig. 103. represents a square frame to be screwed on the part B B fig. 102, and connected by wires from the angles to the legs as seen in the perspective view in fig. 101. This is used to prevent the barometer from vibrating.

The nomis is exhibited at large in fig. 104. A is a screw with a milled head tapped into the piece B B, and also let into and moveable in the piece C in the manner represented at D in fig. 105, which is a side view.

B and C in fig. 106, are horizontal sections of B and C, fig. 104. The spring a of the piece B is considerably stronger than that of C; so that it requires much greater force to make it flie up and down, whilst C, which slides very easily, is moved by turning the milled head E; and thus the lower surface of C is made to coincide with the upper surface of the mercury at F; and, besides, both the piece B and the nomis C may be depressed or raised at pleasure as occasion requires, for a due adjustment of the nomis. B b hind the plate a b, in the respective view fig. 101, hangs a pendulum suspended at the point a which serves for setting the instrument vertical; and when it is brought into this position, a mark on the bob coincides with another on the plate, as seen at b. When the instrument is not in efe, a fork connected with the screw e is pushed up, and prevents the pendulum from flaking.

In order to adapt the portable barometer more completely to the purpose of measuring heights, in which use of it peculiar accuracy of observation is neceffary, it should be furnished with two microscopes or magnifying glasses, one of which should be placed at the beginning of the cillen; and either this should be moveable, so that it may always be brought to the surface of the mercury in the cillen; or the cillen should be so contrived that its surface may always be brought to the beginning of the cillen. By this glasses the coincidence may be accurately perceived. The other microscope must be moveable, so as to be let opposite to the surface of the mercury in the tube; and the scale should be furnished with a vernier, which divides an inch into 1000 parts, and constructed of materials, the expansion of which is precisely ascertained. For an account of many ingenious contrivances to mark the barometer accurate, portable, and commodious, the reader may consult Magellan's "Diff. de Diverses Instr. de Phys." Philos. Trans. vol. xii. vol. xiii. "Journ. de Phys. xvi. 352. xviii. 391. xix. 238. xx. 456. xxx. 350. Sulzer, Act. Helvet. iii. 239. De Luz, Recherches, &c. ubi infra. Cardin. de Luynes, Mem. Par. 1745. Van Swinden's Pohtionen Physic. Comm. Acad. Petrop. i. Id. Nov. ii. 209. viii.

Mr. Magellan, in his edition of "Cromedt's Mineralogy," has shewn that great errors may arise in barometrical measurements for want of due attention to the specific gravity of the mercury with which barometers are filled. If two barometers each 30 inches high, and in every other respect similarly circumstanced, be filled with mercury of different specific gravity, that of the one being 13,620, and that of the other 13,450, the error in the result would be no less than 357 feet: because the heights of the mercurial column in each barometer will be in the inverse ratio of their specific gravities; viz. 13,450 13,620 = 12 = 20,720. But the logarithm of 12 is 4.171,21, and that of 20,720 is 4825,73, neglecting the indices, and their difference is 54,52, which shews that there is a difference of 54,52 fathoms or 327 feet in the altitudes of the two places, where the barometers should have been stationed, though in reality they were on the same level. But if the specific gravity of the mercury in the two barometers were according to the different statements of Bergman and Fourcroy, the one 14,110 and the other 13,000, (and this may happen to be the case, as the heaviest is commonly reputed to be the purest mercury,) the error must have amounted to 35576 toises, or 2154.4 feet, because 13,000 : 14,110 :: 30 : 32,561. But the logarithm of 30 is 4.771,21, and that of 32,561 is 5125,97, and the difference, or 35576, shews that the error should amount to so many fathoms, or 2154,5 feet. See the sequel of this article.

BAROMETER. PHENOMENA OF THE. These are the variations of height in its mercurial column, for ascertaining which many contrivances in the structure of the barometer have been proposed; the principal of which have been detailed in the preceding articles; and the subject will be further pursued in the sequel. The uses to which these phenomena have been subervent, are the prediction of the weather from the variable weight of the atmosphere, indicated by the rise and fall of the mercury in the barometer, and the measurement of altitudes, to which they have been lately applied with singular affinity and success.

The phenomena of the barometer, considered as a "weather-glass," have been very differently stated and explained by various writers; and they are so precarious, that it is extremely difficult to form any fixed and general rules concerning them. Although we have reason to believe, that the barometer never fails to indicate a storm, or any very great change of weather, for some hours before it occurs; yet its variations afford no indications or proyes which are absolutely certain, with respect to those lesser considerable changes, to which the weather is subject in our variable climate. With certain restrictions, they afford some ground for probable conjectures; and these restrictions are to be determined merely by the fugacity of long-continued observation and experience.Strictly speaking the height of the mercury in the barometer hath no immediate and necessary connection either with rain or fair weather. That its variable height is the immediate consequence of the variable
variable prehure of the atmosphere, is a fact that admits of no doubt; but the causes of this variable prehure have not yet been fully and satisfactorily ascertained; and how far the rate of the weather, in all its minute and sudden changes, depends upon it, is a question that still remains to be determined. Mr. Pafcal was one of the first persons who particularly observed the variations of the barometer, and referred them to corresponding changes in the weight of the air; but he acknowledges, that it is very difficult to explain both the one and the other, as well as the connection that subsists between them. He observes, in general, that the mercury is commonly highest in winter and lowest in summer; that it is kalt variable at the solstices, and most variable at the equinoxes: and he adds, in direct contradiction to later experience, that the mercury usaally falls in fine weather, and that it rises when the weather becomes cold or the air is loaded with vapours. Mr. Pafcal was followed by Parrier, Bals, Wallis, Garçin, Garden, Litter, Haly, Gerfet, De la Hire, Mariotte, LeCat, Woodward, Leibnitz, De Maizan, Bernouilli, Mofchenbroek, &c.; all of whom have given different solutions of the phenomena of the barometer.

The principal observations, that have been made on the variations of this instrument, are summed up by Mr. Kirwan (Tenth Trans. vol. ii. p. 46, &c.) in the following particulars:

I. The more considerable elevations and depressions of the mercury in the barometer happen at a very short interval of time in places very remote from each other. This correspondence was observed by Mr. Derham in 1699 between the heights of the mercury at Uptonhall in Essex, and Townly in Lancashire; and afterwards by Mr. Marsili between the variations at Paris and Genoa, at the distance of nearly four degrees of latitude, who adds, during these variations different winds prevailed at these places. But Mr. Kirwan observes, that where there is a considerable difference of longitude, the like agreement is not found.

II. The deviations of the mercury from its mean annual altitude are far more frequent and extensive in the neighbourhood of the poles than in that of the equator. At Peterborough, in 1723, the mercury once stood at the tremendous height of 51,59 inches; if we may credit Mr. Congett, and it has been seen to low as 28,14 inches. In the northern parts of France the variations are greater than in the southern; at Naples they scarcely exceed one inch. In Peru, under the equator, and at the level of the sea, they amount on y to two or three tenths of an inch; but in other parts, within a few degrees of the line, on the approach of the rainy season or of hurricanes, the barometer falls an inch or more.

III. The variations without the tropics are greater and more frequent in the winter than in the summer months.

IV. The variations are considerably smaller in very elevated situations than on the level of the sea. Thus M. Bouger observed, that on the coast of Peru the variations extended to 2 of an inch: at Quito, elevated 9,774 feet above the sea, they comprehend only 0,083 of an inch. M. Sauffiette made similar observations in Savoy, as did Mr. Lambert in Switzerland.

V. The mean height of the barometer on the level of the sea in most parts of the globe hitherto examined, is about 29,970 inches. M. Bouger, under the line, observed it at 29,960 inches; but as his barometer was not purged of air by fire, it stood lower than it should have done. Sir George Shuckburgh (Phil. Trans. vol. lviii. p. 586), on a mean of several observations on the coasts of Italy and England, found it at 30,04, when the temperature of the mercury was 55° and that of the air 62°. The mean height of the barometer in London, upon an average of two observations in every day of the year, kept at the house of the Royal Society, for many years past, is 29,88; the mean temperature or height of the thermometer, according to the fame, being 58°. The greatest height observed by Sir G. Shuckburgh, Dec. 26, 1778, in London, was 30,048 inches, the thermometer being at 47°; and reduced to the heat of 50°, it was 30,057: and this, he says (Phil. Trans. vol. ix. p. 370.), is the greatest height, which, as far as he has been able to collect it, has ever been seen to stand at in any country, where observations have been made and recorded, since the first invention of this instrument. In the proximity of the poles, says Mr. Kirwan, the annual mean heights of the barometer differ much more from the above standard than in the more southern parts of our hemisphere.

In eliminating the connexion of the variations of the barometer with the weather, Dr. Halley has proposed the following rules:

I. In calm weather, when the air is inclined to rain, the mercury is commonly low.

II. In severe and settled weather, and also in calm and frosty weather, the mercury is generally high.

III. Upon very high winds though not accompanied with rain, the mercury sinks lowest, regard being had to the point of the compass from which the wind blows.

IV. The greatest heights of the mercury are found upon Easterly and north-easterly winds; other circumstances being alike: to which it may be added, that under a southerly wind it is commonly low. The above four observations made by Dr. Halley in England, seem to be most universal, as they were found by Mr. Melander (Scheved. Abhand. 1773, S. 255) to apply to lat. 30°, and by M. de Luce to lat. 46°.

V. After very great storms of wind, when the mercury has been very low, it generally rises again very fast.

VI. The more northerly places have greater alterations of the barometer than the more southerly.

VII. Within the tropics, and near them, there is little or no variation of the mercury in all wheather. At St. Helena it is little or nothing; at Jamaica 3/6 of an inch; whereas in England it amounts to 2 inches, and at Peterborough to 3.1 inches.

Dr. Beal, who adopted the opinion of M. Pafcal, observes that, e litter paribus, the mercury is higher in cold weather than in warm; and usually in the morning and evening higher than at midday: that, in settled and fair weather, it is higher than either a little before or after or in the rain; and that it generally descends lower after rain than it was before it. And he ascribes these effects to the vapours with which the air is charged in the former cafe, and which are dispersed by the falling rain in the latter. If it chance to rise higher after rain, it is generally followed by a settled ferocity. He adds, that there are frequently great changes in the air, without any settled alteration in the barometer.

An ingenious author observes, in relation to this use of barometers, that, by their means, we may regain the knowledge, which still resides in brutes, and which we have forfeited by not continuing in the open air as they generally do: and by our intemperance corrupting the crafts of our organs of sense.

Mr. Patrick's rules for judging of the weather by the rise and fall of the mercury in the barometer, have been much approved, and are to be accounted for on the same principles with those of Dr. Halley. They are as follow:—1. The rising of the mercury prelages, in general, fair weather; and
BAROMETER.

and its falling, foul weather; as rain, snow, high winds, and storms.

2. In very hot weather, the fall of the mercury indicates thunder.

3. In winter, the rising preeages frost; and in frosty weather, if the mercury falls three or four divisions, there will certainly follow a thaw: but in continued frost, if the mercury rises, it will certainly snow.

4. When foul weather happens soon after the falling of the mercury, expect but little of it: and on the contrary, expect but little fair weather, when it proves fair shortly after the mercury has risen.

5. In foul weather, when the mercury rises much and high, and so continues for two or three days before the foul weather is quite over, then expect a continuance of fair weather to follow.

6. In fair weather, when the mercury falls much and low, and thus continues for two or three days before the rain comes; then expect a great deal of wet, and probably high winds.

7. The unsettled motion of the mercury, denotes uncertain and changeable weather.

8. You are not to strictly to observe the words engraven on the plates (though for the most part it will agree with them), as the mercury's rising and falling; for if it stands at much rain, and then rises up to changeable, it preages fair weather, although not to continue so long as it would have done, if the mercury were higher: and so, on the contrary, if the mercury stood at fair, and falls to changeable, it preages foul weather, though not so much of it, as if it had sunk down lower.

From these observations appears, says Mr. Rowing (Nat. Philos. part ii. diff. 4.), that it is not so much the height of the mercury in the tube that indicates the weather, as the motion of it up and down: wherefore in order to pass a right judgment of what weather is to be expected, we ought to know whether the mercury is exactly rising or falling, to which end the following rules are of use:

1. If the surface of the mercury is convex, standing higher in the middle of the tube than at the sides, it is generally a sign that the mercury is then rising. And,

2. If the surface of the mercury is concave, or hollow in the middle, it is sinking. And,

3. If it is plain or level, or rather if it is a little convex, the mercury is stationary; for mercury being put into a glass tube, especially a small one, will naturally have its surface a little convex; because the particles of mercury attract each other more forcibly than they are attracted by glass. Further,

4. If the glass be small, shake the tube; and if the air be growing heavier, the mercury will rise about half the tenth of an inch higher than it stood before; if it is growing lighter, it will sink so much. This proceeds from the mercury sticking to the sides of the tube, which prevents the free motion of it, until it is disengaged by the shock. Therefore, when an observation is to be made by such a tube, it ought always to be shaken first; for sometimes the mercury will not vary of its own accord, until the weather it ought to have indicated be present.

To the preceding rules we may subjoin the following, deduced from the latter and more accurate observation of the motions of the barometer, and the consequent changes in the air of this country:

1. In winter, spring, and autumn, the sudden falling of the mercury, through a large interval, denotes high winds and storms; but in summer it denotes heavy showers, and often thunder; and it always sinks lowest of all for great winds, though not accompanied with rain; though, however, it falls more for wind and rain together, than for either of them alone. Also, if, after rain, the wind change into any part of the north, with a clear and dry sky, and the mercury rise, it is a certain sign of fair weather.

2. After very great storms of wind, when the mercury has been low, it commonly rises again very fast. In settled fair and dry weather, except the barometer sink much, expect but little rain; for its small sinking then is only for a little wind, or a few drops of rain; and the mercury soon rises again to its former station. In a wet feason, suppose in hay-time and harvest, the smallest sinking of the mercury must be regarded; for when the constitution of the air is much inclined to showers, a little sinking in the barometer then denotes more rain, as it never at this time stands very high. And if, in such a feason, it rises suddenly, very fast, and high, expect not for weather more than a day or two, but rather that the mercury will fall again very soon, and rain immediately follow. The slow gradual rising, and keeping on to do so for two or three days, are most to be depended upon for a week's fair weather; and the unsettled state of the quicksilver always denotes uncertain and changeable weather, especially when the mercury stands any where about the word changeable on the scale.

3. The greatest heights of the mercury, in this country, are found upon easterly and north-easterly winds; and it may often rain or snow, the wind being in these points, and the barometer may sink but little or not at all, or it may even be in a rising state, the effect of those winds counteracting. But the mercury sinks for wind, as well as for rain, in all the other points of the compass; but it rises as the wind shifts about to the north or south, or between those points: but if the barometer sink with the wind in that quarter, expect it soon to change from thence: or else, if the fall of the mercury should be considerable, a heavy rain is likely to ensue, as it sometimes happens.

BAROMETER, Cause of the Phenomena of the. Those which have been enumerated, are the chief phenomena of the barometer; to account for which, the hypotheses that have been framed are almost innumerable. It would far exceed our limits to detail them all; we must content ourselves with briefly reciting some of the principal, and refer the reader who is desirous of further information to De Luc's "Recherches," vol. i. ch. ii.

Some, as Pascal, Beal, Wallis, and Garcin, have accounted for the change in the weight of the air by the augmentation of the atmosphere in consequence of the introduction of vapours, and its diminution by their fall; others, as Pierrier, Garden, Le Cat, and De Mairan, have ascribed it to the variations of heat; and others, as Garden, to the alterations of the specific gravity of the air; and Dr. Hailey refers it to the accumulation or dispersion of the air by contrary winds. Wallis, Halley, and De Mairan have supposed that there is a difference in the vertical pressure of the air, when in motion and at rest. Wallis, and some other philosophers, have conceived that the height of the barometer depends upon the variations that occur in the elasticity of the air, and that it is directly proportional to these variations. Some have also had recourse to the contractions and dilatations of the mercury itself, as Wallis and Lider; others, as Gerlert, suppose vibrations produced in the particles of air by the winds. De la Hire and De Mairan imagine that air is removed from the south to the north, and from the north to the south: Mariotte supposes that the inclination of the winds to the surface of the earth is sometimes greater and sometimes less. Woodward and Hamberger conceive that there is a shock of vapours against the air, when they rise, and that this ceases when they are at rest. Leibnitz sup-
poses that there is a diminution in the weight of the air when rain falls; and De Mairain apprehends, that an agitation of the air is occasioned by vapours; and Bernouilli is of opinion, that an augmentation of the atmosphere is produced by a dilatation and discharge of the air enclosed within the bowels of the earth, and that there is a diminution of it when the contrary happens. To these several causes acting separately or conjointly, and to several circumstances attending their different operation, the vibrations of the barometer have been attributed. But these causes may all be reduced to three general classes: viz., variations of temperature; the velocity and other qualities of different winds; and the agency of vapour.

Dr. Lister accounts for the changes in the barometer from the alterations of heat and cold. This, he says, he has often observed, that in storms, &c. when the mercury is at its lowest, it breaks, and emits small particles, which he calls a kind of fretting; and argues, that in all times of its descent, it is more or less on the fret. In this disorder, he thinks, its parts are contracted, and brought closer together; and for that reason, defend ed: b. sides, in the fretting they let go little particles of air, before inclosed in them, and these riling into the top of the tube, the mercury must fall, both from the column’s being shortened by their escape, and by their lying upon it. Mercury therefore, he adds, rises either in very hot or very cold weather, between the tropics, &c. as being then in its natural state; and again, in the intermediate degrees of heat and cold it falls, as being contracted, and as it were convulsed, and drawn together. Phil. Trans. N° 105. But his account, however ingenious, yet comes far short of accounting for the phenomena; nay, in some respects it contradicts them.

The changes in the weight of the atmosphere, therefore, must be laid down as the cause of those in the barometer; but then, the cause of that cause, or whence those alterations arise in the atmosphere, it will be no easy matter to determine; there being, perhaps, no one principle in nature that will account for such a variety of appearances, and those too so irregular. It is probable the winds, as driven this or that way, have a great share in them; some share too, vapours and exhalations, rising from the earth, may have; some, the changes in the air of the neighbouring regions; and some, the flux and reflux occasioned in the air by the moon; and also some chemical causes operating between the different particles of matter.

Dr. Halley thinks the winds and exhalations sufficient; and, on this ground, gives us a rationale of the barometer. The substantive of what may be laid on that head, is as follows:

1 lye, The cold nitrous particles, and even air itself condensed in the northern parts, and driven elsewhere, must load the atmosphere, and increase its pressure.

2 lye, Heavy dry exhalations from the earth must increase the weight of the atmosphere, and heighten its elastic force, as we find the specific gravity of leaden minerals increased by diffused fogs and metals.

4 lye, The air is rendered heavier from these and the like causes, is thereby the more able to support the vapours; which being likewise intimately mixed with it, and swimming every where equally through it, make the weather serene and fair; and the air being rendered lighter, from the contrary causes, it becomes unable to support the vapours where with it is replete; these, therefore, precipitating, are gathered into clouds, and those in their progress, coalesce into drops of rain.

These things observed, it appears pretty evident, that the same causes which increase the weight of the air, and make it more able to support the mercury in the barometer, do likewise occasion a serene sky, and a dry season; and the same causes which render the air lighter, and less able to support the mercury, do likewise generate clouds and rain. Hence, 1 l. When the air is lighter, and the mercury in the barometer is lower, the clouds are very low, and move swiftly; and when, after rain, the clouds break, and a calm sky again thins forth, being purged of the vapours, it appears exceedingly bright and transparent, and affords an easy prospect of remote objects.

2 lye, When the air is heavier, and the mercury stands high in the tube, the weather is calm, though somewhat less clear, because the vapours are dispersed everywhere equally; if any clouds now appear, they are very high, and move slowly; and when the air is heaviest of all, the earth is frequently found enveloped in pretty thick clouds, which appear to be formed out of the greater exhalations, and the weight of which is too strong for the, though a lighter atmosphere could not.

3 lye, Hence it is, that with us the mercury stands highest in the coldest seasons, and when the wind blows from the north or north-east corner; for in that case, there are two winds blowing towards us at the same time, and from opposite corners; there being a constant west wind found in the Atlantic ocean, at the latitude corresponding to ours. To which we may add, that in a north wind, the cold condensed air of the northern parts is brought hither.

4 lye, Hence in the north-east regions, the variation of the mercury is more sensible than in the southern ones; the winds being found more strong, more frequent, more various, and more opposite to each other in the former, than in the latter.

5 lye, Hence it is, that between the tropics, the variation of the mercury is scarcely sensible; the winds there being extremely gentle, and usually blowing the same way.

6 lye, Hence it is, that in those places where we have the particular causes of the barometer, seems to come short of some of the principal and most obvious ones; and, besides, liable to several objections.

For 1 l., if the wind were the sole agent in effecting these alterations, we should have no alterations without a sensible wind, nor any wind without some alteration of the mercury; both which are contrary to experience.

7 lye, If two winds be supposed blowing from the same place, viz. London, opposite ways, viz. N.E. and S.W., there will be two others, blowing from opposite points, viz. N.W. and S.E. to the same place; which two last will balance the first, and bring as much air towards the point, as the others swept from it. Or thus, in proportion as the air
BAROMETER.

is carried off N.E. and S.W. the adjacent air will crowd in from the other points, and form a couple of new currents in the direction N.W. and S.E. to fill up the vacancy, and restore the equilibrium. This is a necessary consequence from the laws of fluids.

Andly. If the wind were the sole agent, the alterations in the height of the mercury would only be relative, or topical; there would be still the same quantity supported at several places taken collectively: thus, what a tube at London lost, another at Paris, or at Pisa, or at Zurich, &c., would at the same time gain. But we find the very contrary true in fact; for from all the observations hitherto made, the barometers in several parts of the globe rise and fall together; so that it must be some alteration in the absolute weight of the atmosphere that accounts for the rise and fall of the mercury.

Lastly. Setting aside all objections, these popular phenomena, the mercury's fall before, and rise after rain, seem to be inexplicable on the ground of this hypothesis; for suppose two contrary winds sweeping the air from over London, we know that few, if any, of the winds reach above a mile high; all, therefore, they can do, will be to cut off a certain part of the column of air over London: if the consequence of this be the fall of the mercury, yet there is no apparent reason for the rain's following it. The vapours indeed may be let lower, but it will only be till they come into an air of the same specific gravity with themselves; and there they will be elevated as before.

M. Leibnitz, about the year 1710, in a letter written to the abbe Bignon, endeavoured to supply the defects of this hypothesis with a new one of his own. The new principle, upon which Leibnitz's hypothesis is founded, was illustrated by M. Fontenelle in the Histoire of the Royal Academy of Sciences at Paris for the year 1711. He afferts, that a body immersed in a fluid only weighs with that fluid while it is unfattained by \( \pi \), that is when its surface is greater than the weight of the air, by \( \pi \). Thus, when let fall, its weight ceases to make a part of that of the fluid, which by this means becomes lighter. Thus, adds he, the watery vapours, while unfattained in the air, increase its weight; but when let fall, they cease to weigh along with it. Thus the weight of the air is diminished; and thus the mercury falls, and rain ensues.

But M. Leibnitz's principle, notwithstanding the experiment he brings to confirm it, is false, as has been evidently made appear by a counter experiment of Dr. Delfaguier. (See his Course of Exp. Philol. vol. i. p. 282, &c.) For a body, whether specifically equal or lighter or heavier than a fluid, while it is immersed in it, whether it be at rest, or in motion, adds to the fluid a weight equivalent to that of an equal bulk of the fluid; as follows from that law in hydrostatics, that fluids gravitate according to their specific gravity.

However, were M. Leibnitz's principle true, yet it is defective; and that in the same respect with Dr. Halley's; nor would it account for the phenomena more than the other. For, supposing the vapours by being condensed, to be put in a motion downwards, and to ceasing to gravitate with the atmosphere; they will therefore fall, till they reach a part of the atmosphere of the same specific gravity with themselves; and there they will hang as before. If the mercury fall, it will only be during the time of that defect; for these once fixed, the former gravity is retrieved; or, were it not retrieved, yet no rain would succeed the fall of the mercury.

The hypothesis, propounded by Mr. Chambers, is somewhat similar to that of Leibnitz, and liable to the same objection. It is as follows: suppose any number of watery vehicles floating in any part of the atmosphere, over any determinate portion of the globe; if the upper vehicles be condensed by the cold of the superior regions, their specific gravity will be increased, and they will descend; where meeting with other vehicles not yet precipitated, they will coalesce, or run into larger vehicles, by the known laws of attraction. Or, if we rather choose to have the wind set, let it drive either horizontally or obliquely, some vehicles will be driven against others; by which means likewise will the particles coalesce, and form new and larger vehicles as before; so that their number, which before was, suppose a million, will now be reduced, v. g. to a hundred thousand.

But by the same coalition whereby their number is diminished, their specific gravity, if we may so call it, is increased, i.e. they come to have more matter in the same space, or under an equal surface; as may be easily proved from principles of geometry: for in augmenting the mass of any homogeneous body, the increase of surface does not keep pace with that of the solidity; but that of the former is as the square of the diameter, and that of the latter as the cube of the former.

But since the same quantity of matter is now in a less space or under less dimensions, it will lose less of its weight by the resistance of the medium. This is evident; for a body immersed in a fluid loses nothing of its weight but by the friction of its parts against those of the fluid; but the friction is evidently as the surface; therefore, when the surface is increased, the resistance must be too. Consequently, the vehicles, whose gravity before the coalition was equal to the resistance of the medium, now that resistance is diminished, will descend; and that with a velocity in the ratio of the increase of the masses to the increase of the surface.

In their descent, as they arrive at denser parts of the atmosphere, their mass and surface again will be increased by new coalitions; and thus, by constant fresh acreions, more than equal to the constant resistances, they will be enabled to pursue their journey through all the regions of the air, till they reach the earth; their masses exceedingly magnified, and in the form of rain.

Now that the vapours have got down, let us consider how the barometer must have been affected during their passage.

Before any of the vehicles began to subside, either from the action of the cold, or of the wind, they all floated in a certain portion of the atmosphere, and all gravitated towards the centre. Here now, each respectively residing in a part of the medium of the same specific gravity with itself, will lose as much of its weight as is equal to that of a part of the medium of the same bulk with itself, i.e. each will lose all its weight. But then, whatever weight each loses, it communicates to the medium, which now preffes on the surface of the earth with its own weight and that of the vehicles conjunctly. Suppose then this united pressure keeps up the mercury in the barometer at thirty inches: by the coalition of the vehicles from the regions aforesaid, their surfaces, and consequently their resistance, are lessened; therefore, they will communicate less of their weight to the air, i.e. less than the whole; and consequently they will descend with the excess, i.e. with a velocity equal to the remainder, as before observed. Now, as the vehicles can act no otherwise on the surface of the earth but by the mediation of the interjacent air, in proportion as their action on the medium is less, their action on the earth will be less. It is also evident, that the surface of the earth must be now less preffed than before; and that in proportion as the vehicles refuse more of their weight communicated to the medium, to promote their own descent, i.e. in proportion to the velocity of the falling vehicles; which is
BAROMETER.

again in proportion to their bulks. Thus, as the vehicles descend, the bulks continually increasing, the friction, and therefore the pressure on the earth, and lastly the height of the mercury, will continually decrease, during the whole time of the fall.—Hence we infer, both why the vehicles, when once beginning to fall, per perreuse; why the mercury begins to fall at the same time; and why it continues and ceases to fall together with them; which were the great objec

There is one objection that evidently lies against this theory, viz. that the vehicles being put in motion, and striking against the particles of the medium and one another with force, moment, will meet with a considerable resistance from the *air* that remains, by which means their descent will be retarded, and the pressure of the atmosphere retrieved; the impetus of the moving vehicles being supposed to compen- sate for their loss of surface. Thus a heavy body sustained in a fluid by a hair, and moved up and down therein, prefers more on the bottom than when held at rest; which additional pressure will be the greater as the velocity of the falling vehicles is greater; a greater impulse being required to break through the *air* that is continually of the contiguous particles in a less time than in a larger.

But it is alleged, that we have both reason and experiment against this objection; for the velocity of the vehicles, in these circumstances, must necessarily be very small, and their impulse insensible; besides, the *air* that remains in the air must be exceedingly weak, by reason of its extreme fluidity: and it must be a very improper vehicle to convey an impulse to a distance by reason of its elasticity; we also find that a piece of lead, which is a ponderous body, falling with great moment, gravitates considerably less, in its descent through water, which is a gross undiffusible medium, than when sustained at rest therein; in which the several experiments of Reaumur, Ramazzini, and D. Franklin, all agree.

M. de Lus (Recherches, &c. vol i. p 138.) supposes that the changes observed in the weight of the atmosphere are principally produced by the presence or absence of vapours floating in it. Others have attributed the effect to vapours, but have given a different explication of it. It is his opinion, that vapours diminish the specific gravity, and consequently the absolute weight of those columns of the atmosphere into which they are received, which, notwithstanding this admixture, remain of an equal height with the adjoining columns that consist of pure or dry air. He afterwards more largely explains and vindicates this theory, and applies it to the following of the principal phenomena of the barometer, connected with or produced by the varying density and weight of the atmosphere.

Dr. James Hutton, in his "Theory of Rain" (see Rain), printed in the Edinburgh Transactions, vol. i. p. 41, &c. suggests several plausible reasons in favour of his opinion, that the diminution of the weight of the atmosphere by the fall of rain is not the cause of the fall of the barometer; but that the principal, if not the only cause, is to be sought for in the communions of the atmosphere that are chiefly produced by sudden changes of heat and cold in the air. "The barometer," he says (p. 78.), "is an instrument necessarily connected with motions in the atmosphere; but it is not equally affected with every motion in that fluid body. The barometer is chiefly affected by those motions by which there are produced accumulations and abstractions of this fluid, in places or regions of sufficient extent to affect the pressure of the atmosphere upon the surface of the earth. But as every commotion in the atmosphere may, under proper conditions, be a cause for rain, and as the want of commotion in the atmosphere is naturally a cause of fair weather, this instrument may be made of great importance for the purpose of meteorological observations, although not in the certain and more simple manner in which it has been, with the increase of science, so successfully applied to the measuring of heights."

In the "Encyclopædia Britannica," art. Barometer, we have another theory of changes in the barometer, as depending on the heat in the atmosphere, not as producing communions in it, but as altering the specific gravity of the air by the variations of heat and cold. The preliminaries to this hypothesis are: 1st. That vapour is formed by an intimate union between the elements of fire and water, in consequence of which the fire or heat is totally enveloped, and its action is entirely extinguished by the water molecules, that it not only loses its properties of burning and of giving light, but becomes incapable of affecting the most sensible barometer, in which case, it is said by Dr. Black, the author of this theory, to be in a latent state. 2dly. If the atmosphere be affected by any unusual degree of heat, it thence becomes incapable of supporting so long a column of mercury as before, for which reason the barometer falls.

From these primary principles or axioms it is inferred, that as vapour is formed by an union of fire with water, whether by an elective attraction or a solution of the water in the fire, the vapour cannot be condensed till this union, attraction, or solution be at an end. Hence it follows that the commencement of the condenstion of the vapour, or the first signs of approaching rain, must be the separation of the fire which is latent in the vapour. This may at first be flow and partial, or it may be sudden and violent; in the first case the rain will come on slowly, and after a considerable interval; in the other it will come on very quickly and in a great quantity. But Dr. Black has proved, that when fire quits its latent state, however long it may have lain dormant and insensible, it always re-attains its proper qualities, and affects the thermometer as if it had never been absorbed. The consequence of this must be, that in proportion the latent heat is discharged from the vapour, those parts of the atmosphere into which it is discharged, will be sensibly affected by it; and in proportion to the heat communicated to those parts, they will become specifically lighter, and of coarse the mercury will sink. When the separation between the fire and water is gradual and slow, the barometer may indicate rain for a considerable time before it happens; or if the sensible heat should be absorbed by the colder parts of the atmosphere, or by any means be prevented from affecting the specific gravity of the air, the barometer will not be affected; and yet the water, deprived of the heat, that is necessary for sustaining it, must descend in rain; and hence it happens, that the indications of the barometer are not always just. Hence it also appears, that though the specific gravity of the air is diminished, unless this diminution proceeds from a discharge of the latent heat contained in the vapours, no rain will follow; and thus the sinking of the barometer may prognosticate wind as well as rain, or sometimes no change at all. The great descent of the mercury in the barometer between the tropics in the time of hurricanes, noticed by Dr. Halley, is ascribed, as to its probable cause, to a great commotion in the electric fluid, by which the air is internally agitated, and its gravitation in part suspended.

In the fourth volume of the "Memoirs of the Literary Society of Manchcr," we have a curious paper on this subject, viz. "Meteorological Observations made in different parts of the Western Coast of Great Britain," arranged by T. Garnett, M. D. The materials of this paper were furnished by several observers; but those of Mr. Copland,
BAROMETER.

Copland, surgeon at Dumfries, are of peculiar importance. This gentleman is of opinion that the changes of the barometer indicate approaching cold and hot weather, with much greater certainty than dry and wet. "Every remarkable elevation of the barometer, he says, when it is of any duration, is followed by very warm or dry weather, and moderate as to wind, or by all of them; but heat seems to have most influence and connection; and when it is deficient, the continuance of the other two will be longer and more remarkable; therefore the calculation must be in a compound ratio of the excess and deficiency of the heat and of the dryness of the weather in comparison of the medium of the season; and with regard to the want of strong wind, it appears to be intimately connected with the fall, as they show that no precipitation is going on in any of the neighbouring regions." 

In his 14th and 15th remarks, he had said,

14th. That the barometer being lower, and continuing so longer than what can be accounted for by immediate falls, or stormy weather, indicates the approach of very cold weather for the season; and also cold weather, though dry, is always accompanied by a low barometer, till near its termination.

15th. That warm weather is always preceded and mortly accompanied by a high barometer; and the rising of the barometer in the time of broken or cold weather, is a sign of the approach of warmer weather: and also if the wind is in any of the cold points, a sudden rise of the barometer indicates the approach of a bitterer wind, which in winter generally brings rain with it.

In the two following remarks Mr. Copland had explained certain phenomena from a principle similar to that on which Dr. Darwin has so much insisted. (Botanic Garden, I. notes p. 79. &c.)

' That the falling of the barometer may proceed from a decomposition of the atmosphere occurring around or near that part of the globe where we are placed, which will occasion the electricity of the atmosphere to be repelled upwards in fine lambent portions; or driven downwards or upwards in more compacted balls of fire; or lastly, to be carried along with the rain, &c. in an imperceptible manner to the surface of the earth; the precipitation of the watery parts generally very soon takes place, which diminishes the real gravity of the atmosphere, and also by the decomposition of some of the more active parts, the air loses part of that elastic and repulsive power which it formerly possessed, and will therefore resist with less force on the mercury of the barometer than before, by which means a fall ensues.

' That the cause of the currents of air, or winds, may also be this way accounted for: and in very rarefied storms, where great decomposi of the atmosphere take place, this is particularly evident, such as generally occur in one or more of the West India islands at one time, a great loss of real gravity, together with a considerable diminution of thepring of the air immediately ensues; hence a current commences, first in that direction whence the air has most gravity, or is most disposed to undergo such a change; but it being soon relieved of its superior weight or spring on that side, by the decomposition going on as fast as the wind arrives in the island, it immediately veers to another point, which then rotes in mortly with an increase of force; thus it goes on till it has blown more than half round the points of the compass during the continuance of the hurricane.

For in this manner the West India phenomena, as well as the alteration of the wind during heavy rains in this country, can only be properly accounted for.' See remark, No. 4.

Mr. C.'s 4th aphorism is, 'That the heaviest rains, when of long continuance, generally begin with the wind blowing calmer, when it gradually veers round to the south; and that the rain does not then begin to cease till the wind has got to the west, or rather a little to the northward of it, when, it may be added, it commonly blows with some violence.'

Mr. Kirwan, in an elborate paper on this subject (see Irish Transactions, vol. ii. p. 49. &c.) examines the different causes to which the phenomena of the barometer have been ascribed. He begins with the influence of different temperatures. It appears, he says, by observation, that a variation of the maps of the atmosphere is not a necessary consequence of an alteration of the temperature; for the mercury is often at the same height at different seasons, and at different places in the same season; and even when the height of the mercury changes simultaneously with the temperature, the change is often directly contrary, to that which the change of temperature would lead one to expect. Besides, great changes of temperature take place only in the lower atmosphere; but in the higher regions they are inconceivable. Any increment or decrement of the maps of the lower atmosphere that can be ascribed to a change of temperature, is too small to produce any considerable alteration in the height of the barometer; for in winter the height to which any considerable variation of temperature may be supposed to extend, scarcely exceeds 5000 feet, as we learn from the testimony of astronomers, and the height of the clouds; and indeed the winds that prevail on the surface of the earth, and which are the primary agents in producing a change of temperature, seldom reach higher, and in the more northern regions not so high. This cause, the effect of which is estimated by calculation, and compared with the actual variation, though not absolutely insufficient, on the supposition that the whole maps of the superfinecurrent column is increased by the accession of new air in proportion to the condensation, is nevertheless inadequate to the effect produced.

Mr. Kirwan next examines the efficacy of winds in producing the variations of the barometer; and these are such as reign in the lower regions of the atmosphere. If, according to Dr. Halley's theory, the rise of the barometer above its mean altitude were owing to the accumulation of air over the place of observation, occasioned by two contrary winds blowing towards that place, we should always have a calm when the wind is highest, but it is notorious, that the greatest mercuorial heights are accompanied by an easterly or northerly wind, as Halley himself has observed. Nor can that equality of barometrical heights, which takes place in very distant countries, where very different winds prevail, be explained by this hypothesis. This hypothesis attributes the defect of the mercury below its mean altitude to the rarefaction of the atmosphere over the place of observation, which rarefaction is owing to its exhibition by two contrary currents; for instance, over England, if it should blow a westerly wind on the German, and an easterly wind on the Irish sea. But Mr. Kirwan thinks, that a rarefaction in such circumstances from such a cause is impossible; for if such currents took place, the northern or southern air would flow in to maintain the equilibrium in the same proportion; or if this did not happen, and that four contrary currents took place, the higher air should descend, and cause a sensible cold, which yet is seldom observed in England, when the mercury is low; on the contrary, a warm south wind commonly prevails, to whose temperature nevertheless the rarefaction cannot be ascribed. Dr. Halley's explication of the defect of the mercury on high winds in

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BAROMETER.

florms appears to Mr. Kirwan to be unsatisfactory. "The region of the earth," says Halley, "wherein those winds rage, not extending round the globe, the isazant air left behind and that on the sides cannot rush in fall enough to refote the evaporation made by so swift a current, so that not must be attenuated where the fald winds continue to blow."—"Add that the horizontal motion being fo quick may take off some part of the perpendicular prufure." This fall reafon seemed to acquire fome confirmation from an experiment made by Mr. Hawfbee; for having pafted a stream of air through a box in which the lower flank of a barometer was infected, he obferved the mercury to fall while the current paffed through the box; as also in another barometer which communicated with the box, wherein the current of air did not faw. Allowing this, the phenomenon is not sufficiently explained; for Mr. Kirwan obferves, that not only during the fform, but feveral hours, if not days, before it, the mercury defends confiderably, as Halley himfelf, and all who recommend the marine barometer, affert; otherwife this inftrument would be ufelefs. Mr. Cafwell obferves (Phil. Tranf. Abtr. vol. viii. p. 458), that two days before the great fform of January 1734-5, the mercury fell \( \frac{1}{2} \) of an inch below 28 inches. But if the fall were concomitant with the fform, Dr. Halley's reafons would not prove their connection. In order to a body's moving through air with fuch a velocity as to leave a vacuum behind it, there is a necefity that it fhould move at the rate of 11 or 1500 feet per fecond, as appears by the obfervations of Mr. Brice and many others. (See Phil. Tranf. for 1766, p. 266.) The inefficacy of the fecond reafon alleged by Dr. Halley has been clearly fhewn by M. de Luc; nor is the experiment of Mr. Hawfbee confufive, as it appears that part of the air already confined in the boxes was forced out by the blaff of air; and besides, Mr. Derham obferved that during the greatest vehemence of fform, the mercury rises instead of falling lower. (Phil. Tranf. Abtr. vol. iv. pt. 2 p. 77.) Mr. Kirwan made the fame obfervation on the 28th of February 1785, in London.

The third hypothifis is that of thofe who ascribe the variations of the barometer to the presence or abfence of vapours in the atmosphere; but Mr Kirwan infers, from a view of the nature of vapours, and the change they produce in the weight and elafcity of the atmosphere, that this theory does not fully account for the phenomenæ. If we fuppofe, fays he, the atmosphere perfectly dry, the barometer at 30 inches, and the thermometer at 65°, and then a column of it to be faturated with moisture, its elafcity being inereafed \( \frac{1}{2} \), which, according to his computation, would be the cafe, it will contain \( \frac{1}{2} \) of its volume lefs air than before faturafion, fince the inereaf of its elafcity arifes from the introduction of a new chufic fluid amounting to \( \frac{1}{2} \) of its bulk; and fince the weight of the whole volume was at fit equal to that of 30 inches of mercury, its weight will now be leffened by \( \frac{3}{4} \) of 30 inches, that is nearly 0.59 of an inch. But on the other hand, it gained \( \frac{1}{2} \) of its volume of vapour, and therefore its real lefs of weight will be the difference of the weight of \( \frac{3}{4} \) of air, and of \( \frac{3}{4} \) of vapour; but the weight of air is to that of vapour as 12 to 10, therefore the gain here is 0.49 of an inch, which deducted from 0.59 the lefs, leaves the lefs \( \frac{1}{2} \) of an inch. According to this, the variation which the barometer fhould undergo by the paffage of a column of air from abolute dryness to complete faturafion; a circumference which never takes place, as the atmosphere is never abolutely dry; and yet prevailed to heavy rains, we often obferve the barometer to fall 3, 4, or 5 tenths of an inch; a fall which, from the above calculation, cannot originate from the faturafion of the atmosphere with vapour. Nor is there any proportion between the fcent of mercury after heavy rains, and the weight of vapour condenfed; for in fuch cafes, the mercury frequently falls 3 or 4 tenths of an inch; and yet the heaviest rain seldom produces one cubic inch of water, and the weight of a cubic inch of water is not equal to that of even one tenth of a cubic inch of mercury.

Mr. Kirwan, having examined the cauaces to which the variable weight of the atmosphere and height of the barometer have been ufually referred, and controverted their deficiency, proceeds to explain that which alone seems to him adequate to the effects produced. This, in his opinion, is the accumulation of air over those parts of the globe in which the mercury exceeds its mean height; that is, the height fuited to its situation; and the diminution or subtraction of the natural quantity of air over those regions in which the mercury falls beneath its mean height. In order to trace the origin of this accumulation and diminution, this ingenious author confiders what may be called the natural state of the atmosphere, and how that state may be disturbed. The natural state of the atmosphere is that in which the barometer on the level of the fea would fland at 30 inches in fereine weather, conformably to the fifth obfervation above mentioned. For producing this state, the weight of the atmosphere must be every where equal at the furface of the fea; and as its weight proceeds from its density and height, in order to obtain this equality of weight, it fhould be lowest where its density is greatest, and highest where its density is leaft; and these extremes of density take place in the equatorial and polar regions. Hence it follows, that if the height of the mercury be 30 inches under the equator and under the poles, the atmosphere must be heigher under the equator and lower under the poles, with feveral intermediate gradations. (See Figure of the Atmosphere.) But though the equatorial air be lefs dense to a certain height than the polar, yet at certain greater heights it must be more dense; for the mercurial heights at the level of the sea being equal, the maflies of the coreresponding atmospheric columns must be equal. The fame obfervation applies to the extratropical columns with refpect to each other, where great differences of heat prevail. Hence it follows, that in the higher regions of the atmosphere, the denser equatorial air, not being supported by the collaterel extratropical columns, gradually flows to the north and south. If the influence of the northern and southern air to the equator by the trade winds kept pace with the influence of the superior air, some degree of equilibrium might still be maintained. But the trade winds move only at the rate of about 8 miles an hour; whereas without the tropics, or at least beyond latitude 30°, the currents of the upper atmosphere are incomparably more rapid. The mean heat of the whole space between latitude 60° and latitude 30° being only seven degrees lefs than the mean heat under the equator, the diference of density is not fo great as to caufe any rapid feparafion of the superior columns within that space; but from latitude 30° to latitude 60°, a much fmalter space, the mean annual heat over the oceans differs from that of latitude 30° by nearly fourteen degrees; and, therefore, the rapidity of the upper current towards the polar regions is much greater, and will occasion frequent interruptions, during which the weight of the air will be diminished. Hence, notwithstanding the high winds that frequently prevail between the tropics, the barometer inconvertibly and but seldom varies; whereas, without them, the variations are frequent and considerable, nearly in proportion to the distance from the equator; and thus
thus the second observation is sufficiently explained. During
the summer of the northern hemisphere, when it is win-
ter in the southern, the density of the equatorial air becomes
superior to that of the southern air at a much lower height
than that at which it becomes superior to the northern,
which is expanded by the presence of the sun in the northern
tropic; the exuberance will therefore be poured on the south-
ern region, and a smaller quantity will flow over the north-
ern; consequently the variations of the barometer are
smaller with us in the summer season. In winter, on the
contrary, the superior current is chiefly directed toward
the northern hemisphere, and hence the greatest mercurial
heights are found in this season; and thus the third observa-
tion is illustrated and confirmed. This accumulation takes place
where the columns of the inferior air are cold and short, and
as over that part of Asia beyond latitude 35°, and east of the
Caspian Sea to the Frozen ocean, and over the continent of
North America; and hence the barometer usually stands
higher in North America, and varies less than with us even
in Hudson's bay, latitude 59°. Accumulations are also
found in the southern parts of the old continent; and
when the rarefaction in the northern parts of Europe is fre-
cent and considerable, the southern air flows from these
tracts to restore the equilibrium, and while this current lasts,
the barometer must fall in the intermediate regions; so that
the descent of the mercury is never the effect of a
wotherly wind, but both it and this wind are the concomitant
effects of a rarefaction in the northern parts. On the other hand,
the mercury generally rises under a northerly or easterly wind,
because the superior atmosphere is accumulated chiefly in
those parts of our hemisphere from whence those winds blew,
and this accumulated air falls with them to the southern
regions. In the same manner, when the mercury falls before
a storm, both the storm and this fall proceed from a great
rarefaction of the air in the quarter towards which the storm
blows, and this rarefaction is occasioned by the diminution
or destruction of the superior atmosphere. As the superior
accumulation is derived to us chiefly from North America,
hence it is that the variations of the barometer generally
begin to the westward with us in Europe, and are thence
gradually propagated easterwards. In spring the current of
superior air begins to flow to the south, and in autumn to
return from it; hence the equinoctial storms and frequent
variations of the barometer in those seasons. The quantity of
equatorial air devolved on our hemisphere in different
years is variable, and so is the quantity confined in the
northern regions; and hence the mean barometrical height
is different in different years. In some years, the accumula-
tion reposing on the mountainous countries of the south of
Asia and Europe, and the northern part of Africa, is greater
than in other years; owing perhaps to a greater or earlier
fall of snow; when this is the case, the northern air is
lighter, and the southern colder than usual, and southerly winds
principally prevail, which in the northern parts must seem
to be comparatively warm; and hence, when the winter is re-
markably severe in the south of Europe and Asia, it is often
as remarkably mild in the northern parts, and the barometer
low. Although clouds and a disposition to rain frequently
follow the descent of the mercury, this defect is not the
immediate consequence of either clouds or rain; on the con-
trary, the mercury frequently rises during rain. But the
rarefaction of the atmosphere, which produces the defect
of the mercury, and which arises from the removal of the
superior accumulation, is favorable to the production of
clouds; as a heavy atmosphere, though it supports vapours
once formed, obstructs evaporation; when therefore its
weight is diminished, and evaporation increased, it soon be-
comes saturated in the higher regions, and clouds are formed.

But rain seems to arise from a subduction of the electrical
fluid, which, when the air abounds with vapours, is easily
carried to the earth. In serene and settled weather the
mercury is generally high, because the greatest disturbances
of the atmosphere are connected with its rarefied state, which
is commonly pretty distant when the superior accumulation
is considerable.

That the variations of the mercurial heights should be
greater at the level of the sea than at great elevations above
that level, is very natural. For supposing the mercury at
the level of the sea to stand at 30 inches, and at a certain
elevation above that level at 25 inches, then if the weight of
the atmosphere be diminished one hundredth part, the mer-
ccury at the level of the sea should fall one hundredth part
of 30 inches = 0.3 of an inch, but that on the elevation should
fall one hundredth of 25 inches, = 0.25 of an inch. But
it has been observed, that the variation on high mountains
is beyond all proportion smaller than on the level of the sea;
and this proceeds from a property which they seem to pos-
tess of condensing and accumulating the air incident upon
them in a greater degree than the air incident over plains is
condensed at equal heights; and hence when the barometer
on the plains falls, and that on the mountain also, it will be
found, after allowing for the difference of temperature, that
the fall is proportionably greater in the inferior than in the
superior barometer; and, on the contrary, if the mercury
ascends in both barometers, the ascent will be proportionally
greater in the superior than in the inferior. To this purpose
General Roy, found, on the 7th of August 1775, at 9 o'clock,
the correct height of a barometer at Caernarvon quay
30.075, and on the peak of Snowdon 26.405 inches; at 12
o'clock, that on the quay fell to 30.043, and that on the peak
26.405; the fall of the mercury on the plain was
therefore 0.032 of the whole, and the fall on the mountain
was only 0.045. On the other hand, at 2 o'clock, the barometer
on the quay rose to 30.054, while that on the peak rose to 26.415 inches correct height;
therefore that on the quay ascended only
1/75 of the whole, and that on the peak ascended
2/75 th part of its height. Yet as the defecents of the mercury beneath its mosit
usual mean height are much more frequent and considerable
than its ascents above it, the variations on mountains are
upon the whole proportionally smaller than at the surface
of the sea. For a more particular illustration of the theory
of Mr. Kirwan, and the collateral observations which he
deduced from it, we must refer to his paper, ubi supra. See
Atmosphere, and Aurora borealis. For other proposi-
tions of the weather, besides the variations of the barometer,
see Weather.

Another important purpose to which the variations of
the barometer have been applied, is the "measurement of alti-
ditudes." Whilst M. Pecule and M. Perrier were prosecute-
ing experiments for ascertaining the weight of the air by means
of the barometer, as early as the year 1668, they found that
the mercurial heights varied according to the situations,either
more elevated or more depressed, in which the barometer
was placed; and hence they concluded, that this instrument
might serve to determine how much one place was higher
than another. M. Pecule was not unacquainted with the
dilatability of the air, and he was therefore apprized of
one of the difficulties that have attended experiments of
this nature. The first person who estimated the height of
the atmosphere on these principles was Kepler; but hav-
ing, from ill-conducted experiments, very erroneous ideas of
the proportional specific gravities of mercury and air, he
rejected it at only two or three English miles. The Honorable
Mr. Boyle, deducing from experiments the proportion of the
specific gravity of mercury to that of air to be 1 to
14000.
1.050, and supposing the atmosphere to be equally dense, calculated its height to be twice as great as Kepler's measure or at least 35000 feet. But when the elasticity of the air was found to be in an inverse ratio of the space which it occupied, or that its condensation was proportional to the weight that compressed it, and of course that its dilatations were in the inverse proportion of the compressing weights, a property first discovered by Mr. Richard Townley, and demonstrated by Mr. Boyle, the height of the atmosphere was more accurately ascertained. Mr. Boyle's experiments to this purpose were published in 1661, in his "De Rebus et Experimentis," and exhibited the preceding year before the Royal Society. The law of the dilatation of the air was discovered also by M. Mariotte, and he published an account of his experiments for ascertaining it, in 1676, in his "Essai pour la Nature de l'Air," and "Tracté des Mouvements des Eaux." This law was generally admitted by philosophers, and it was confirmed by observation in all climates and at all times. To this purpose, M. Bouguer (Mem. Acad. Roy. Sc. 1753) gives us the result of the experiments made by himself and M. de la Coudamme in America; and he says that he found, without any exception, that the solidities of the same mass of air exactly corresponded to the ratio of the densities. M. Mariotte applied this general law to the investigation of the total height of the atmosphere. With this view, he collected many observations of the barometer made at small heights; and he was the first person who suggested the use of logarithms in estimating heights by the density of the mercury in the barometer, though the method had been generally ascribed to Dr. Halley, and Halley indeed framed tables of logarithms in the calculation of atmospheric altitudes. See Phil. Trans. No. 181, or Abstr., vol. ii. p. 1. Dr. Halley, assuming the specific gravity of the air to be 1, when the barometer stood at 36 inches, and in a mean state of heat and cold, to be 1.005, and that of mercury to water 131 to 1, (so that the weight of mercury to air is 10.806 to 1. or a cylinder of air of 10806 inches or 900 feet is equal to an inch of mercury,) inferred from these premises, that if the air were of equal density, like water, the whole atmosphere would be no more than 5.1 miles high; and that for an ascent of every 900 feet, the barometer would sink an inch. But the expansion of the air increasing in the same proportion as the incumbent weight of the atmosphere decreases, the upper parts of the air are much more rarefied than the lower, and every space corresponding to an inch of quicksilver is gradually enlarged, and therefore the barometer must be extended to a much greater height. As these expansions of the air are reciprocally as the heights of the mercury, they were be represented for any given mercurial height by means of the hyperbola and its auxiliary hyperbolic. Thus, in Plate XI. Pneumatics fig. 58 the rectangles ABC, AKG, ALD, &c. are equal; and consequently the sides CB, KG, LD, &c. are reciprocally as the sides AB, AK, AL, &c. (See HYPERBOLA.) If then AB, AK, AL, &c. be supposed equal to the heights of the mercury, or the corresponding pressures of the atmosphere, the lines CB, KG, LD, &c., answering to them, will be as the expansions of the air under those pressures, or the bulks which the same quantity of air will occupy; and if these expansions be taken infinitely numerous and infinitely small, their respective sums will give the spaces of air between the several heights of the barometer; i.e. the sum of all the lines between CB and KG, or the area CBKG, will be proportional to the distance of the interval intercepted between the levels of two places in the air, where the mercury would stand at the heights represented by the lines AB, AK; and, therefore, the spaces of the air answering to equal parts of mercury in the barometer are as the areas CBK, GKL, DLMF, &c.; but these areas are proportional to the logarithms of the numbers expressing the ratio of AK to AB, of AL to AK, of AM to AL, &c. Thus, by the common table of logarithms, the height of any place in the atmosphere, having any assigned height of the mercury, may very easily be found; for the line CB in the hyperbola, the areas of which represent the tabular logarithms, being 0.0414765, we shall have the following proportion: as 0.144765 is to the difference of the logarithms of 30 and of any lesser number, so is the space answering to an inch of mercury, if the air were equally pressed with 30 inches of mercury, and every where alike, or 900 feet, to the height of the barometer in the air, where it will stand at that lesser number of inches. By the converse of this proportion, the height of the mercury may be found corresponding to the given altitude of the place. It should be observed, that the number 0.0414765 is the mean between 0.0414732, the difference of the logarithms of 30 and 29; and 0.0014294, the difference of the logarithms of 30 and 31. The first difference represents the mean density of the air between the heights of 30 and 29 inches indicated by the barometer; and the second difference represents the mean density between 30 and 31; and the density of the air at 30 inches is the mean between these two densities. This calculation of Dr. Halley is founded on the supposition of equal and uniform gravity; but Sir Isaac Newton resolved the problem more generally (Proc. Phil. Trans. Nat. Math. Phys. § 52), and extended it to the true state of the case, where gravity is as the square of the distance inversely; and he showed, that when the distances from the earth's centre are in harmonic progression, the densities are in geometric progression. He also showed, in general, that by the same method, on any supposition of gravity, will produce a geometrical progression of the densities. See also Cotes's "Hydrometrical Lectures," and "Harmonics Menfurarium," and the article Height of the Atmosphere, and Atmospheric Logarithms in this dictionary. By these rules Dr. Halley calculated the following table:

<table>
<thead>
<tr>
<th>Inches</th>
<th>Miles</th>
<th>Feet</th>
<th>Given Altitudes</th>
<th>Feet</th>
<th>Inches</th>
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<tr>
<td>30</td>
<td>0</td>
<td>915</td>
<td>0.00</td>
<td>1.00</td>
<td>29.0</td>
</tr>
<tr>
<td>29</td>
<td>0</td>
<td>866</td>
<td>0.00</td>
<td>0.90</td>
<td>28.9</td>
</tr>
<tr>
<td>28</td>
<td>0</td>
<td>814</td>
<td>0.00</td>
<td>0.80</td>
<td>28.8</td>
</tr>
<tr>
<td>27</td>
<td>0</td>
<td>761</td>
<td>0.00</td>
<td>0.70</td>
<td>28.5</td>
</tr>
<tr>
<td>26</td>
<td>0</td>
<td>707</td>
<td>0.00</td>
<td>0.60</td>
<td>28.3</td>
</tr>
<tr>
<td>25</td>
<td>0</td>
<td>642</td>
<td>0.00</td>
<td>0.50</td>
<td>28.0</td>
</tr>
<tr>
<td>24</td>
<td>0</td>
<td>576</td>
<td>0.00</td>
<td>0.40</td>
<td>27.7</td>
</tr>
<tr>
<td>23</td>
<td>0</td>
<td>507</td>
<td>0.00</td>
<td>0.30</td>
<td>27.5</td>
</tr>
<tr>
<td>22</td>
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<td>438</td>
<td>0.00</td>
<td>0.20</td>
<td>27.3</td>
</tr>
<tr>
<td>21</td>
<td>0</td>
<td>368</td>
<td>0.00</td>
<td>0.10</td>
<td>27.0</td>
</tr>
<tr>
<td>20</td>
<td>0</td>
<td>297</td>
<td>0.00</td>
<td>0.00</td>
<td>26.7</td>
</tr>
</tbody>
</table>

Upon these suppositions it appears, that at the height of 41 miles, the air is so rarefied as to take up 3000 times the space it occupies here; and at 53 miles high it would be expanded...
BAROMETER.

expanded above 35,000 times: but it is probable, says Dr. Halley, that the utmost power of its spring cannot exert itself to fo great an extension, and that no part of the atmosphere reaches above 45 miles from the surface of the earth. However, it follows, from the principles above stated, that the air has a finite density at an infinite distance from the centre of the earth, or such as would be represented by an ordinate drawn through the centre. But at great distances its rarity would be so great, that its resistance would be insensible, though the retardation occasioned by it has been accumulated for ages. At the moderate distance of 500 miles, the rarity is so great that a cubic inch of common air expanded to that degree would occupy a sphere equal to the orbit of Jupiter; and the whole retardation caused by this planet, after five millions of years, would not exceed what would be occasioned by its meeting with one particle of matter weighing half a grain. Hence it may be reasonably inferred, that the visible universe is occupied by air, which, by its gravitation, will accumulate itself round every body in it, in a proportion depending on their respective quantities of matter; the larger bodies attracting more of it than the smaller ones, and thus forming an atmosphere about each.

Dr. Halley observes, that as the weight of the atmosphere is different at different times, its lower parts will be unequally pressed, and consequently its specific gravity will be also variable. This variation he partly attributes to the effect of heat and cold, and also to the influence of other causes; but he was of opinion, that the condensation and rarefaction, occasioned by cold and heat, and by the various mixtures of aequus and other vapours, compensate one another; for he says, that when the air is rarefied by heat, the vapours are more copiously raised; to that though the air, properly so called, be expanded and consequently becomes lighter, yet, its interferences being crowded with vapours and other matter specifically heavier, the weight of the compound may continue much the same.

He alleges an experiment of Mr. Caswell upon the summit of Snowdon hill to prove, that the first inches of mercury have their portions of air sufficiently near to what he has determined; for the height of the hill being nearly 1340 yards, Caswell found the mercury to have subsided to 25.6 inches, or 4 inches below the mean altitude of it at the level of the sea, and by his own calculation the space answering to 4 inches should be 1588 yards.

M. De Luc has given an historical and critical detail, in his "Recherches," vol. 1, p. 159, &c. of the attempts that have been made, and of the rules that have been proposed, by Maraldi, Scheuchzer, L. Caffini, D. Bernouilli, Horresbow; and Bouguer, as well as those of Pascal, Pierer, Mariotte, and Halley, for applying the motion of the mercury in the barometer to the measurement of altitudes. But the subject has been further pursued, and with a peculiar degree of accuracy, by De Luc himself, Sir Geo. Shuckburgh, and Gen. Roy, as we shall shew in the sequel of this article.

From the experiments of Boyle, Mariotte, Amontons, and others, it was inferred that the elasticity of the air is very nearly proportional to its density; and this principle, denominated the "Boylean law," was assumed by almost all writers on this subject. Thence experiments, however, were not very nice; nor were they extended to any great degrees of compresion, as the density of the air was not quadrupled in any of them. By the later and more accurate experiments of Sulzer (Mem. Brux. vol. 1.) Fontana (Quinta Phylaco-Math.), M. De Luc, sir George Shuckburgh, and Gen. Roy, it has been found that the elasticity of the air does not incaerse quite so fast as its density. From the Berlin experiments it appears, that the elasticity of the air of the temperature 55°, or the compressing force, increases so much more slowly than the density, that if the compressing force be doubled, the density will exceed the double by about a tenth part, &c. The law of this variation is expressed with tolerable exactness, by supposing that if D be the density of the air, and F the force compressing it, then

\[ D = F \times n \]

where \( n \) being a very small fraction, nearly 0.015. But new experiments are wanting to ascertain the law of this inequality with precision. Nevertheless, the general result has been, that the elasticity of rarefied air is very nearly proportional to its density; and the Boylean law may in general be allowed in cases of the greatest practical importance, or when the density does not much exceed or fall short of that of ordinary air. See Elasticity of the Air.

If we suppose the air to be of the temperature of 32° of Fahrenheit, and the mercury to stand in the barometer at 30 inches, we may allow \( \frac{1}{4} \)th of an inch for its descent if it be elevated 87 feet; and, accordingly, if the air were equally dense and heavy everywhere, the height of the atmosphere would be 30 x 10 x 87 feet, or about 5 miles. But as the air is an elastic fluid, whose density is always proportional to the compressing force, the altitude of the atmosphere will be much greater; and the method of calculating it by Dr. Halley and others, admits of a familiar illustration. Suppose then that a prismatic or cylindrical column of air, reaching to the top of the atmosphere, were divided into an infinite number of layers or strata of very small but equal thicknesses, and that every one of the particles of air that form these strata were of the same weight at all distances from the surface of the earth; it is plain, that the quantity of air in each stratum is as the density of the stratum, or as the compressing force, that is, the weight or quantity of matter of the superior and incumbent strata; consequently the quantity of air in each stratum is proportional to the superincumbent air; but the quantity in each stratum is the difference between the column on its bottom and on its top, and, therefore, these differences are proportional to the quantities of which they are the differences. But in a series of quantities proportional to their differences, the quantities themselves and their differences will be in continued geometrical progression: e.g. let \( a, b, c \) be three such quantities; then \( b : c :: a - b : b - c \); and, by alternation, \( b : a - b :: c : b - c \); and, by composition, \( b :: a + c \); a and \( b :: a + c \). Hence it appears that the densities of the strata decrease in a geometrical progression; that is, when the elevations above the centre or surface of the earth increase, or their depths under the top of the atmosphere decrease, in an arithmetical progression, the densities decrease in a geometrical progression. This principle may be applied to the purpose of measuring atmospheric altitudes in the manner of Dr. Halley above stated, or by means of that species of logarithmic curve, called from this application and use of it the "atmospherical logarithmic." (See Logarithmic Curve, and Atmospheric Logarithmic.) Let \( ARQ \) (fig. 99) represent the section of the earth by a plane passing through its centre \( O \), and let \( mOAm \) be a vertical line, and \( AE \), perpendicular to \( OA \), will be an horizontal line passing through \( A \), a point on the surface of the earth. Let \( AE \) represent the density of the air at \( A \); and let \( DH \), parallel to \( AE \), be taken in proportion to \( AE \), as the density at \( D \) is to the density at \( A \); and hence it is evident, that if a logarithmic curve \( EHN \) be drawn, having \( AN \) for its axis, and passing through the points \( E \) and \( H \), the density of the earth at any other point \( C \) of this vertical line, will be represented by \( CH \), the area of the curve in that point; because it is the property of this curve, that if portions \( AB, AC, AD \), of its axis be taken in arithmetical
BAROMETER.

With geometrical progression, the ordinates $AE, BF, CG, DH,$ will be in geometrical progression. It is another fundamental property of this curve, that if $EK$ or $HS$ touch the curve in $E$ or $H,$ the subtangent $AK$ or $DS$ is a constant quantity. Moreover, the infinitely extended area $MAEN$ equal to the rectangle $KAEL,$ of the ordinate and subtangent; and the area $MDNH$ equal to $SD \times DH,$ or to $KA \times DH,$ and, therefore, the area lying beyond any ordinate is proportional to that ordinate. These properties are analogous to the principal circumstances in the constitution of the atmosphere, on the supposition of equal gravity. The area $MCGN$ represents the whole quantity of aerial matter above $C,$ for $CG$ is the density at $C,$ and $CD$ is the thickness of the stratum between $C$ and $D,$ and, therefore, $CGHD$ will be as the quantity of air in it, and $O$ of all the others, and of their sums, or of the whole area $MCGN;$ and as each ordinate is proportional to the area above it, so each density, and the quantity of air in each stratum, is proportional to the quantity of air above it; and as the whole area $MAEN$ is equal to the rectangle $KAEL,$ so the whole air of variable density above $A$ might be contained in a column $KA,$ if, instead of being compressed by its own weight, it were without weight, and compressed by an external force equal to the preface of the air at the surface of the earth; and, in this case, its uniform density would be expressed by $AE,$ the measure of the density of the surface of the earth, and it would form what may be called the homogenous atmosphere. Hence it follows, that the height of this atmosphere is the subtangent of that curve, whose ordinates are as the densities of the air at different heights, on the supposition of equal gravity. In order to determine this subtangent, we may compare the densities of mercury and air; or, for a column of air of uniform density, reaching to the top of the homogenous atmosphere, counterbalances the mercury in the barometer. From the best experiments it is inferred, that when mercury and air are of the temperature of $32^\circ$ Fahrenheit, and the barometer stands at 50 inches, the mercury is nearly 10440 times denser than air; consequently the height of the homogenous atmosphere is 10440 x 30 inches = 313200 inches = 26100 feet = 8700 yards = 5 miles wanting 20 yards. Or we may compute this height by observing the variations of the barometer at known altitudes, thus; when the mercury and air are of the above temperature, and the barometer on the sea-shore stands at 30 inches, an ascent of 883 feet will cause it to fall to 29 inches. Moreover, in all logarithmic curves having equal ordinates, the portions of the axes intercepted between the corresponding pairs of ordinates, are proportional to the subtangents; and the subtangent of the curve belonging to our common tables is 0.4342945; and the difference of the logarithms of 30 and 29, which is the part of the axis intercepted between the ordinates 30 and 29, or 0.0147233: 0.4342945:: 883: 26046 feet = 8680 yards = 5 miles wanting 20 yards, differing from the former result 20 yards. This difference results from the difficulty of accurately ascertaining the respective densities of mercury and air, and also of duly estimating the elevation which causes a fall of one inch in the barometer. This investigation, however, proceeds upon the supposition of equal gravity; whereas it is well known, that the weight of a particle of air decreases as the square of its distance from the centre of the earth increases. In order, therefore, that a superior stratum may produce an equal preface at the surface of the earth, it must be denser, because a single particle of it gravitates less; consequently, the density at equal elevations must be greater than on the supposition of equal gravity, and the law of its diminution must be different.

Make $OD = OA : OA = O;\ OC : OA = OA : Oe;\ OB : OA = OA : Ob, \&c.:$ so that $Od, Oe, Ob, OA,$ may be reciprocals to $OD, OC, OB, OA,$ and through the points $A, B, C, D,$ make the perpendiculars $AE, bf, eg, db,$ proportional to the densities in $A, B, C, D,$ and let $CD$ be supposed exceedingly small, so that the density may be supposed uniform throughout the whole stratum. Then we shall have, $OD \times Od = OA^2 = OC \times Oe;$ and $Oe \times Od = OD : OC;$ and $Ob : Oe = Od : OD;$ and $Od : OD = OC,$ or $Oe : ed = OD : DC,$ and $ed : CD = OD : OD,$ or because $OC$ and $OD$ are ultimately in the ratio of equality, we have $cd : CD = Oc : OC = OA^2 : OC^2,$ and $cd = CD \times OA^2 \over OC,$ and $ed \times eg = CD \times eg = OA^2 \over OC;$ but $CD \times eg = OA^2 \over OC$ is as the preface at $C$ arising from the absolute weight of the stratum $CD;$ for this weight is as the bulk, as the density, and as the gravitation of each particle joined ly. But $CD$ expresses the bulk, $eg$ the density, and $OA^2 \over OC$ the gravitation of each particle. Consequently $cd \times eg$ is as the pressure on $G$ arising from the weight of the stratum $OC,$ but $cd \times eg$ is evidently the element of the curvilinear area $AMA,$ formed by the curve $EgNh,$ and the subtangents $AE,$ $bf,$ $eg,$ $ob,$ &c. &c. &c. Moreover, if $OA, Ob, Oc, Od,$ &c. be taken in arithmetical progression decreasing, their reciprocals $OA, OB, OC, OD, \&c.,$ will be in harmonical progression increasing (see Progression), because, from the nature of the logarithmic curve, when $OA, Ob, Oc, Od, \&c.,$ &c. &c. are in arithmetical progression, the ordinates $AE, bf, eg, db,$ &c., are in geometrical progression. Consequently, when $OA, Ob, OC, OD, \&c.,$ &c. &c. are in harmonical progression, the densities of the air at $A, B, C, D,$ &c. &c. are in geometrical progression; and thus the densities of the air at all elevations may be discovered. Thus, to find the density of the air at $K,$ the top of the homogenous atmosphere, make $OK = OA : OA = OL,$ and draw the ordinate $LT; LT$ is the density at $K.$

The correction for the diminished gravity of the air stated by professor Playfair (Edinb. Trans. vol. i. p. 118.) is a third proportional to the semidiameter of the earth, and the height as computed by the ordinary rule; and for different mountains, this correction is in the duplicate ratio of their heights. Dr. Horsey finds (Phil. Trans. vol. ixiv.), that in a height of 4 English miles, the diminution of density or volume from the accelerative force of gravity would be only 1/4th part of the whole, or about 4 feet; and this effect, being in the duplicate ratio of the heights, becomes at one mile high only three feet. Below the surface of the earth, it is but half the quantity; gravity within the earth being simply as the distance from the centre.
BAROMETER.

As the heights of the mercury in the barometer in all accessible elevations indicate the densities of the air at those elevations, the method of taking heights by this instrument may be illustrated in the following familiar manner.

It has already been observed, that if the mercury in the barometer stood at 30 inches, and the air and mercury be of the same temperature of 32° Fahrenheit, a column of air 87 feet thick has the same weight with a column of mercury \( \frac{4}{7} \) of an inch thick; and therefore if in ascending the mercury sinks to 29.6 inches, the interval of ascent is 87 feet. Suppose the barometer at a higher elevation to stand at 29.8 inches, and it be required to know the height to which the barometer has been carried. The flatness through which it has been raised, as the air is less compressed and rarer, must of course be thicker. The density of the first flatness may be called 300, eliminating the density by the number of tenths of an inch of mercury which its density is proportional to its density enables it to support. In the same manner the density of the second flatness must be 299. But when the weights are equal, the bulks are inversely as the densities; and when the bases of the flatness are equal, the bulks are as the thicknesses. In order therefore to obtain the thickness of the second flatness, lay 299:300::87:87.59, which denotes the thickness of the second flatness; and therefore the whole interval of the elevation of the barometer has been 174.29 feet. When the barometer at a higher elevation, say 29.8, lay 298:300::87:87.594; 29.6 298.795 the whole ascent. By this method may be computed the following table, in which the first column is the height of the mercury in the barometer, the second column is the thickness of the flatness, and the third column is the elevation above the preceding flatness, and the fourth column is the height above the first flatness.

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>30</td>
<td>00.000</td>
<td>00.000</td>
</tr>
<tr>
<td>29.9</td>
<td>87.000</td>
<td>87.000</td>
</tr>
<tr>
<td>29.8</td>
<td>87.291</td>
<td>174.291</td>
</tr>
<tr>
<td>29.7</td>
<td>87.594</td>
<td>261.875</td>
</tr>
<tr>
<td>29.6</td>
<td>87.879</td>
<td>349.734</td>
</tr>
<tr>
<td>29.5</td>
<td>88.176</td>
<td>437.930</td>
</tr>
<tr>
<td>29.4</td>
<td>88.475</td>
<td>526.495</td>
</tr>
<tr>
<td>29.3</td>
<td>88.776</td>
<td>615.151</td>
</tr>
<tr>
<td>29.2</td>
<td>89.079</td>
<td>704.260</td>
</tr>
<tr>
<td>29.1</td>
<td>89.384</td>
<td>793.644</td>
</tr>
<tr>
<td>29</td>
<td>89.691</td>
<td>883.335</td>
</tr>
</tbody>
</table>

In order to measure any elevation within the limits of this table, observe the barometer at the lower and at the upper flatness, and write down the corresponding elevations; subtract the one from the other, and the remainder is the height required. E. G. Suppose that at the lower flatness the mercurial height was 29.8, and that at the upper flatness it was 29.1.

29.1 - - - - 793.644

29.8 - - - - 174.291

619.353 the elevation required.

Without the aid of the table, let \( m \) represent the medium of the mercurial heights, and \( d \) their difference in tenths of an inch; then say, as \( m \) is to \( 300 \), so is \( 87d \) to the height required \( b \); or

\[
b = \frac{300 \times 87d}{m} = \frac{2610d}{m}.
\]

Thus in the preceding example, \( m \) is 29.45, and \( d = .7 \); and therefore,

\[
b = \frac{7 \times 2610}{2875.0} = 620.4,
\]

differing only one foot from the former value. The whole error of the elevation 883 feet, 4 inches, the extent of the table, estimated in either of these methods, is only \( \frac{4}{7} \) of an inch. It is needless however to recur to approximations, when the scientific and more accurate method first proposed by Dr. Halley is equally easy. Upon the supposition of equal gravity, as we have already shown, the densities of the air are as the ordinates of a logarithmic curve whose whole axis is the line of elevations. It has been also shown, that, in the true theory of gravity, if the distances from the centre of the earth increase in an harmonic progression, the densities will decrease in an arithmetical progression; but that the greatest elevation above the surface by but a few miles, this harmonic progression will nearly differ from an arithmetical one. Thus if \( AB, AC, AD \), are 1, 2, and 3 miles, the corresponding elevations \( AB, AC, AD \), will be nearly in an arithmetical progression also; for the earth's radius \( AC \) is nearly 4000 miles. Hence it follows that

\[
\frac{BC - AB}{BC} = \frac{1}{4000}
\]

which is a quantity altogether insignificant. We may therefore assume, that in all accessible places, the elevations increase in an arithmetical progression, while the densities decrease in a geometrical progression. Consequently the ordinates are proportional to the numbers which are taken to measure the densities, and the portions of the axis are proportional to the logarithms of those numbers. Hence it follows, that we may take such a scale for measuring the densities, that the logarithms of the numbers of this scale shall be the portions of the axis, that is, of the vertical line in feet, yards, fathoms, or any other measure; and we may, on the other hand, choose such a scale for measuring our elevations that the logarithms of our scale of densities shall be parts of this scale of elevation, and either of these scales may be found scientifically. For it is a known property of the logarithmic curves, that when the ordinates are the same, the intercepted portions of the abscissae are proportional to their subtangents. But the subtangent of the atmospheric logarithmic is known; it is the height of the homogeneous atmosphere in any measure we please, e.g., fathoms; and we find this height by comparing the gravities of air and mercury, when both are of some determined density.

Thus in the temperature of 32° Fahrenheit, when the barometer stands at 30 inches, it is known, as the result of many experiments, that mercury is 10423.068 times heavier than air; therefore the height of the counter-balancing column of homogeneous air will be 10423.068 times 30 inches, that is, 4342.945 English fathoms. It is also known that the subtangent of our common logarithmic tables, where 1 is the logarithm of the number 10, is 0.4342945. Consequently the number 0.4342945 is to the difference \( D \) of the logarithms of any two barometric heights as 4342.945 fathoms are to the fathoms \( F \) contained in the portion of the axis of the atmospheric logarithmic, which is intercepted between the ordinates equal to these barometrical heights; or that 0.4342945 : \( D \) :: 4342.945 : \( F \); but 0.4342945 is the tenth thousandth part of 4342.945, and therefore \( D \) is the tenth thousandth part of \( F \). Thus it accidentally happens, that the logarithms of the
BAROMETER.

densities measured by the inches of mercury which their
electricity supports in the barometer, are just the ten thou-
sandth parts of the fathoms contained in the corresponding
portions of the axis of the atmospheric logarithmic.
Therefore if we multiply our common logarithms by 100000,
they will express the fathoms of the axis of the atmospheric
logarithmic. Our logarithms contain the index or charac-
teristic, which is an integer, and a number of decimal places.
Let us then remove the integer place four figures to the
right hand, thus, the logarithm of 36 17 8 5 is multiply-
ted by 100000, and we obtain 36 17 8 5 130.

This reasoning may be very applied to practice, thus;
observe the heights of the mercury in the barometer and at
the upper and lower stations in inches and decimals; take
the logarithms of these, and subtract the one from the other;
and the difference between them, accounting the four first
decimal figures as integers in the manner now proposed, is
the difference of elevation in fathoms.

M. E.

Mercurial height at the lower station 29.8 - 1.4724163
At the upper station 24.1 - 1.4669830

Difference of logarithms x 10000 = 601 03 233 or 103 fathoms and 1.4732 of a fathom, which is 619.192
feet or 619 feet 2 inches, differing from the approximated
value before found about 8 inches. We have thus arrived
ourselves of the familiar and very intelligible illustration of
the method of measuring heights by means of the barometer
proposed and reduced to practice by Dr. Halley, given by
an ingenious anonymous writer in the "Encyclopaedia
Britannica," art. "Pneumatics." By this method it was
found that when the temperature of air and mercury was 32°
of Fahrenheit, the difference of the logarithms of the mer-
curial heights was precisely equal to the number of fathoms
of elevation; and it was verified upon the whole in practice,
by geometrical surveys and measurements.

The utility of it, however, was of very limited extent, and
it was seldom adopted, till M. De Luc first, and after him
Sir George Sackville and general Roy, introduced in con-
fidence of various observations and well-conducted ex-
periments such improvements and corrections as were found
to be necessary for expediting the practice of it and render-
ing the result of it accurate.

M. De Luc's apparatus of portable barometers, and their
annexed thermometers, with which he made his observations,
hath been already described. In the construction of his
barometers he guarded as much as possible against the im-
perfections and faults to which those of the common fort
are subject. The error arising from the repulsion of the
mercury by the glass tubes he remedied by substituting a
siphon barometer instead of the single upright tube, so that
the repulsion of the two legs of the siphon might counteract
itself. Another error resulting from air and moisture in the
barometrical tube he obviated by boiling the mercury in the
tube, and by other precautions. And he also shews how to
correct mistakes in the estimation of heights that are owing
to variations of the density of the mercury, and also of the
air, occasioned by heat and cold, by means of allowances
depending on two thermometers, one attached to the frame
of the barometer itself, and the other exposed to the open air
for measuring its degree of heat; and these thermometers are
to be noted both at the top and bottom of the hill. From
the use of this apparatus in a great variety of observations
he deduced a rule for calculating the heights of places,
which he verified by numerous experiments. Dr. Macler-
lyne and bishop Hogdly have reduced his rule from the
French to the English measure, and adapted it to the ther-

mometers of Fahrenheit's scale. M. De Luc (see Recherches,
&c. vol. i. p. 363—364) in the winter season, heated the
air of his room to as great a degree as possible, and observed
the rise of the barometer occasioned by the diminution of
its density or specific gravity by heat; and he also noted the
height of the thermometer, both before and after the room
was heated. Hence he deduced a rule that when the barometer
is at 27 French inches, which was the case in this
experiment, an increase of heat from freezing to that of
boiling water will raise the barometer 6 lines, or 1 th part
of the whole. But when the barometer is higher than 27
inches, this variation must be increased in the same proportion;
or it will be always 1 th part of the height of the barometer.
Consequently if the height be called H, the rise of the bar-
ometer corresponding to an increase of heat from freezing to
boiling water, will be \( \frac{B}{H} \); and as it will be less for a less

\[ \text{difference of heat, if the number of degrees marked on the} \]

thermometer between freezing and boiling water be called

\( K \), and the rise of the thermometer from any given point

be called \( H \), the corresponding rise of the barometer will be

\[ \frac{B}{K} \times \frac{H}{K} \] by the increase of heat from the given point

by the number of degrees \( H \). With a decrease of heat, \( H \)
would signify the degrees of decrease, and the barometer
would sink by \( \frac{B}{K} \times \frac{H}{K} \). The fixed temperature of
heat to which M. De Luc reduced his observations of the
barometer is \( \frac{1}{5} \) th of the interval from freezing to boiling
water above the former point; and if the thermometer
was higher than this degree, he subtracted \( \frac{B}{K} \times \frac{H}{K} \); if it was
lower, he added this quantity to the observed height of the
barometer; and he thus obtained its exact height, or such
as it would have been, if the density of its quicksilver had
been the same as answers to the fixed degree of temperature.

He thus corrected the height of both his barometers, that
at the bottom and that at the top of the hill, for the partic-
ular degree of heat, indicated by a thermometer attached
to the barometer at each station. These corrected heights
of the barometers were those which he used in his calcula-
tions. Then, scaling these two altitudes of the barometer
at the lower and at the upper stations, \( D \) and \( d \), and taking
\( \log. B \), and \( \log. b \) for the logarithms, taken out of the
common tables, and after subtracting the whole places of
figures after the index as integers, and the three remaining
figures as decimals, and putting \( C \) for the mean height of a
thermometer, exposed to the air at the top and bottom of the
hill, the freezing point being \( C \), and the point of boiling
water at \( 80 \), he found by his experiments that the height of the hill
would be given in French toises, when \( C = 163 \), by merely
taking the difference of the logarithms of the heights of
the barometer, or \( \log. B - \log. b \), and in any other
degree of heat, would be greater or less in proportion as the
rarity of the air was greater or less than in the fixed tempe-
ration; or greater or less, by \( \frac{1}{5} \) th part of the whole, for
every degree of the thermometer reckoned from the fixed
temperature \( 163 \); and consequently the height of the
place would be expressed generally in French toises by
this formula, viz. \( \log. B - \log. b + \log. B - \log. b \times \frac{C - 163}{215} = \log. B - \log. b \times 1 + \frac{C - 163}{215} \). The re-
duction of this formula to English measure and to the scale
of
of Fahrenheit's thermometer, is performed by the alronometer
royal (Phil. Trans. vol. lxiv. p. 96), in the following man-
er. The French foot is the barometer as 1.06575 to
1 (Phil. Trans. vol. lvii. p. 326); and the Fahrenheit's
point of freezing is 32, and that of boiling water 212, hav-
ing an interval of 180 degrees. But M. De Luc's point of
boiling water was marked when the barometer was at
27 French inches, that being its mean height at Geneva;
but our Englishmen mark the same point on Fahrenheit's
scale, when the barometer stands at 30 inches, which is
equal to 28 inches 1.8 lines French measure, or 14.8 lines
higher than M. De Luc's barometer. when he adjusted the
point of boiling water on his thermometer; and it is well
known, that the heat of boiling water varies with the
weight of the atmosphere. M. De Luc from his experi-
ments inferred, that an increase of one line in the height of
the barometer raises the mercury of the thermometer, placed
in boiling waters 11/24th part of the interval between the
freezing point and that of boiling water, though the rule
will not apply to large variations of the barometer occasion-
ated by very great heights above the earth's surface.
The change of the boiling point in Fahrenheit's scale corre-
sponding to a change of one line in the barometer, will be
1/52.5 degrees Fahrenheit's scale; and a thermometer, whose
point of boiling water was marked 212, when the barometer
stood at 30 English inches = 28 inches 1.8 lines French
measure, will, when the barometer descends to 27 French
inches, fix 2.2 degrees in boiling water, or to 309.8 or in
round numbers to 310 degrees, which is distant only 178
from the point of freezing. Hence it appears that an extent
of 83° of M. De Luc's thermometer corresponds to an
extent of 178 of our Fahrenheit's thermometer; and pur-
ifying for the degrees of this thermometer, corresponding
to C of M. De Luc's, we shall have C = F - 32 : 86 : 178,
and C = F - 32 x 1.8 which, substituted in the formula,
gives log. B = log. b x 1 + \frac{C-16^1}{215} = log. B
\begin{align*}
\text{log. } b & \times 1 + \frac{F-32 \times 1.8}{178} = \log. B - \log. b \\
\times 1 + \frac{F-32}{478.38} &= \log. B - \log. b + \frac{F-32}{478.38}
\end{align*}
log. B \times 1 + \frac{F-69.27}{478.38} \times 1.06575 =
log. B \times 1 + \frac{F-40}{478.38} =
\text{log. } b \times 1 + \frac{F-40}{478.38},
which expresses the height between the lower
flations in English fathoms.

In these expressions B and b denote heights of the barmo-

\[b = \pm \frac{D}{54K},\]

meter, at the lower and higher flations, corrected for the
difference of heat between a fixed temperature, viz. \(\frac{4}{5}b\) of
the interval between freezing and boiling water, and the
present heat, indicated by the thermometer attached to
the barometer at each nlation; but it will be sufficient, and
more convenient, to correct one barometer for the difference
of height of the two. Suppose then the upper barometer
is to be corrected, to reduce it to the temperature of the
lower one, and that b signifies the height of this baro-

\[b = \pm \frac{D}{54K},\]

metric, as observed and not corrected; the correction, from
what has been already said, if we call D the difference
of height of the thermometer attached to the barometer at
the two flations, e.g. at the top and bottom of the hill, will
be \(\frac{D}{54K}\), as the thermometer stands highest at the lower
or upper flation; and the upper barometer corrected, in
stead of b, will be

\[b = \pm \frac{D}{54K},\]

which, substituted in the
formula, gives log. B - log. b \frac{D}{54K} + \frac{F-40}{478.38}. But
the correction, on account of the difference of heat of the
barometer at the two flations, may be reduced to a more
easy expression, in which the variable quantity b, the height
of the upper barometer, shall not appear. The fluxion of a
logarithm is to the fluxion of its natural number as the
modulus of the system to the natural number; and 434.3
is the modulus of the common logarithms, when the four
places, next the index or characteristic, are taken as whole
numbers, instead of decimals, which is meant to be done in the
use of the preceding formula.

Consequently \(\frac{D}{54K}\) being very small with respect to
b, we shall have variation of log. b: variation of
\(b = \left(\frac{D}{54K}\right) \times 434.3: b\) very nearly, and hence variation of log.

\[b = \pm \frac{D}{54K} \times 434.3 = \frac{D}{54K} \times 4.52 D;\]

which, being substituted in the above formula, will give the
difference of height of the two flations, in English fathoms,
in a more convenient expression, viz.

\[\text{log. B - log. } b = \pm 0.452 D,\]

where the upper sign, +, is to be used, when the thermometer of the barometer is highest at
the lower flation, and the lower sign, −, is to be used
when the said thermometer is lowest at the lower flation.
When F, the height of Fahrenheit's thermometer, is less
than 40°, + \frac{F-40}{478.38}, becoming negative or subtrac-
tive, must be accordingly applied in the calculation. In
the foregoing formula, E denotes the observed altitude of
the barometer at the lower flation, and b that at the upper
flation; log. B and log. b denote their logarithms taken
out of the common tables, by affixing the four flint figures,
next following the index, as whole numbers, and con-
fidering the three remaining figures to the right hand, as
decimal, ; D signifies the difference of height of Fahren-
heit's thermometer, attached to the barometer at the top
and bottom of the hill; and F signifies the mean of the two
heights of Fahrenheit's thermometer, exposed freely for a
few minutes to the open air in the shade, at the top and
bottom of the hill.
The formula, for the measure of heights, may be adapted to thermometers of particular scales, for the convenience of calculation; but the scales will be different from those of M. De Luc. The thermometer attached to the barometer, will be best divided with the interval between freezing and boiling water, consisting of 81.4 degrees (180 x 452); the freezing point may be marked 0, and the point of boiling water will be 81.4; for then, if the difference of height of this thermometer, at the two latitudes, be called d, we shall have $d = \frac{F_{-40}}{81.4 x F_40}$, or $d = \frac{F_{-32}}{81.4 x F_{32}}$, the number of degrees expressed by d will show immediately the correction for the difference of heat of the two barometers. If the thermometer, designed to show the temperature of the air, be divided with the interval between freezing and boiling water $= 100$, and the freezing point be marked 0, and the boiling point $= 194$, and the heights of this thermometer, at the two latitudes, be called G and I, we shall have $F_{-40} = \frac{G + 1}{G+I} \times \frac{2}{5}$, or $F_{-32} = \frac{G + 1}{G+I} \times \frac{2}{5}$. For $F_{-40} = F_{-32} = 8$ is the height of Fahrenheit's thermometer, reckoned from eight degrees above freezing, and $440 : 600 :: 180 : 200 :: 8 : 9$, and the fraction $\frac{F_{-32} - 8}{449}$, increasing both the numerator and denominator in the ratio of 449 to 500, will become $\frac{F_{-32} - 8}{449} = \frac{500}{570} = \frac{G + 1}{G+I} \times \frac{2}{5}$, becausethe latter will be multiplied by $d = \frac{G + 1}{1000}$, which multiplied by 6, will give the height in English feet. It is to be observed, that $d + d$, or $-d$, is to be used, as the thermometer, attached to the barometer, is highest at the lower or upper station; and if G and I should happen to fall below 0 of the scale, or to be subtractive, they must be applied accordingly in the calculation.

The rules, expressed in the above formula, will be in common language as follows:

1. The rule adapted to Fahrenheit's thermometer is this. Take the difference of the tabular logarithms of the observed heights of the barometer at the two localities, considering the four first figures, exclusively of the index, as whole numbers, and the three remaining figures to the right as decimals, and subtract or add the 449th part of the difference of the alitude of the Fahrenheit's thermometer, attached to the barometer at the two latitudes, according as it was highest at the lower or upper station; thus you will have the height of the upper station above the lower in English fathoms nearly. This is to be corrected in the following manner: say, as 449 is to the difference of the mean altitude of Fahrenheit's thermometer, exposed to the air at the two stations, from $40^9$, so is the height of the upper station found nearly to the correction of the same: which, added or subtracted, according as the mean altitude of Fahrenheit's thermometer was higher or lower than $40^9$, will give the true height of the upper station above the lower, in English fathoms, and multiplied by $d$ in English feet.

2. The rule adapted to two thermometers of particular scales is as follows. Take the difference of the tabular logarithms of the observed heights of the barometer, at the two stations, considering the four first figures, exclusively of the index, as whole numbers, and the three remaining figures to the right as decimals; and subtract or add the difference of the alitudes of the thermometers of a particular scale, attached to the barometer, at the two stations, according as it was highest at the lower or upper station, and you will have the height of the upper station above the lower one in English fathoms nearly; subject to the following correction: say, as $100^9$ is to the sum of the altitudes of the thermometers of a particular scale, exposed to the air at both stations, so is the height of the upper station above the lower, found nearly, to the correction of the same: which, added or subtracted, according as the sum of the altitudes of the thermometers, exposed to the air, is positive or negative, will give the true height of the upper station above the lower in English fathoms, and multiplied by $d$, in English feet. Dr. Horfley, the present Bishop of St. Alban, has given a comparison of M. De Luc's rules with theory, reduced them to English measures of length, and adapted them to Fahrenheit's scale of the thermometer, and added tables and presents for expediting the practical application of them in the Phil. Traut. vol. ii. p. 213. Sec. Atmospheric Logarithmic and Fixed Points of Thermometers.

The scene of M. De Luc's first observations was mount Saleve, near Geneva. Here he selected 15 stations at different elevations; and the following table abridged and abridged from his minute details (Recherches, &c. vol. ii. p. 213, &c.) shews the result of his operations:

<table>
<thead>
<tr>
<th>Stations.</th>
<th>Heights by Elevating, feet.</th>
<th>Number of Observations.</th>
<th>Mean heights by the barometer, fathoms.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>215</td>
<td>2</td>
<td>13</td>
</tr>
<tr>
<td>2</td>
<td>428</td>
<td>10</td>
<td>13</td>
</tr>
<tr>
<td>3</td>
<td>386</td>
<td>13</td>
<td>13</td>
</tr>
<tr>
<td>4</td>
<td>728</td>
<td>8</td>
<td>21</td>
</tr>
<tr>
<td>5</td>
<td>917</td>
<td>24</td>
<td>73</td>
</tr>
<tr>
<td>6</td>
<td>1218</td>
<td>8</td>
<td>27</td>
</tr>
<tr>
<td>7</td>
<td>1420</td>
<td>23</td>
<td>1482</td>
</tr>
<tr>
<td>8</td>
<td>1816</td>
<td>17</td>
<td>1798</td>
</tr>
<tr>
<td>9</td>
<td>1963</td>
<td>17</td>
<td>1963</td>
</tr>
<tr>
<td>10</td>
<td>2217</td>
<td>17</td>
<td>2217</td>
</tr>
<tr>
<td>11</td>
<td>2333</td>
<td>17</td>
<td>2333</td>
</tr>
<tr>
<td>12</td>
<td>2532</td>
<td>16</td>
<td>2532</td>
</tr>
</tbody>
</table>

The latest and most accurate experiments and observations relating to this subject, are those of Sir George Shuckburgh, and General Roy. In order to render the method of measuring altitudes by the barometer more exact, it is necessary to ascertain by appropriate experiments the expansion of mercury by any increase of temperature, and also the expansion of air by the same, or by any change of temperature; and also the variations to which its elasticity is subject. It has been already stated, that M. De Luc estimates the expansion of quicksilver, between the temperatures of melting ice and boiling water, to be exactly 6 French lines, or 538.75 decimal parts of an English inch. But he suppose the barometer to stand at 37 Fr. inches, or 28.7525 Eng. inches; whereas, if it had stood at 30 inches, it would have been.
been 555555, because the expansion is proportional to the length of the column. It has also been shown, that M. De Luc's boiling point is 22.2° lower than that of English thermometers, reducing it to 209.8 Fahrenheit, and making the interval between freezing and boiling only 177.8 degrees. Hence the expansion 555555 must be augmented in the proportion of 177.8 to 180, which gives for the total 5624507 or 502453, on a difference of temperature of 180°. Thus the expansion for each degree, supposing it to be arithmetical, or uniformly the same in all parts of the scale, will be .00012461. But from information communicated by M. De Luc to general Roy, it appears that the difference of temperature in his experiments amounted to about 31° of Reanun, or 72° of Fahrenheit, above freezing; and therefore .00012461 x 72 = 2.25 nearly will denote the rate of expansion, from which he deduced that for 180°.

The experiments of general Roy for ascertaining the expansion of mercury are minutely detailed in the Phil. Trans. vol. lxvi. p. 359--682. He exposed 30 inches of mercury, contained in a barometer by the atmosphere, in a nice apparatus, by which it could be made of one uniform temperature, through its whole length, and he noted the expansion of it in decimals of an inch. The result appears in the following table; of which the first column expresses the temperature by Fahrenheit's thermometer, the second column expresses the bulk of the mercury in consequence of its expansion; and the third column shows the expansion of one inch of mercury for an increase of one degree in the adjoining temperatures.

**Table I.**

<table>
<thead>
<tr>
<th>Temp</th>
<th>Bulk of 8</th>
<th>Expan. for 1°</th>
</tr>
</thead>
<tbody>
<tr>
<td>212</td>
<td>30.5117</td>
<td>.00000763</td>
</tr>
<tr>
<td>202</td>
<td>30.4883</td>
<td>.00000787</td>
</tr>
<tr>
<td>192</td>
<td>30.4652</td>
<td>.00000810</td>
</tr>
<tr>
<td>183</td>
<td>30.4420</td>
<td>.00000833</td>
</tr>
<tr>
<td>174</td>
<td>30.4189</td>
<td>.00000857</td>
</tr>
<tr>
<td>165</td>
<td>30.3952</td>
<td>.00000880</td>
</tr>
<tr>
<td>156</td>
<td>30.3721</td>
<td>.00000903</td>
</tr>
<tr>
<td>147</td>
<td>30.3487</td>
<td>.00000926</td>
</tr>
<tr>
<td>138</td>
<td>30.3252</td>
<td>.00000943</td>
</tr>
<tr>
<td>129</td>
<td>30.2917</td>
<td>.00000961</td>
</tr>
<tr>
<td>120</td>
<td>30.2682</td>
<td>.00000979</td>
</tr>
<tr>
<td>111</td>
<td>30.2347</td>
<td>.00001002</td>
</tr>
<tr>
<td>102</td>
<td>30.2012</td>
<td>.00001024</td>
</tr>
<tr>
<td>93</td>
<td>30.1675</td>
<td>.00001043</td>
</tr>
<tr>
<td>84</td>
<td>30.1340</td>
<td>.00001063</td>
</tr>
<tr>
<td>75</td>
<td>30.0994</td>
<td>.00001079</td>
</tr>
<tr>
<td>66</td>
<td>30.0653</td>
<td>.00001093</td>
</tr>
<tr>
<td>57</td>
<td>30.0313</td>
<td>.00001110</td>
</tr>
<tr>
<td>48</td>
<td>30.0000</td>
<td>.00001127</td>
</tr>
<tr>
<td>39</td>
<td>.9656</td>
<td>.00001143</td>
</tr>
<tr>
<td>20</td>
<td>.9419</td>
<td>.00001160</td>
</tr>
<tr>
<td>11</td>
<td>.9186</td>
<td>.00001177</td>
</tr>
<tr>
<td>0</td>
<td>.8901</td>
<td></td>
</tr>
</tbody>
</table>

By this table the observed height of the mercury may be reduced to what it would have been if it were of the temperature 32°. Suppose that the mercurial height is observed to be 29.2, and that the temperature of the mercury is 72°; lay 30.1302 : 30 :: 29.2 : 29.0758, which would be the true measure of the density of the air of the standard temperature. In order to obtain the exact temperature of the mercury, the observation should be made by a thermometer attached to the frame of the barometer, that it may warm and cool along with it. This, however, may be done, with sufficient accuracy, without a table; as the expansion of an inch of mercury for one degree decreases very nearly 30a.3rd part in each succeeding degree. If, therefore, we take from the expansion at 32° its thousandth part for each degree of any range above it, we obtain a mean rate of expansion for that range. When the observed temperature of the mercury is below 32°, this correction must be added, in order to obtain the mean expansion. This rule will be more exact if we suppose the expansion at 32° to be .0001127, as in the table. Then, by multiplying the mercurial height by this expansion, we obtain the correction to be subtracted or added as the temperature of the mercury was above or below 32°. Thus, in the former example of 72°, take 49, the excess of 72° above 32°, from 0.0001127, and we have 0.0001087. Multiply this by 40, and we have the whole expansion of one inch of mercury =0.004348. Multiply the inches of mercurial height, viz. 20.2 by this expansion, and we have for the correction 0.1266; which, subtracted from the observed height, leaves 29.07304, differing from the exact quantity less than the thousandth part of an inch. This correction may be made by another process, still more simple; or by multiplying the observed height of the mercury by the difference of its temperature from 32°, and cutting off four cyphers before the decimals of the mercurial height: and this method will seldom err one hundredth of an inch. Having thus corrected the observed mercurial heights by reducing them to what they would have been if the mercury had been of the standard temperature, the logarithms of the corrected heights are taken; and their difference, multiplied by 10000, will give the difference of elevations, in English fathoms. Another method of applying this correction, more expeditious, and not less accurate is as follows. As the difference of the logarithms of the mercurial heights is the measure of the ratio of those heights, so likewise the difference of the logarithms of the observed and corrected heights at any inclination is the measure of the ratio of those heights; and, therefore, this latter difference of the logarithms is the measure of the correction of this ratio. But the observed height is to the corrected height as 1 to 10000.102; and the logarithm of this ratio, or the difference of the logarithms of 1 and 10000102, is 0.0000444. This is the correction for each degree by which the temperature of the mercury differs from 32. Therefore multiply 0.0000444 by the difference of the mercurial temperatures from 32, and the products will be the corrections of the respective logarithms. The following method of applying the logarithmic correction is more easy than the former. The correction will only be necessary, when the temperatures at the two stations are different, and it will be proportional to this difference. Therefore, if the difference of the mercurial temperatures be multiplied by 0.0000444, the product will be the correction required on the difference of the logarithms of the mercurial heights. Moreover, since the difference of the logarithms of the mercurial heights are also differences of elevation in English fathoms, it follows, that the correction is also a difference of elevation in English fathoms; or that the correction for one degree of difference of mercurial temperature is 3.858 feet at a fathom = 32 inches = 2 feet 8 inches. This correction of 2.8 for every degree of difference of temperature must be subtracted.
BAROMETER.

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>112°</td>
<td>0.0000427</td>
<td>-427</td>
<td>2.7</td>
</tr>
<tr>
<td>102°</td>
<td>0.0000360</td>
<td>-436</td>
<td>2.7</td>
</tr>
<tr>
<td>92°</td>
<td>0.0000444</td>
<td>-444</td>
<td>2.8</td>
</tr>
<tr>
<td>82°</td>
<td>0.0000453</td>
<td>-453</td>
<td>2.9</td>
</tr>
<tr>
<td>72°</td>
<td>0.0000460</td>
<td>-460</td>
<td>2.9</td>
</tr>
<tr>
<td>62°</td>
<td>0.0000468</td>
<td>-468</td>
<td>2.9</td>
</tr>
<tr>
<td>52°</td>
<td>0.0000475</td>
<td>-475</td>
<td>2.9</td>
</tr>
<tr>
<td>42°</td>
<td>0.0000482</td>
<td>-482</td>
<td>2.9</td>
</tr>
<tr>
<td>32°</td>
<td>0.0000489</td>
<td>-490</td>
<td>3.0</td>
</tr>
<tr>
<td>22°</td>
<td>0.0000497</td>
<td>-497</td>
<td>3.0</td>
</tr>
<tr>
<td>12°</td>
<td>0.0000504</td>
<td>-504</td>
<td>3.0</td>
</tr>
</tbody>
</table>

Sir George Stoctburg has given the following table for the expansion of mercury by heat.

Table III.

<table>
<thead>
<tr>
<th>Decr. of the Therm.</th>
<th>Height of the Barometer in inches.</th>
</tr>
</thead>
<tbody>
<tr>
<td>20</td>
<td></td>
</tr>
<tr>
<td>21</td>
<td></td>
</tr>
<tr>
<td>22</td>
<td></td>
</tr>
<tr>
<td>23</td>
<td></td>
</tr>
<tr>
<td>24</td>
<td></td>
</tr>
<tr>
<td>25</td>
<td></td>
</tr>
<tr>
<td>26</td>
<td></td>
</tr>
<tr>
<td>27</td>
<td></td>
</tr>
<tr>
<td>28</td>
<td></td>
</tr>
<tr>
<td>29</td>
<td></td>
</tr>
<tr>
<td>30</td>
<td></td>
</tr>
<tr>
<td>31</td>
<td></td>
</tr>
<tr>
<td>32</td>
<td></td>
</tr>
</tbody>
</table>
BAROMETER.

Sir George Shuckburgh, in his barometrical observations, reckoned the equation for the expansion of mercury
\[ \text{Barometer} = 0.245 \text{ of an inch for every degree of Fahrenheit's thermometer.} \]
By observations still more accurate, it has been found, that the temperature at which the difference of
the logarithms gives the height in English fathoms is 32°, and that the correction at other temperatures is 0.0243 of
that difference for every degree of the thermometer. The manner of estimating the temperature of the air, adopted
in all these observations, was the same; an arithmetical mean
was taken between the heights of the thermometer, at the upper and lower flations, and was supposed to be uniformly
diffused through the column of air intercepted between them.

M. De Luc, however, was apprized of the inaccuracy of this hypothesis; and general Ray, too, has observed, that
one of the chief causes of error in barometrical computation
proceeds from the mode of estimating the temperature of the column of air from that of its extremes, which
must be fault in proportion as the height and difference of
temperature are great. Indeed it seldom or never happens,
that any particular stratum of air is uniformly of the same
temperature. It is commonly much colder above; and it is
also of different confections. Below it is warm, loaded
with vapour, and very expansible; above it is cold, much
drier, and less expansible both by its dryness and its rarity.

Currents of wind, also, are often disposed in strata, which
retain their places for a considerable time; and as they
come from different regions, are of different temperatures
and constitutions. It is either certain that the whole
intermediate stratum expands alike, nor that the expansion
is equal in the different intermediate temperatures. Rare
air expands less than that which is denser; and there is a
particular elevation at which the general expansion, instead
of diminishing the density of the air, increases it by the
superior expansion of that which is below. But no general
rule has been established by which we can obtain a more
accurate correction than by taking the expansion for the
mean temperature.

Sir George Shuckburgh has exhibited the result of
several experiments on the expansion of air by a change of
temperature in the following table, where is seen the in-
crease in bulk of 1000 parts of air of the temperature of
freezing and pressure of 30 inches, by an addition of 1
degree of heat in Fahrenheit's thermometer.

<table>
<thead>
<tr>
<th>Observations</th>
<th>Number of degrees</th>
</tr>
</thead>
<tbody>
<tr>
<td>Heating the air</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Expansion for 1000 parts of the whole</th>
</tr>
</thead>
<tbody>
<tr>
<td>-------------------------------------</td>
</tr>
<tr>
<td>-------------------------------------</td>
</tr>
<tr>
<td>-------------------------------------</td>
</tr>
</tbody>
</table>

Mean from the first manometer 2.44.

Mean from the second manometer 2.42.

The mean of these two sorts of observations, made with
different instruments, is 2.43, viz. 1000 parts of the air at
freezing become by expansion from 1° of heat equal 1002.43
parts or 1002.385 parts with the standard temperature 30°.7.

Whereas
BAROMETER.

Whereas M. De Luce's experiments reduced, give this quantity equal 1002.23 parts. General Roy compared a mercurial and an air thermometer, each of which was graduated arithmetically; that is, the units of the scales were equal bulks of mercury, and equal bulks of air. Their progress is exhibited in the following table.

### TABLE V.

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>20.95</td>
<td>31.52</td>
<td>493.89</td>
<td>2.2852</td>
</tr>
<tr>
<td>39.07</td>
<td>39.77</td>
<td>493.10</td>
<td>2.2741</td>
</tr>
<tr>
<td>29.48</td>
<td>29.60</td>
<td>489.74</td>
<td>2.2676</td>
</tr>
<tr>
<td>29.60</td>
<td>30.62</td>
<td>489.45</td>
<td>2.2583</td>
</tr>
<tr>
<td>29.60</td>
<td>30.60</td>
<td>487.55</td>
<td>2.2455</td>
</tr>
<tr>
<td>30.60</td>
<td>30.60</td>
<td>488.80</td>
<td>2.2774</td>
</tr>
<tr>
<td>29.48</td>
<td>30.60</td>
<td>489.47</td>
<td>2.2587</td>
</tr>
<tr>
<td>Mean</td>
<td>30.62</td>
<td>484.21</td>
<td>2.2840</td>
</tr>
</tbody>
</table>

As equal increments of heat produce equal increments in the bulk of mercury, the differences of temperature are expressed by the second column, and may be considered as equal; and the numbers of the third column express the same temperatures with those of the first. They directly express the bulks of the air, and the numbers of the fourth column express the differences of these bulks. These are evidently unequal, and they show that common air expands more of all when the temperature is 62 more nearly. In order to determine what was the actual increase of bulk by some known increase of heat, general Roy took a tube of a narrow bore, with a ball at one end. He measured the capacity of both the ball and the tube, and divided the tube into equal spaces, bearing a determined proportion to the capacity of the ball. This apparatus was placed in a long cylinder filled with frigid mixtures or with water, which might be uniformly heated to the boiling temperature, and it was accompanied by a nice thermometer. The expansion of the air was measured by means of a column of mercury, which rose or sunk in the tube. The tube being of a small bore, the mercury did not drop out of it; and the bore being chosen as equal as possible, this column remained of an uniform length, whatever part of the tube it chanced to occupy. By this contrivance he was able to examine the expansibility of air of various densities. When the column of mercury contained only a single drop or two, the air was nearly of the density of the external air. If he wished to examine the expansion of air twice or thrice as dense, he used a column of 50 or 60 inches in length; and to examine the expansion of air that is rarer than the external air, he placed the tube with the ball uppermost; the open end passing through a hole in the bottom of the vessel containing the mixtures or water. By this position the column of mercury was hanging in the tubes supported by the pre-

In order to have a mean expansion for any particular range, as between 12° and 92°, which is the most likely to comprehend all the geodetical observations, we need only take the difference of the bulks 20.638 and 22.106 = 195.666, and divide this by the interval of temperature, 80°, and we obtain 2.4466, or 2.45, for the mean expansion for 1°. This table, which in its present form shews the expansibility of air of the temperature 6°, may be easily adapted to explain the difference of air of the standard temperature 32°, by laying (for 212°), 109.718: 484.201: 1000: 134.89: and so of the rest. Thus the following table is constructed.

### TABLE VII.

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>212</td>
<td>454.210</td>
<td>2.0099</td>
</tr>
<tr>
<td>192</td>
<td>444.011</td>
<td>2.0050</td>
</tr>
<tr>
<td>172</td>
<td>434.453</td>
<td>2.1475</td>
</tr>
<tr>
<td>152</td>
<td>359.523</td>
<td>2.2158</td>
</tr>
<tr>
<td>132</td>
<td>315.193</td>
<td>2.2840</td>
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<tr>
<td>113</td>
<td>269.513</td>
<td>2.3754</td>
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<tr>
<td>93</td>
<td>222.006</td>
<td>2.4411</td>
</tr>
<tr>
<td>82</td>
<td>197.705</td>
<td>2.5124</td>
</tr>
<tr>
<td>72</td>
<td>172.671</td>
<td>2.5831</td>
</tr>
<tr>
<td>62</td>
<td>147.160</td>
<td>2.6537</td>
</tr>
<tr>
<td>52</td>
<td>121.653</td>
<td>2.7242</td>
</tr>
<tr>
<td>43</td>
<td>95.920</td>
<td>2.7951</td>
</tr>
<tr>
<td>32</td>
<td>71.718</td>
<td>2.8663</td>
</tr>
<tr>
<td>23</td>
<td>48.421</td>
<td>2.9375</td>
</tr>
<tr>
<td>12</td>
<td>26.038</td>
<td>2.9994</td>
</tr>
<tr>
<td>0</td>
<td>14.708</td>
<td>2.9706</td>
</tr>
</tbody>
</table>

In order to have a mean expansion for any particular range, as between 12° and 92°, which is the most likely to comprehend all the geodetical observations, we need only take the difference of the bulks 20.638 and 22.106 = 195.666, and divide this by the interval of temperature, 80°, and we obtain 2.4466, or 2.45, for the mean expansion for 1°. This table, which in its present form shews the expansibility of air of the temperature 6°, may be easily adapted to explain the difference of air of the standard temperature 32°, by laying (for 212°), 109.718: 484.201: 1000: 134.89: and so of the rest. Thus the following table is constructed.
Table VIII.

<table>
<thead>
<tr>
<th>Temp.</th>
<th>Bulk.</th>
<th>Differ.</th>
<th>Expans. for 1°</th>
</tr>
</thead>
<tbody>
<tr>
<td>212</td>
<td>13849</td>
<td>375</td>
<td>18.7</td>
</tr>
<tr>
<td>192</td>
<td>13174</td>
<td>387</td>
<td>19.3</td>
</tr>
<tr>
<td>172</td>
<td>13087</td>
<td>402</td>
<td>19.6</td>
</tr>
<tr>
<td>152</td>
<td>12687</td>
<td>413</td>
<td>20.6</td>
</tr>
<tr>
<td>132</td>
<td>12272</td>
<td>426</td>
<td>21.3</td>
</tr>
<tr>
<td>112</td>
<td>11846</td>
<td>436</td>
<td>21.7</td>
</tr>
<tr>
<td>92</td>
<td>11403</td>
<td>443</td>
<td>21.9</td>
</tr>
<tr>
<td>82</td>
<td>11177</td>
<td>456</td>
<td>21.9</td>
</tr>
<tr>
<td>72</td>
<td>10942</td>
<td>463</td>
<td>22.1</td>
</tr>
<tr>
<td>62</td>
<td>10704</td>
<td>468</td>
<td>22.2</td>
</tr>
<tr>
<td>52</td>
<td>10461</td>
<td>473</td>
<td>22.5</td>
</tr>
<tr>
<td>42</td>
<td>10226</td>
<td>476</td>
<td>22.6</td>
</tr>
<tr>
<td>32</td>
<td>10000</td>
<td>217</td>
<td>21.7</td>
</tr>
<tr>
<td>22</td>
<td>9783</td>
<td>209</td>
<td>20.9</td>
</tr>
<tr>
<td>12</td>
<td>9574</td>
<td>243</td>
<td>20.7</td>
</tr>
<tr>
<td>0</td>
<td>9331</td>
<td></td>
<td>21.1</td>
</tr>
</tbody>
</table>

Hence we have the mean expansion of 1000 parts of air between 12° and 92° = 2.29.

The following table shews the result of general Roy's experiments on air much exceeding the common density. The first column contains the densities measured in the inches of mercury which they will support when they are of the temperature 72°; the second column shews the expansion of 1000 parts of such air by being heated from 0 to 212°; and the third column is the mean expansion of 1°.

Table IX.

<table>
<thead>
<tr>
<th>Density</th>
<th>Expansion for 212°</th>
<th>Expansion for 1°</th>
</tr>
</thead>
<tbody>
<tr>
<td>101.7</td>
<td>451.54</td>
<td>2.130</td>
</tr>
<tr>
<td>98.3</td>
<td>423.23</td>
<td>1.993</td>
</tr>
<tr>
<td>80.5</td>
<td>412.09</td>
<td>1.944</td>
</tr>
<tr>
<td>54.5</td>
<td>349.87</td>
<td>2.075</td>
</tr>
<tr>
<td>49.7</td>
<td>443.24</td>
<td>2.091</td>
</tr>
</tbody>
</table>

Mean 75.7 474 2.047

General Roy made many experiments on air much below the common density, and he found, in general, that their expansibility by heat was analogous to that of air of ordinary density, being greatest at the temperature of 6°. He also found, that its expansibility with heat decreased with its density; but he was not able to ascertain the law of graduation. When reduced to about 4th of the density of common air, its expansion was as follows.

Table X.

<table>
<thead>
<tr>
<th>Temp.</th>
<th>Bulk.</th>
<th>Difference</th>
<th>Expansion for 1°</th>
</tr>
</thead>
<tbody>
<tr>
<td>212</td>
<td>1141.504</td>
<td>7.075</td>
<td>0.344</td>
</tr>
<tr>
<td>192</td>
<td>1134.429</td>
<td>12.204</td>
<td>0.613</td>
</tr>
<tr>
<td>172</td>
<td>1122.165</td>
<td>14.150</td>
<td>0.708</td>
</tr>
<tr>
<td>152</td>
<td>1108.015</td>
<td>14.151</td>
<td>0.708</td>
</tr>
<tr>
<td>132</td>
<td>1093.854</td>
<td>14.238</td>
<td>0.711</td>
</tr>
<tr>
<td>112</td>
<td>1079.036</td>
<td>14.937</td>
<td>0.747</td>
</tr>
<tr>
<td>92</td>
<td>1064.695</td>
<td>20.911</td>
<td>1.045</td>
</tr>
<tr>
<td>72</td>
<td>1043.788</td>
<td>25.943</td>
<td>1.297</td>
</tr>
<tr>
<td>52</td>
<td>1017.845</td>
<td>17.845</td>
<td>0.852</td>
</tr>
<tr>
<td>32</td>
<td>1000.000</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Mean expansion 0.786

From the experiments to which we have above referred it appears, that the expansibility of air is greatest when the air is about its ordinary density, and that in small densities it is greatly diminished. But it appears upon the whole, that there is little difference in the actual expansion or elastic force of air, prefined with an atmosphere or one third part; yet, when it is rendered extremely rare, its elasticity is wonderfully diminished. It should seem, indeed, that the elastic force of common air is greater than when its density is considerably augmented or diminished by an addition to or subtraction from the weight with which it is loaded; and this observed difference contradicts the experience of Boyle, Mariotte, &c. It also appears that the law of compression is altered; for in the preceding specimen of the rare air half of the whole expansion happens about the temperature of 99°, but in air of ordinary density at 105°. As this is the case, the experiments of M. Amontons, in the Memoirs of the Academy at Paris for 1702, &c. are not inconsistent with those of general Roy. Amontons found that whatever was the density of the air, at least in cafes where it was much denser than common air, the change of 180° of temperature increased its elasticity in the same proportion; for he found, that the column of mercury which it supported, when the temperature 50, was increased 1/4 at the temperature 212°; and hence he fairly inferred, that its expansibility was increased in the same proportion; but this is by no means the cafe, unless we are certain that in every temperature the elasticity is proportional to the density; which still remains to be decided.

From another class of experiments made by general Roy, we learn, that the elastic force of moist air is greatly superior to that of dry air; and that a very uniform increasing progression is perceived to take place from the zero of Fahrenheit, as far as 152° or 172°, and even to the boiling point. From the mean result of these experiments, which are arranged in a table, it appears, that the expansion of air, however moist, having that moisture condensed or separated from it by cold, differs not sensibly from that of dry air. Thus the rate for 32° below freezing 2.22799 is nearly the same as in dry air; but as soon as the moisture begins to dissolve and mix with the air, by the addition of 20° of heat, the difference is perceptible; for instead of 2.45975, the rate for 20° above 32° in dry air, we have 2.588 for that which is moist. In the next college of 20°, the rate for dry air is 2.588; whereas that for moist air the progression goes on continually increasing, fo as to give 7.86854 for the mean rate on each degree of the 21°, which is near 3 times the expansion of dry air. And, finally, the rate for the 20° between 192° and 212° is twice and one-half the mean rate, and about nine times that which corresponds to the zero of the scale, but the comparison being drawn from the mean of some particular experiments, as being probably nearest the truth, the total expansion of moist will be more than four times that of dry air; and the rate for the temperature at boiling will be nearly 15 times that which corresponds to the zero of Fahrenheit. This circumstance will probably account for the deviations from the rules established for determining heights by the barometer, which take place in the provinces of Quito in Peru, and at Sintzebergen, within 10 degrees of the pole. In the former situation, which is at a great elevation above the level of the ocean, the heights obtained by these rules fall considerably short of the real heights; and at the latter place they considerably exceed them. Near the surface of the earth there is a greater degree of humidity and heat in the air than there is in the higher regions of the atmosphere; and the elasticity or expansion of the lowermost section of
BAROMETER.

1. Subtract the logarithm of the barometrical height at the upper station from the logarithm of that at the lower, and count the index and four first decimal figures of the remainder as fathoms, the rest as a decimal fraction. Call this the elevation.

2. Note the different temperatures of the mercury at the two stations, and the mean temperature. Multiply the logarithmic expansion corresponding to this mean temperature (in Table II) by the difference of the two temperatures, and subtract the product from the elevation, if the barometer has been colder at the upper station; otherwise, add it. Call the difference, or the sum, the approximated elevation.

3. Note the difference of the temperatures of the air at the two stations by a detached thermometer, and also the mean temperature and its difference from 32°. Multiply this difference by the expansion of air for the mean temperature, and multiply the approximated elevation by 1 ± this product according as the air is above or below 32°. The product is the correct elevation in fathoms and decimals.

Example.

Suppose that the mercury in the barometer at the lower station was at 29.4 inches, that its temperature was 50°, and the temperature of the air 45°; and let the height of the mercury at the upper station be 25.10 inches, its temperature 46, and the temperature of the air 39. Here we have

<table>
<thead>
<tr>
<th>Mere. heights Temp. merc. Mean Temp. air Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>29.4</td>
</tr>
</tbody>
</table>

1. Log. of 29.4 | - | - | 1.468347 |
2. Log. of 25.19 | - | - | 1.401282 |

| Elevation in fathoms | - | - | 671.191 |

2. Expansion for 45° | - | - | 473 |

Multiply by 4 | - | - | 1.892 |

Approximated elevation | - | - | 669.299 |

3. Expansion of air at 32° | - | - | 0.00228 |

Mult. by $12 \times 32 = 10$ | - | - | 0.0228 |

Multiply | - | - | 669.299 |

By | - | - | 1.0238 |

Product = the correct elevation | - | - | 685.328 |

II. Sir George Shackburgh's method.

1. Reduce the barometrical heights to what they would be if they were of the temperature of 32°.

2. The difference of the logarithms of the reduced barometrical heights will give the approximate elevation.

3. Correct the approximate elevation as before.

Example. the same as before.

1. Mean expansion for 32° from Table I. | - | - | 0.000111 |

$16^\circ \times 0.000111 \times 29.4 = - 0.039$ |

Subtract this from | - | - | 29.4 |

Reduced barometric height | - | - | 29.341 |

Expansion from table I. is | - | - | 0.000111 |

$14^\circ \times 0.000111 \times 25.19 = - 0.039$ |

Subtract from | - | - | 25.19 |

Reduced barometric height | - | - | 25.151 |

2. Log. 29.341 | - | - | 1.4674749 |

Log. 25.151 | - | - | 1.4052353 |

Approximated elevation | - | - | 669.196 |

3. This multiplied by 1.0238 gives 685.125

Sir
BAROMETZ, in Botany. See Polypodium.

BARON, a person who holds a barony.

Baron is a term which origin and primary import are much contended. Some will have it originally denote a man, 

var: some a hero, or valiant man; some a libertinus, or freeman; some a great, or rich man; some a valet, or base-man.

Menage derives it from the Latin baro, which we find used in the pure age of that language for air, a wind, or a violent man; whence, according to this author, it was that those placed next to the king in battles were called barones, and that the bravest men in the army were the barones. Occasionally rewarded the bravery and fidelity of those about them with fees, the word came to be used for any noble person who holds a fee immediately of the king, -J-fidore, and after him Camden, take the word in its original sense, to signify a mercenary soldier. Mefliers of the Port Royal derive it from baro, a wind, or a violent man, or authority. Cicero uses the word baro, for a stupid brutal man; and the old Germans make mention of buffeting a baron, i.e. a valiant; as the Italians still use the word barone, to signify a beggar.

M. de Marea derives baron from the German bar, man, or freeman; others derive it from the old Gaulish, Celtic, and Hebrew language. But the most probable opinion is, that it comes from the Spanish varo, a float, noble person; whence wives come to call their husbands, and princes their tenants, barons. In the Saxon law, as well as the laws of the Lombards, the word baron signifies a man in the general, and the old glossary of Philomelates translates baron by varo, man.

BARON, the title of a lord or peer of parliament, being the next degree below that of a viscount. A baron hath the title of Right Honourable, and all acts and proceedings is styled Moi t baron. The parliamentary robe of a baron is scarlet cloth, lined with white fustian, having on the right side two guards of Minerva, or ermine, which signifies his degree. The coronet of a baron is a rim of gold, having thereon six pearls; this coronet was granted them by Charles II. by patent bearing date 6th July 1661, before which they wore a crimson cap turned up with ermine, and on the top a tassel of gold, now called a baron's cap. A baron may appoint three chaplains. In ancient records, the word barons included all the nobility of England, because regularly all noblemen were barons.

The word baron of itself originally did not, more than peer, signify an immediate vassal of the king; for earls patriatic had their barons, that is, their immediate tenants; and in old records, the citizens of London are styled barons, and so are the representatives of the five ports called to this day. Baron, therefore, at first signified only the immediate tenant of that superior, whose baron he is said to be; but by length of time it became restrained to those who, properly and exactly speaking, were barones regis & norm. and even not to all of these, but to such only as had manors and courts therein; for though, by the principles of the feudal constitution, every immediate military tenant of the

This rule may be expressed by the following formula, which is simple and easily remembered; a being the difference between 35° and the mean temperature of the air, d the difference of barometric heights in tenths of an inch, m the mean barometric height, b the difference between the mercurial temperatures, and E the correct elevation. 

\[ E = \sqrt{m^2 + 0.21^2} \pm \frac{d}{\sqrt{2}} \]


BAROMETERS, Animal. See Antemone.

BAROMETRICAL PHOSPHORUS. See Phosphorus.

BAROMETZ, in Botany. See Polypodium.
the crown, however small his holding, was obliged to affit the king with his advice, and entitled likewise to give or refuse his assent to any new law or sedition, that is, to attend in parliament; this attendance was too heavy and burthenome upon such as had only one or two knight's fees, and could not be compiled with without their ruin. Hence arose the distinction between tenants by knight's service and tenants by knight's fee in the reign of Henry I. The former were feudal tenants of the king, as lord estats, and qualified them with the onus of attendance in parliament, and who were therefore entitled to be summoned; the quantum of this estate was equally thirteen knight's fees, and one out of ten, or, as the case of a count or earl was two & four; that is, as a knight's fee was then reckoned at £1 per annum, the baron's revenue was 40 marks, or £10. 4d.

Such was the nature of all the baronies of England, for about two hundred years after the conquest; and they are called baronies by tenure, because the dignity and privileges were annexed to the lands they held, and if these were alienated with the conquest of the king (for without that they could not), the barony went over to the alien. Of these Matthew Paris tells us there were 250 in the time of Henry III.; and whilst they flouid freely on this footing, it was not in the king's power to increase the number of the baronies; though of barons perhaps he might; for as William the Conqueror was obliged to gratify several of his great officers, according to the number of men they brought, with two or more baronies, whenever these fell into the hands of the crown by echeate, either for want of heirs, or by forfeit, it was in the king's power, and it was his interest, to divide them into separate hands. The same thing likewise happened, when, by an intermarriage with an heiress, more baronies than one came into the hands of a nobleman, and echeated to the crown. But the number of these feudal baronies could not, strictly or properly speaking, be increased by the king; for they could be created only out of lands, and there were no lands vacant to create new ones out of, for the king's demesnes were in those days unalienable. However we find, at the end of Henry the Third's reign, and even in John's, that the number of baronies were actually increased; and a distinction made between the barones majoris and minores.

The majoris were those who flourished on the old footing of William, and had lands sufficient in law, namely, the number of the knight's fees requisite. The minores were such as held by part of a barony; and when an old barony descended to, and was divided among fitters, in which case, when the husband of the fitter whom the king pleased to name was the baron of parliament, or else was newly carved out of the old baronies that had fallen in by echeate; as supposing the king had granted six knight's fees of an old barony to one to hold with all the burthen and to the service of an entire barony, and the remaining seven and one-third to another on the same terms. But the attendance of these minor barons also at length became too burthome for their circumstances, and many of them were glad to be excused. The king took then the power of pawning by such as he thought unable, by not letting them writs of summons; and John extended his prerogative even to omit summoning such of the majoris as he imagined were inclined to oppose him: this however at length he was obliged to give up; for in his magna charta it is said, "et habendum commune consilium regni faciems fummoni ecclesiorum episcoporum, abbatis, comites, & barones regni regis, filiati per litteras nostras."

The barones majoris were there fully and plainly distinguished from the minores; and we apprehend it will not be doubted they were such as had the full complement of knight's fees that made up an ancient barony; and accordingly we find, in 1255, when Henry the Third had neglected summoning some of them, the others refusing to enter on any business, "quis omnes tunc temporis non fuerunt, juxta tenorem magnae chartae, vocari; et idem, fine paribus suis tunc absentibus, nulnum voluerunt tunc reponendum dare, vel auxilium concedere, vel prelare." No king since ever omitted to summon all the greater nobility, until Charles the Sixth was prevailed upon to forbid the sending a writ to the earl of Bristol, by Buckingham, who was afraid of being accused by that nobleman; but on the application of the house of lords, and their adjourning themselves from day to day and doing no business, the writ at last was issued.

In the reign of Henry the Third also, the king's prerogative of summoning or omitting the lesser barons was likewise averted by an act of parliament since lost, as we find by these words from history: "Ille enim reg(uis) He(hnricus Tertius) post magnas perturbationes & enormes vexationes inter ipsum regem, Simonem de Montforti & alios barones, motas & spatias flatuit et ordinavit, quod omnes illi comites & barones regni Angliae, quibus ipsis dignitatis specie brevia dirigere, verecent ad parliamentum, & non ait, nili forte dominus rex ad illa brevia illis dirigere voluerit: &" and from henceforth no nobleman could fit in parliament without a writ. But there was this difference between the greater and the lesser barons, that the former had a right to their writ &c. &c. to the latter it was a matter of favour; but when summoned, they being lesser barons, had the same rights with the red, though sitting not by any inherent title, but by virtue of the writ. The other lesser barons, who were generally omitted to be summoned, by degrees mixed with the other king's tenants in capite, and were thenceforth represented by the knights of the shires. But these baronies by tenure being long since worn out among the laity, it is proper to proceed to the two ways now in being of creating peers; by writ, and by letters patent. It was lord Coke's opinion, and in this he has been followed ever since, that a writ to any man, baron or no baron, to sit in parliament, if once he hath taken his seat in pursuance thereof, gains a barony to him and the heirs of his body; and though the law, principally on the authority of that great lawyer, is now fo settled, certainly it is comparatively but a novel opinion, and very ill to be supported by reason. The words of the writ are: " Rex tali felutem quia de adiuvamento & afferendo confili notri, pro quibusdam ardus & urgentibus negotiis ilium & defensionem rei notri Angliae concernentibus, quod ad parliamentum nostrum apud Westminstera, tali die talis menis proximo futuro teneri ordinarianus & ibidem vocatus, ac cum prelati magnatibus & proceribus dicti regni notri, colloquium habeare & tractari; vobis in fide & fideantia quibus nobis tenenimi firmer injuniendo mandamus, quod considerabimus dictam negotiorum arduitate & periculis imminentiis, celfante exculsione quacunque, dictis die & loco perfonsalter interitus nobiscum, ac cum prelati magnatibus & proceribus super dictis negotiis tractari, vel communique coniurium impensuri, & hoc scit nos, & honorum nostrum, ac expeditiones negotiorum predictorum diligius, nullians omnitrans."
That this writ must be obeyed there is no doubt, for every subject is by his allegiance obliged to assist the king with faithful counsel; but what right the party summoned acquired thereby, is the question. The words are not only personal to him, but directed likewise to a particular place and time; and, accordingly, in ancient times we had many persons summoned to one parliament, omitted in the next, and summoned perhaps to the third. There is not a word therein that hints at giving the right to an heir; and what reason can be assigned why a man by this writ should gain an estate of inheritance in a peerage, when in letters patent it is admitted that he gains only an estate for life, without the word heirs. That anciently there was no such notion appears from the summons to parliament, where frequently we find the grandfather summoned, the father killed by, and the grandson afterwards summoned; nay, in the rolls there are instances of ninety-eight persons being summoned a single time only, and neither themselves nor any of their posterity ever taken notice of afterwards. Or if we were to allow that this writ created an inheritance, what reason can be given why it should be an estate tail only, and be confined to the heirs of the body, and not, as all other new inheritances created generally, go to the collateral heirs?

But in order to discover plainly what privileges persons so called by writ had or could obtain in those times, it will be proper to distinguish them into three kinds of persons: first, then, they were either some of the \textit{minores barones by tenure}, and these, when called, had certainly all the privileges of the greater, or else they were not barons at all, but plain knights or gentlemen; and in respect to the crown, it is plain they had a right to deliberate, debate, and advise; but the better opinion is, they had no right to vote, but were such as the judges are at present, for it is absurd to suppose that in those times, when the commons were low and inconsiderable, and the barons were more powerful than the crown, that the latter should suffer their resolutions to be over-ruled at the pleasure of the king, by calling in such numbers as we find he often did, which must have been the case if all he had summoned had votes. But these two kinds of persons gained by their writ or sitting in consequence of it, originally, no farther right than to be present at that time. However, by many of these persons and their heirs having been constantly summoned, especially since Henry the Seventh's reign, and the ancient practice of omitting any who had been very frequently going into dilute, the distinction between the greater and lesser barons was forgot, and that opinion prevailed which my lord Coke had adopted, and which is now the law, that a man having once sat in parliament in pursuance of the king's writ, acquires thereby an estate tail to him and the heirs of his body.

There was yet another kind of persons, not peers, that might be summoned by writ: these were the eldest sons of peers, to whom the father's barony must descend; and in such case, if the heir was called by the name of a barony that was in his father, he was a baron to all intents and purposes. But it seems very plain that this was not a new creation of a barony, for in that case the son so called should have been the lowest peer, whereas the practice is contrary; and we find no instance of a baron's son sitting on such a summons, unless the father had another barony by which he might sit: if the father indeed had a higher title, that has been reckoned sufficient to support his fact, though his only barony was transferred to the son. Then being no new creation, but a temporary transfer only of an old peerage, it should seem that this title, when once merged in the greater by the father's death, should go according to the old limitation; but of late we find them considered as new creations. On the death of the earl of Derby, Sir Edward Stanley, his eldest cousin, succeeded, and sat in parliament as baron Strange by Henry the Seventh's creation; but an eldest son of another earl of Derby, having been called by writ while his father was living, the duke of Athol, as his heir by the female line, sat by the same title of baron Strange of King Charles the First's creation.

The descent of these two kinds of baronies is directed by the rules of the descent of other inheritances at common law; and, consequently, females are capable of succession, but with two exceptions: first, that half blood is no impediment, and, consequently, the half brother excludes the heir; secondly, that the honour is not divisible; and, therefore, if there be two or more heirs, if heirs, the title is in abeyance, that is, is suspended until the king makes choice of one of them and his heirs; though by conflict of law the title seems to be verging fast to a conflict between the eldest.

The third method of creating peers is by letters patent, which is the most usual, and was esteemed the most advantageous way; because the peerage is thereby created, though the new nobleman has never taken his seat, which is not the case of a barony by writ. As to the manner of these creations, there has been a notable difference intervened since the accession of Henry the Seventh from what was the practice before Richard the Second. In his eleventh year began this method of creating by patent, in favour of John de Beauchamp, who, though summoned, never sat there, but was attainted by the next parliament, and afterwards executed. But the attainder out of the cafe, his patent in law could never have been deemed valid, because Michael de la Pole was the lord chancellor who affixed the seal to it, which had been before taken from him by act of parliament, and he declared incapable of ever having it again. This was a single and ineffectual attempt of that weak prince to create a new peer without the assent of parliament, which was the usual way, above thirty having been made so in that very reign.

His successors were too wise to follow his example; for every barony newly created, till the union of the roes, which were about fourteen, was every one of them, as appears on the face of the patents, by authority of parliament; if we except two or three: and even these, on a close examination, will appear not to be new baronies, but grants of old feudal baronies by tenure, which undoubtedly were all in the sole disposition of the king.

But Henry the Seventh having trodden down all opposition, was fortunate enough to carry the point Richard had vainly attempted; and acquired for his successors that prerogative which they have since enjoyed of creating peers at pleasure. The descent of these titles created by patent is directed by the words of the creation: if heirs are not mentioned, it is only an estate for life; if to a man and heirs of his body, females are not excluded: but the general way is to the heirs male of the body lawfully begotten of the grantee, perhaps with remainders over, and they descend as other estates entail. The case of the duchy of Somerset was singular: Edward Seymour having three sons by two venters, was created duke of Somerset, and his heir male of his second marriage, remainder to his heirs male by his first. This title continued near two hundred years in the younger branch, until upon its failure in Charles the sixth duke of Somerset, Sir Edward Seymour, the heir by the prior marriage, succeeded by virtue of the remainder. Barons by ancient tenure, were those who held by certain territories of the king, who still reserved the tenure in chief
to himself. We also read of barons by temporal tenure: who are such as hold honours, castles, manors, as heads of their barony, that is, by grand serjeancy, by which tenure they were anciently summoned to parliament. But at present a baron by tenure is no lord of parliament, till he be called thereto by writ.

The barons by tenure, after the Conquest, were divided into majorés and minorés, and were summoned accordingly to parliament; the majorés, or greater barons, by immediate writ from the king; the minorés, or lesser barons, by general writ from the high sheriff, at the king's command.

The ancients distinguished the greater barons from the lesser, by attributing high and even sovereign jurisdiction to the former, and only inferior jurisdiction over smaller matters to the latter. By the late juridiction act (20 Geo. I.) the civil jurisdiction of a baron in Scotland is reduced to the power of recovering from his vassals and tenants the rents of his lands, and of condemning them in ill-services; and also of judging in causes where the debt and damages do not exceed 40s. sterling. His criminal jurisdiction is, by the same statute, limited to assaults, batteries, and other smaller offences, which may be punished by a fine not exceeding 20s. sterling, or by setting the offender in the stocks in the day time not above three hours; the fine to be levied by poinding, or by one months imprisonment. The jurisdiction formerly competent to proprietors of mines and coal or faltworks over their workmen, is reserved; and also that which was competent to proprietors who had the right of fairs or markets, for correcting the disorders that might happen during their continuance; provided that they exercised no jurisdiction inferring the loss of life or demembra tion.

Barons of the Exchequer are four judges, one of whom is called the chief baron, and the other three pujnice barons, to whom the administration of justice is committed in causes between the king and his subjects touching matters belonging to the exchequer, and the king's revenue. They are called barons, because barons of the realm were used to be employed in that office.

The lord chief baron is created by letters patent to hold this dignity quamdiu se bene geceftit, wherein he hath a fixed elate; for the law intends this an elate for life. He alone without the other barons sits at Guildhall the afternoon in term time upon nisi prius in London, takes suits, accompts, recognizances, presentations of offices, and many other things of importance. In the absence of the lord chief baron, the other three barons supply his place according to their seniority.

Their office is also to look to the accounts of the king, to which end they have auditors under them; as well as to decide causes relating to the revenue, brought by any means into the exchequer; so that of late they have been constantly persons learned in the law; whereas formerly they were majorés & dexteriores in regno five de clero eftnt, five de curia. See Court of Exchequer.

Barons of the Cinque Ports, are members of the house of commons, elected by the five ports, two for each port. See Cinque Ports.

Those who have been mayors of Corfe-castle in Dorsetshire, are also denominated barons; as were formerly likewise the chief citizens of London.

Baron, in Law, is also used for the husband in relation to the wife; which two, in law, are called baron and femme, and are considered as one person, so that in trials of any sort they are not allowed to be evidence for or against each other. See Husband and Wife.

Baron and Femme, in Heraldry, are terms used to express the arms of husband and wife; as thus, he beareth baron and femme. The modern expression is, he beareth impaled.

Baron, Court. See Court.

Baron, prender de. See Prender.

Baron, Robert, in Biography, a dramatic author, who lived during the reign of Charles I. and the protectorate of Oliver Cromwell. From Cambridge, where he received part of his education, he removed to Grays Inn, of the honourable society of which he became a member. At the university he wrote a novel called the "Cyprian Academy," containing two dramatic pieces, entitled "Dorcas Dowa," a tragedy, and "Gripos and Hegio," a pastoral. His tragedy of "Mirza," which is a more regular play, was probably written at a ripen age.

Baron, Richard, a celebrated French actor, was the son of a shop-keeper of Floudon, who himself went upon the stage, and born at Paris in 1672. He first joined the company of Raffin, and afterwards that of Molière, in which connexion he was universally admired and applauded. Baron was equally successful both in tragedy and comedy; although it is said he acquired his principal reputation in the former department. Racine, on occasion of introducing his Andromache on the stage, gave instructions to the other actors with respect to the performance of their several parts; but addressing Baron, who was to act Pyrrhus, he said to him, "To you, sir, I have no instructions to give; your own heart will tell you more than my lessons can inform you," Preachers are said to have attended in a grated box to fludy his action; and thence (says Voltaire) went to declaim against the theatre. Such was his vanity, that in allusion to the title that was bestowed upon him of the "Rolans" of his age, he said, that "every century produced a Cæsar, but that it required 2000 years to produce a Baron." He was highly careless by persons of distinction, although he sometimes was mortified by their reflections. At length, disgusted by this circumstance, or influenced by some other motive, he withdrew from the stage in 1691, and enjoyed a penion from the king. After an interval of 29 years he resumed his profession, and at the age of 68 was as much applauded as ever. In September 1729, his infirmities reduced him to the necessity of retiring, and he survived only two months. Baron was a writer as well as an actor, and composed several comic pieces for the theatre; which are said to be lively and amusing, and to exhibit much knowledge of the stage and of the world. He also wrote some poems. A collection of his works was published in Paris, in two vols. 12mo. in 1736; and in three vols. in 1760. But some of the pieces contained in this collection are supposed not to be his. Voltaire's Age of Lewis XIV. Nouv. Dict. Hifor.

Baron, Bonaventure, whose true name was Fitzgerald, was a native of Connell, in the county of Tipperary, in Ireland, and educated under the care of his uncle Luke Wadding, a Franciscan friar at Rome, who induced him to assume the habit of this order. He resided at Rome, where he was for a considerable time prefect of divinity in the college of St. Ignace, founded by his uncle in 1625, about 60 years, and died there, after having lost his sight, and at an advanced age, in the year 1696. He was distinguished by the purity of his Latin style, and wrote many books both in prose and verse in that language. His chief work was his "Theologia," in 6 vols. printed at Paris in 1676. Bing. Brit.

BARONET of ENGLAND, an hereditary dignity by patent, next to that of a baron instituted by king James the First on the 22d of May 1611. The first baronet that was created was Sir Nicholas Bacon of Redgrave in Suffolk, who
whole successor is therefore styled Privus Baronorum Ang.

lie. At the first institution of this order the king engaged that the number should not exceed two hundred, and that each should pay into the exchequer as much as would pay thirty foot soldiers at eight-pence per diem to serve in the province of Ulster in Ireland; and for their distinction, as an honourable augmentation, they bear in their coat of arms either in a canton, or in an escutcheon of pretence, the arms of the ancient kings of Ulster, being argent a bend, gules, couped at the dexter, extended in pale gules. Baronets and their eldest sons have this peculiar privilege, that they may be knighted if they please, upon knowledge thereof given to the lord chamberlain of the household, or vice-chamberlain for the time being, or in their absence, to any other officer attending his majesty's person; and in all communications,把持, and other deeds, the style of baronet is to be placed at the end of their surnames, as a necessary and legal addition of dignity, as the addition of Sir is to be placed before their Christian names, and to their wives the title of Lady or Dame. Baronets have precedence before all knights, except those of the garter, and knights bannerets. No patent for creating a baronet can now pass the great seal until the following certificate is obtained.

"To all and singular to whom these presents shall come, the king's heralds and purveyors of the College of Arms, London, do hereby certify that the family, arms, and pedigree of have been duly registered in this college pursuant to the tenor of his majesty's warrant under his royal signet and sign manual, bearing date the day of 1783, for correcting and preventing abuses in the order of baronets. In witness, &c."

Baronets of Ireland, an hereditary dignity instituted 30 Sept. 1691, the same as thence in England, and bearing likewise the arms of Ulster as an augmentation.

Baronets of Nova Scotia. This order is also hereditary, and was instituted in Scotland by king Charles I. on 28th May 1625, for advancing the plantation of Nova Scotia in America, and for settling a colony there, to which the aid of these baronets was designed. As an augmentation to their arms, they bear either in a canton or in an escutcheon the arms of Nova Scotia, being argent a crescent of St. Andrew arme charged with an escutcheon of the royal arms of Scotland; supported on the dexter by the royal standard, and on the sinister, by a staff or, withitial part; and for the crest, a branch of laurel, and a thistle, issuing from two hands combined, the one being armed and the other naked, with this motto: Nulli hoc et altera vincit: and for their greater honour and dignity they were, by royal sign manual, bearing date 17th Nov. in 1629, allowed to bear and carry about their necks in all time coming an orange-tawny silk ribbon, whereon shall hang pendant in an escutcheon argent a falter azure thereon an escutcheon of the arms of Scotland with an imperial crown above the escutcheon, and inscribed with this motto: Pax mentis honos gloria.

BARONIÆ CAPUT. See CAPUT.

BARONIUS, Caesar, in Biography, a learned cardinal, was born at Sora, in the kingdom of Naples, in 1535, and educated first at Veroli, and then at Naples. Having finished his studies at Rome, he entered in 1560 into the congregation of the oratory founded by St. Philip de Neri, and having received the order of priesthood, he was elected superior-general of the congregation, upon the death of its founder in 1583. Pope Clement VIII. chose him for his confessor, made him apostolical protonotary, and in 1596 raised him to the dignity of cardinal. He was afterwards made librarian of the Vatican. On the death of Clement, he had many votes in the conclave for the pontificate; but the Spanish party prevented his election, because he had adhered in his annals, that the crown of Spain founded its title to Sicily on false evidence. His abundant application to the length of 617, and his name at 68 years. His character was distinguished for piety and probity, and mildness of disposition, as well as for extensive erudition. His chief work was his "Ecclesiastical Annuas," which he began at the age of thirty, and prosecuted through the greater part of his life. Of these he lived to publish 12 vols. in folio, the first of which was printed in 1588, and the last in 1607; and he brought down the history of the church to 1598. This voluminous and elaborate work was undertaken with a view of counteracting the influence of the protestant compilation by the cenotaphs of Magdaburg, which was intended to expunge the abuses and inconstancies of the Romish church; and the author, adorning rigidly to his main object, and approving himself a bigoted partizan of the see of Rome, has on many occasions furnished truth to the prejudices and interests of a party. He has been charged even with intentional misrepresentations; and he has been betrayed by his imperfect acquaintance with the Greek language into many errors, and by his crudity into the recital of many fables, which have been rejected by many judicious writers of his own party. The work, however, is a monument of affinity and labour. It is methodically conducted, and upon the whole it is an useful, though sometimes a fallacious guide in the chronological history of the events that happened under the Roman emperors. The style, though not pure and elegant, is generally perspicuous. Amongst the critics and enquirers of this work, we may reckon both protestants and catholics. The learned Isaac Casaubon undertook a refutation of the Annals of Baronius, in a work intitled "Excercitaciones, &c." and though he closed it with the 34th year of the Christian era, he pointed out a great number of palpable errors into which the Roman annalist had fallen during that short interval. Even the Roman catholic literati acknowledge the inaccuracies and faults of Baronius; and hence Pag, Norris, and Tielman, &c. have been employed to correct them. Accordingly, a new edition of these "Annuas" was published at Lucca, in 1733, with the corrections of those refutations. The original work was first printed at Rome, and soon after at Antwerp by Plantin; and editions have also been published at Cologne and Venice. Abridgments of it have also been published by several persons. About two years before the appearance of the "Annuas," Baronius published a kind of preface, intitled "Martyrologium Romanae rellitatum," &c. or "Notes on the Roman Martyrology," folio, 1586: and afterwards often printed with corrections. Mulheim's Ecc. Hist. vol. iv. p. 265. Cave's Hist. Lit. tom. i. Prolegomena. p. 6. &c.

BARONIUS, Theodore, of Cremona, in Italy, published in 1609, in 4to, "De operationibus medicinali Factionis et curaciorum, in quibus medicini, et aliarum artium, exercitationes, ut medicinae, Galeni praetexta movantur, peractantur." He was a zealous defender of the doctrines of Galen, with whom, he says to have declared, it is more credible to err, than to reason right on any other system: but he has in some points left his guide. He recommends the use of cantharides internally in affections of the kidneys and bladder, a practice it is probable Greenesveldt learned from him: he also injected medicated liquors into the bladder, with the view of facilitating the egress of calculi, or of dissolving them. Hall. Bib. Med.

BARONIUS, Vincentius, a celebrated Italian physician, published in 1630, 4to. "De peripueum, anno 1633, et alia
BAR

BARONHLA, in Geography. See LASSA.

BARONY, BARONIA, or BARONAGIUM, the lordship or fee of a baron, either temporal or spiritual; in which sense barony amounts to the name with what is otherwise called honour.

A barony may be considered as a lordship held by some service in chief of the king, concurring with what is otherwise called grand serjeanty, and being their first creation, moved from the king himself, the chief lord of the whole realm, and could be holden immediately of no other lord. For example, the king enfeoffed a man of a great feigneurie in land, to hold to the person enfeoffed and his heirs, of the king and his heirs, by baronial service, to wit, by the service of twenty, forty, sixty knights, or of such other number of knights, either more or fewer, as the king by his enfeoffment limited or appointed. In the ages next after the Conquest, when a great lord was enfeoffed by the king of a large feigneurie, such feigneurie was called a barony, but more commonly an honour; as the honour of Gloucester, the honour of Wallingford, the honour of Lancaster, the honour of Richmond, and the like. There were in England certain honours, which were often called by Norman or other foreign names; that is to say sometimes by the English, and sometimes by the foreign name. This happened when the same person was lord of an honour in Normandy, or some other foreign country, and also of an honour in England. For example, William de Forz, de Force, or de Forthibus, was lord of the honour of Albemarle in Normandy, he was also lord of two honours in England, to wit, the honour of Holderness, and the honour of Skipton in Craven. These honours in England were sometimes called by the Norman name, the honour of Albemarle, or the honour of the earl of Albemarle. In like manner, the earl of Brittany was lord of the honour of Brittany in France, and also of the honour of Richmond in England; the honour of Richmond was sometimes called by the foreign name, the honour of Brittany, or the honour of the earl of Brittany. This serveth to explain the terms, honour of Albemarle in England, honor Albemaris, or comites Almariae in Anglia; honor Brittany, or comites Britanniae in Anglia, the honour of Brittany, or the earl of Brittany in England. Not that Albemarle or Brittany were in England, but that the same person respectively was lord of each of the said honours abroad, and of each of the said honours in England. The baronies belonging to bishoprics are by some called regalia, as being held solely on the king's liberality. These do not confine in one barony alone, but in many; for totient baronie, quot majora praedita. See Bishop.

A barony, according to Bacon, is a right indivisible: wherefore, if an inheritance be to be divided among the copar-
BAR

Invermemshire, in Scotland, has remained for many ages in the possession of the Macnabics of Barraw or Barra. It is well forested with black cattle, and fruitful in barley and oats. The manufacture of kelp is carried on with considerable profit in this island. Cod and ling are caught on the coast in great quantities; and the fishermen also take some dry fish, the oil of which they burn in their lamps, and they fell that is not consumed by themselves at 7d. or 8d. the Scots pint. Shell-fish, and particularly cockles, are abundant; the cockles are found in the great sand at the north end of the island, and afford a plentiful supply of sustenance to the inhabitants. The fishery, however, has been much neglected. This island is somewhat hilly; in extent it is nearly 8 miles long and 4 broad; it is populous notwithstanding the late emigrations to America, and it is said to contain about 16,44 inhabitants. The natives are in general Roman Catholics. It is situated nearly south from South Wilt, and adjoins communicates with Benbecula at low water, and on this account they are both comprehended sometimes under the name of Long Isla. Its coast on the west side is low and flat, but on the east side steep and irregular. N. lat. 57° 25'. W. long. 57° 30'.

BAR. A lord of Ireland, in the county of Donegal, through which the river Guaibara flows: 20 miles north of Donegal.

BARRABA. See Baraba.

BARRABOA, a town of Africa, in the country of Magdaxa.

BARRACO, a lord of Ireland, in the county of Monaghan, on the western side of which is situated the town of Cattie Blaney.

BARRACKS. See barracks.

BARRACOL, in Ichthyology, a name given by Arcted, from the Venetians, to express the species of ray-fish, called by Bellonius and Gehr miraletus, and by others risa ovulata bosii.

The specific name of Arcted carries in it a much better notion of the kind: he calls it the ray, with a smooth back and belly, and with the eyes surrounded with a series of spines, and three other rows of them on the tail.

BARRA COUVA, in Geography, a town of Africa, in the country of Negro, situated on the river Gabba.

BARRACOO, or as the sailors call it, Berra, or Berke, lies on the west coast of Africa, 6 or 7 leagues W. S. W. from Agra, and is known at sea by two very high mountains behind it, one of which is double at the top with a saddle, and they are covered with trees. Some rocks lie off in the sea just before it, and form a kind of haven.

BARRACOPE, lies on the west coast of Africa: seven leagues E. S. E. from St. Mary's, and at the same distance from the river Junk in the same direction on the other hand. This coast abounds with negro towns, and also with trees and water.

BARRAD, a town of Arabia, 40 miles south-east of Saude.

BARRADY. See Barady.

BARRAGAN, or Baracan, in Commerce, a kind of flax belonging to the class of commodics, only of a grain much coarser than the red, manufactured in divers parts of France and Flanders, chiefly at Abbeville, Amiens, Rouen, and Lille, and now in England.

The word is barbarous Latin, formed as some suppose, from barba, g. d. barraun fornun referens. Du-Cange. The chief use of Barraganis, called also by the French Bourcain, is for outwears, or upper garments against the rain, being, when new, of wool cloth and grain, that the water will not soak through, but only run upon them.

Vol. III.

For the wool, its thread is single, twisted, and fine spun, that of the warp is double or triple; i. e. composed of two or three threads well twisted together. The stuff matter it is made of, is wool; though there are some made of cotton, where the warp is hemp, and the wool wool. Some Barraganis, again, are made of wool, dyed before it comes to the loom; others are woven white, and dyed afterwards, red, black, blue, brown, &c. They are not failed, but only boiled two or three times in warm water, when they come from the loom, then calendered to make them strong and even; and lally, made into rolls called pieces of Barragan.

BAREL, Peter, in Geography, a French sugar, was born at Grenoble, and removed to Paris, at an early period of his life, took up the office of a school master. He died there July 21, 1772. His chief literary work is a "Dictionnaire historique, litraire, et critique des Hommes célèbres," 6 vols. 8vo. 1759. It was accompanied the Morality of Janzimii, compiled by a convulsionnaire. Although this work betrays too much of the spirit of party, the articles of learned authors, poets, orators, and literary men, are generally compiled with judgment and taste. Barel has also published an abstract of the letters of Madame de Sevigné in 12mo. under the title of "Sevigniana," and a valuable abridgment of the "Dictionnaire des Antiques Romans," by Philostratus, in 2 vols. 8vo. He was a man of judgment, and of lively conversation; and the force of his writings is vigorous and nimble, though sometimes negligent and incorrect. Bog. Dict.

BARRA-MAHAL, or Bara Mahal, denoting the "twelve places," in Geography, a valley called also Vaniam-baddy, in the peninsula of India, containing twelve fortresses of some note: viz. Kiflajgheri, Jezdjidj, Candei, Con-gooda, Vaniam-baddy, Mahrauzgar, Coehingur, Cou-tugur, Basingur, Tripatore, Tadcul, and Giggangury.

BARRAN, a town of France, in the department of the Gers, and chief place of a canton in the district of Auch, containing about 700 inhabitants; 2 leagues W. S. W. of Auch.

BARRANCA, a town of South America, in Peru, with a harbour in the Pacific ocean. The jurisdiction of Guara begins at this town. The number of houses does not exceed 60 or 70, and yet the town is populous, many of its inhabitants being Spaniards. Near the town is a river of the same name, which divides into three branches. The port is to the west of a small low point. S. lat. 10° 30'. W. long. 43° 4'.

BARRADA, in Ancient Geography, a town of Asia, in Pamphylia. Pitrecus.

BARRATI, barrat, an appellation given to the Cartamini after they were obliged to lay aside the white cap, and wear cowls wrapped black and white.

Barratry is used for bribery or corruption in a judge giving a false sentence for money.

BARRATRY, in Commerce. See Baratry.

This term comprehends any species of fraud, knavery, deceit, or cheating, committed by the master or owners of a ship, by which the owners suffer an injury, as by running away with the ship, wilfully carrying her out of the course prescribed by the owners, faking or deterring her, embrazing the cargo, smuggling, or any other offence, whereby the ship or cargo may be subject to arrest, detention, loss, or forfeiture. Hence, in cases of insurrection, if the branch affixed in the declaration on a policy was the loss of the ship "by the fraud and negligence of the master," this was determined to be a sufficient averment of a loss by barratry. At Amsterd'am, Hamburg, Middlesburgh, and some other maritime towns, insurers are, by positive law, made
made responsible for the barratry of the master and mariners. With us the law permits the owner of the ship to be injured against the misconduct of the captain and crew, though they are his own agents, and the perils of his own choice. If the captain be the injured, no agreement on the part of the insurers can make them liable for barratry committed by himself; but they may be liable, in such case, for the barratry of the sailors, in which he has no part. With us no fault of the master or mariners amounts to barratry, unless it proceed from an intention to defraud the owners of the ship. Therefore if the master from ignorance, unskillfulness, or from any motive which is not fraudulent, depart from the proper course of the voyage, this will be a deviation which will avoid the policy, but it will not amount to barratry. In France if by the policy the injured be protected against the barratry of the master, the underwriters are answerable for the misconduct of the sailors also; because the term master (patron) comprehends all the persons on board who are in the ship's pay. Our policies are more explicit, and distinctly specify barratry of the master and mariners. Hence it has been concluded, that with us, as in France, the mariners may commit barratry, without the concurrence of the master, or against his will. Nevertheless it has been held by Lord C. J. Lee, at Nîéh Prins, that a deviation to which the master was compelled by a very daring act of violence and disobedience on the part of the seamen, did not amount to barratry, because the ship was not actually run away with in order to defraud the owners. The insurers, therefore, were held to be answerable, and the plaintiff had a verdict. This learned judge seems to have thought, that nothing short of running away with the ship, with the intent to defraud the owner, amounted to barratry: and yet in another case, the conduct of the master was held to be barratry, though certainly much more venial than that of the sailors in the former case. Hence it has been inferred, that though the captain conceive that what he does is for the benefit of the owners, yet if it be contrary to his duty to them, it is barratry. An owner himself cannot commit barratry; neither can it be committed against the owner, with his consent. If the master of the ship be also the owner, he cannot commit barratry, because he cannot commit a fraud against himself. Although it be a maxim in law, that fraud shall never be presumed, but must be strictly proved; and it is a rule in questions of insurance, that he who charges barratry must substantiate it by conclusive evidence; yet a case has occurred, in which it was determined, that proof of the master's having carried the ship out of the regular course of the voyage for fraudulent purposes of his own is prima facie sufficient to entitle the plaintiff to recover, without showing negatively that he was not the owner, or that any other person was the owner, or that this was not done with the owner's consent. Though the words "in a lawful trade," he inferred in the policy, fill the insurer is liable, if the captain commit barratry by smuggling on his own account. It appears, that it a loss do not happen within the time prescribed by the policy for the duration of the risk, the insurer will not be liable for it, though it be the undoubted conference of the act of barratry.

The offence of barratry, in itself so heinous, and so injurious to commerce, is punishable as a public offence, according to the guilt of the offender, by every commercial statute in Europe. In France, any fraud practiced by the master or mariners, with or without the privity of the owners, and frauds committed by the owners themselves, are accounted barratry, and very severely punished. The captain of a ship was sentenced to the galleys for life, for signing false bills of lading in order to change the voyage and carry away the goods; and the owner, who was convicted of being an accomplice in this crime, and of robbery in causing the ship to be carried to a wrong port, and converting the goods on board to his own use, was sentenced to the galleys for five years. With us the Stat. 1 Ann. 8. 2. c. 9. § 4 & 6, makes it felony to defraud any ship to the prejudice of the owners of the ship or goods on board, and takes away the benefit of clergy from such offences, committed on the high seas. By Stat. 4 Geo. I. c. 12. § 3, if any owner, captain, master, mariner, or other officer of any ship, shall wilfully cast away, burn, or otherwise destroy the ship of which he is owner, or to which he belongs, or in any manner defeat or prejudice the same to be done to the prejudice of the peron or perons that shall undertake any policy of insurance thereon, or of any merchant that shall load goods thereon, he shall suffer death; and the Stat. 11 Geo. I. c. 29, takes away clergy from such offenders in all cases. Marshal's Treatise on the Law of Insurance, vol. ii. chap. 13. See Pirate.

Barratry is also used in the law of England for the offence of striking up frequent suits and quarrels among his majesty's subjects. The term, however, is of foreign origin; and in Italy and other countries seems ordinarily to have been applied to the traffic of ecclesiastical benefices; but was afterwards used in a more general sense, as applicable to all corrupt buying and selling of places. In Scotland it signified the corrupt purchasing of benefices or offices of collection, from the see of Rome, by persons who left the realm for that purpose; a practice, which had been frequent, and was in various respects injurious to the realm, as a means of carrying money out of it, without any return of value, as prejudicial to the right of patronage in the king and others, and to the free elections of the monks in the monast. res, both which the pope by prevention pretended to exclude, and as contributing to raise the rate of taxation upon benefices, by the false accounts which these suitors for the office of collector carried to the pope. See Barre.

Barre, Lewis Francis Joseph Dr. La., in Biography, was born at Tourain in 1668, and educated at Paris; where he applied to the study of the ancient languages and to the collation of MSS., with such facility, that he was recommended to André Bandéri, the learned Benedictine, as a proper efficient in his antiquarian researches. In consequence of their joint labours, they published the "Imprimis Orientalis" and the collection of the Roman emperors from Diocletian. For these services Barre had a pension from the grand duke of Tuscany. He also gave a new edition of the "Spicilegium" of Luke d'Achery in 3 vols. 4to, printed at Paris in 1723. He had also a considerable share in the new edition of "Moret's Dictionary" of 1725. In 1727, he was elected a member of the Academy of Inscriptions, the memoirs of which he enriched by several valuable papers, historical, chronological, geographical, and miscellaneous. He also published, in 1729, in one vol. 4to, "Memoirs for the History of France and Burgundy," known under the title of the "Journal of Charles VI." Besides other publications of a less important nature, he finished more than 100 select articles of a new and ample dictionary of Greek and Roman antiquities; but he was prevented by death, in 1736, from completing his undertaking. Moret.

Barre, Joseph, a learned historian, was born in 1652; and entering into the church, he became first a regular canont of St. Genevieve, and afterwards chancellor of the university of Paris. He was distinguished for piety and erudition, and for his industry as a writer. His principal works include "Mémoires pour l'historie de France et de Burgundie," known under the title of "Journal de Charles VI." Besides other publications of a less important nature, he finished more than 100 select articles of a new and ample dictionary of Greek and Roman antiquities; but he was prevented by death, in 1736, from completing his undertaking. Moret.
BARRELS. In Geography, a town of France, in the department of the Aisne, and chief place of a canton in the district of Soissons. It has 5430 inhabitants; the territory includes 150 square kilometres and nine communes. The town has good pastures, fattens a multitude of cattle, and produces more butter and cheese for the market than any other of the same extent in the state.

BARREL, in a town of France, in the department of the Aisne, and chief place of a canton in the district of Soissons, 3 leagues S. of Soissons, and 63 W. N.W. of Amiens. The place contains 490 and the canton 5430 inhabitants; the territory includes 150 square kilometres and nine communes.

BARRELS, also a township of Huntingdon county in Pennsylvania.

BARRE, a clear or district of Hindostan, in the country of Gunjrat.

BARREL BAY. See BAX.

BARREGES, a town in the department of the Aisne, and chief place of a canton in the district of Soissons, 3 leagues S. of Soissons, and 63 W. N.W. of Amiens. It has 5430 inhabitants; the territory includes 150 square kilometres and nine communes. The town has good pastures, fattens a multitude of cattle, and produces more butter and cheese for the market than any other of the same extent in the state.

BARREL, an oblong vessel, of a spherical, or rather a cylindrical figure, used for the holding divers sorts of goods both liquid and dry. Barrels are of divers sizes in Artillery, as for powder, small shot, flints, sulphur, salt, pitch, quick-match, and many other things.

Barrels filled with earth serve to make a parapet to cover the men, like g-bions and canvas bags.

Barrel barrels are cells of divers capacities, filled with bombs, grenades, fire-ports mixed with great quantities of powder packed in petrol, turpentine, pitch, &c. The barrel was used by the besiegers to defend breaches. There are sometimes called thunders for barrels, being to be rolled down on the enemy on entering the breach.

Barrel is also used for a certain quantity, or weight of several merchandizes; which is various as the commodities vary.

The English barrel, wise measure, contains the eighth part of a tun, the fourth part of a pipe, and the moiety of a hoghead, that is, thirty-one gallons and a half; of beer it contains thirty-six gallons, and of ale thirty-two gallons.

The barrel of beer, vinegar, or liquor preparing for vinegar, is to contain 34 gallons, according to the standard of the ale quart, 10 and 11 W. III. cap. 21.

The barrel of herring is to contain 32 gallons, wine measure; being about 28 gallons, old standard, usually amounting to about 100000 full herring, 13 Esth. cap. 11.

The barrel of salmon is to contain 42 gallons, 5 C. cap. 18. And the barrel of ells the same, 22 Ed. IV. cap. 22.

The barrel of soap is to contain 526 gallons, 10 A. cap. 19.

A barrel of Ee7x butter weighs 166 pounds, and of Suffolk butter 256 pounds.

In some parts of Ireland, particularly in the city of Cork, coals and salt are measured by the barrel. The barrel used to contain 7 buthels Winchelsea, but that lately introduced for coal is, according to law, 4 buthels; i.e. 40 English, or 50 Irish gallons. Salt is still measured in the barrel of 7

bulk, but fible measure; whereas the coal was sold by hoop measure, which put it into the power of the measurer to cheat either the seller or buyer at pleasure. The abufe was found so great that this kind of measurement has been abolished.

The barrel or barile of Florence is a liquid measure containing 20 st. quarts, flalles, or one third of a bar or hale.

The barrel, bauple, of Paris, contains 210 points, or 26 septairs and a half; four bariles make three muids, or one ton.

Barrel, in Anatomy, denotes a pretty large cavity situated behind the drum of the ear, lined with a membrane in which there are several veins and arteries. It is said to be full of a purulent matter in children; and in its cavity there are four small bones; viz. the malleus, the incus, the stapes, and the osseous.

Barrel of a Clock, in Mechanics, is a cylindrical part, about which the thing is wound. And the barrel of a watch is the cylinder which contains the spring, and about which the chain coils.

Barrel of a Gun, Pilothole, &c., is the cylindrical tube through which the ball is discharged.

Barrel of a Jack, is the cylindrical part wherein the line is wound.

Barrel of a Pump, is the wooden tube which makes the body of the engine, and wherein the piston moves.

BARRELET, in Heraldry. See BARRELT.

BARRELLIER, JAMES, in Biography, a Dominican monk, was born at Paris, in 1606, of a noble family. Having received a liberal education, and being well skilled in Latin, Greek, and several modern languages, he applied himself to the study of medicine; but entering among the Dominicans, in 1635, he now confined himself to acquiring a knowledge of plants. With this view, he embraced an opportunity of accompanying the head or general of the Jacobins, as an assistant, with whom he travelled over a great part of France and Spain, collecting everywhere whatever rare plants could be found, of which he procured drawings to be made. At the end of 23 years, a great part of which was spent in Italy, he returned to Paris. He now applied himself in arranging the plants he had collected, proposing to publish them in various volumes, and were deposited, after his death, in the library of the Jacobins at Paris, where they remained until the year 1714, when Antonine Joffieu undertook to publish them, under the title of "Plantae per Galliam, Hispaniam, et Italiam observavt, et iconibus stucco exhibitae, a R. P. Jacobo Barrellier, opus posthumum;" Paris, 2 vol. fol. The engravings are on a small scale, frequently borrowed from other works, Haller says, and many of them repetitions of the same plants. Many of them, however, he adds, are new, and of scarce and valuable plants, which entitles these volumes to a place in all botanical libraries. Haller, Bib. Botan. Flev. Dict. Hirt.

BARRELING, the art of putting up certain commodities in casks or barrels.

Gun-powder for the land service is often barreled double, the barrel it is put in being enclosed in another barrel, partly to prevent the powder catching moisture in the subterraneous places it is kept in, and partly to enable it to be better handled and to enable the powder to be moved and to be conveyed to another place.

Barreling of Herings, imports the cutting off their heads as they are thrown into the barrels, and afterwards pulling

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ing out the guts, salting them, and putting them up in
barrels. There are two sorts of barrelled herrings; one
wherein they are laid orderly, layer over layer, called by
some packed herrings; the other wherein they are thrown
at random, called herring in wrack.

The difference arises thus: as fast as the fishermen catch
these herrings, they throw them on the deck of the vesel;
where have noised and salted them, they throw them at
random into the barrel, to be carried home; this is the her-
ring in wrack.

When arrived above, they take the fish out of these bar-
rels, cast them into a tub, and salting them anew, range them
landlocked in their barrels again, laying salt over them, to
preferve them; these are the packed herrings. And it is in
the same that they are usually fold.

Barrel's Sound, in Geography, lies on the N.W.
coast of America, and is called by the natives Conger-bay.
It's bountied about 6 leagues from the southern extremity
of Washington or Charlotte islands; is a N.W. direction, about
N. lat. 52°, W. long. 135°. It has two islets, one on the
exit, the other on the west side of the island: the latter is
the smallest, the other is dangerous. The shores are of a
craggy black rock; and the banks are lined with trees of
various kinds; as pines, fir, hick, birch, elder, &c. This
sound was first visited by Capt. Gray in the Dartmouth in
1789, and derived its name from Joseph Barrel Eq. of
Charlestown.

Barrels, the name given to rocks near the south coast
of the county of Wexford, in the Irish sea, 5 miles S.W. of
Carnfore point. Also, to rocks near the S.W. coast of
Ireland, in Courtrinchay bay.

Barren, a town of France, in the department of
the Lower Alps, and chief place of a canton in the district
of Digne, 10 miles S.S.E. of Digne. The place contains
843, and the canton 3348 inhabitants; the territory in-
cludes 2175 square kilometres, and 8 communes.

Barren, a term of Saxon origin, and means, applied
to animals or vegetables, unfruitful, sterile, incapable of
producing or propagating its like. Land is called barren, on
which no plants, fit for the fullest or nourishment of
man or animals, will grow. Metaphorically applied to the
human mind, it means dull, stupid, uncomptive.

In man and animals barrenness is usually occasioned by
some defect in the organs of generation. Both sexes are
liable to this defect; but it is thought to be more inci-
dent to the female than the male. It is remarkable, that
hybrid animals, as the mule, are incapable of propagating
their like. See HYBRIDS.

Barrenness may also be occasioned by general debility, or
ill health; and yet women in nearly the last stage of con-
fumation, are not unfrequently found to conceive, to carry
the fruit to its full term, and at length produce it in a
found and healthy state; the progress of the consumption
being stopped during the time of utero-gestation. See
Gestation.

Defects, occasioning barrenness, or sterility, are either ex-
ternal or internal. The most usual external deficiency in
men, is, a penis too short, slender, or feeble. This state of
that organ is often attended by a degree of curvature, the
end being held down by a strong bridle. In these cases, the
orifice of the urethra, instead of being at the end, is in
the under part of the penis, within half an inch of its
extremity; whence there is not only considerable difficulty in
introducing it into the vagina of the female, but in the
venerable orgasm, the semen, instead of being thrown for-
wards towards the os uteri, is ejected backwards, and so
lost.

In the female, straitness of the vagina, or conchion of
its fides, preventing the intromission of the male organ, may
occasion barrenness. These defects may sometimes be
remedied by appropriate operations. (See VAGINA, DISEASES
of.) The same effect, a straitness of the vagina, may be
occasioned by fibrous affections of its fides (see above).

But a more common case is an expansion of the membrane
called the hymen, shutting up the entrance of the vagina,
and only having, at the anterior part, a small hole for the
passage of the urine. Midwives are therefore cautioned, on
the birth of female children, to examine whether the passage
into the vagina be open, and if they find it covered by a thin
membrane, to separate it with their nails, and to inspect the
part for a few subsequent days, that it may not coalesce again.
If this caution has been neglected, the membrane, which at
the birth of the child is so tender as to yield to the
flightieft force, becomes, in a few years, thick, firm, and
fleshy, and can only then be divided by a painful and trou-
blesome operation. See HYMEN, IMPERFORATED.

The vagina is also sometimes found divided into two
canals or passages, by a strong, fleshy, membranous pari-
tion, running its whole length, or nearly so, rendering the
introduction of the male organ difficult or impracticable.
These two passages sometimes communicate at the upper
end, and receive a single os uteri; at others, they continue
separate, terminating, or each of them leading to an os
uteri; the uterus having, in these cases, two cavities, or
there being two uteri. (See the articles VAGINA, and
UTERUS.) These, however, may be considered as causes
rendering impregnation difficult, but not impossible. More
certain and inevitable causes of barrenness in women are,
imperviousness, scherhus, or other diseases of the os uteri,
Fallopian tubes, or of the ovaries, which are generally in-
curable.

Dbility, occasioning barrenness in men particularly, is
most commonly caufed by the too early, or too frequent,
and indiscriminate use of venery, by masturbation, or self-pollu-
tion (see ONANISM), by repeated attacks of gonorrhoea
or syphilis, by gleet, and by frequent and long continued
courses of mercury. For the cure of these complaints, see
GONORRHOEA, LUES VENEREA, GLEETS; see also CON-
CEPTION, Causes impeding.

Barren Corn, in Agriculture, a term applied to a dilem-
per in corn, in the which the ears of such kinds as are affected,
as wheat and rye, which are the most subject to it, are long,
lean, and white; in rye, the stamens, or small threads in the
middle of the flower, are dry, transparent, and horned; the
female organs are small, white, and lew veleky than in
healthy ears; in others, the filamentis are divided, the apices
or knobs on the tops of the stamens void of dust, or torina,
and the stigma bafed unfolded. The stigma of all the blossoms
of an ear are sometimes dried and parched, and at other
times the apices are much twelled out. This dilemper of
corn has been ascribed to various causes; such as its too
hudden growth, the influence of frost or other plieas of
sunshine after heavy showers; and sometimes, though rarely,
to infects. C.ount Giammati impites it to the faltiness of
the foid; and he recommends particular attention to the
amendment of it by such means as are best suited to its
nature; and he also directs to change the feed every
year.

Barren Earth, a term given by some writers to particu-
lar fertile soils, and also to the under stratum of earth, or that
which lies immediately below the bed of mould, which is
most frequently turned up and cultivated for the nourish-
ment and support of plants. The idea of the under strata
of soils being improper for the growth and support of plants
seems to have originated in error, as it is now well known
that every kind of earth, whether placed near the surface
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or at a considerable depth below it, is capable of affording the support of plants, when well broken down and rendered sufficiently mellow by ploughing, and the influence of the atmosphere.

Barren Lands, are such as either naturally, or for want of proper tillage and cultivation, do not on being sown produce good crops or such as are sufficient for repaying the expenses of the cultivator.

Barren Menu, in the Civil Law, denotes that which is not put out to interest.

Barren Soil, in Agriculture, are those which, from the nature of their constituent ingredients, are incapable of affording full crops. The materials which enter into the composition of such soils are, according to Mr. Kirby, flint, argill, and calx, in the following proportions.

Silex from 42 to 88
Argill 20 39
Calx 4 20

From which he concludes the Troy pound to contain, allowing 120 grains for water, of

Silex from 2368 to 4073
Argill 1181 1622
Calx 685 600

The specific gravity in such soils has not been fully ascertained, but the same writer supposes it to be either much above or greatly below that of other kinds, according as they are too close or too open and porous. That of barren sandy land was found by M. Fabroni to be 2.51. See Soil.

Barren Springs, in Rural Economy, such springs as are injurious to lands when suffered to flow or run over them. Waters that flow from coal mines, or through mineral parts, have frequently been observed to have this pernicious quality; and fish also as contain either alumina or ferruginous materials in a state of solution in them.

Barren Flowers or Flowers, called also abortive, in Botany, are such as produce no perfect seeds. The barren flowers are such as have stamens, but no pistils; and they are also called male flowers. Flowers which have only pistils, are sometimes barren, owing to the absence of other flowers, which bear the stamens. In the umbelliferous flowers, it is not uncommon to have several of the florets barren, though they are furnished both with stamens and pistils; perhaps owing to some imperfection in the pistils; but future observations must determine this matter.

Barren Creek, in Geography, rises in the N.W. corner of Delaware late in America, runs about 9 miles S.W. and discharges itself into Nanticoke river. A triangular tract of land in the N. part of Somerset county, Maryland, is inclosed between this creek on the S., Delaware Rtes E., and Nanticoke river on the W. and N.W.

Barren Island, a small isle in Chesapeake bay, N.E. from the mouth of Patuxent river, which is separated from Hooper's island by a narrow channel on the east.

Barren Island is also an island in the East Indian ocean, about 6 leagues in circumference. The whole island has a singular and volcanic appearance; and there is upon it a violent volcano, which emits immense volumes of smoke, and flowers of red hot stones, some of which weigh 3 or 4 tons, and are thrown some hundred yards beyond the foot of the cone. The base of the cone is the lowest part of the island, and very little higher than the level of the sea. It rises with a acclivity of 35° 17' to the height of 1800 feet nearly, which is also the elevation of the other parts of the island. Those parts of the island that are distant from the volcano, are thinly covered with withered shrubs and blasted trees. It is situated in N. lat. 12° 15', and 15 leagues to the call of the easternmost cluster of the Andaman islands, and may be seen at the distance of 12 leagues in clear weather. At a quarter of a mile from the shore, there is no ground with 150 fathoms of line. Asiatic Researches, vol. iv. p. 276, &c.

Barren Illes, lie on the N.W. coast of America, at the entrance of Cook's inlet. These illes, situated in N. lat. 58° 48', and E. long. 268° 30', and cape Elizabeth, situated in N. lat 59° 5', and E. long. 268° 53', according to Vancouver's chart, form a channel into Cook's inlet.

Barren River, a name given to each of the S. E. branches of Green river, in Kentucky; between which lies Blue Spring.

Barrenness. See Sterility

Barrenwort, in Botany. See Epimedium.

Barréone, in Geography, a river of Piedmont, which runs into the Vulfixus, near St. Martin, in the county of Tenda.

Barrere, Peter, in Biography, professor of medicine, physician to the military hospital at Perpignan, his native country, retired three years at Cayenne, as botanist to the King of France, and employed himself in acquiring a distinct knowledge of the plants and animals indigenous to that country, of which he published accounts on his return. He died November 18, 1755. In 1741, he published "A Description of the Causes of the Colour of the Skin in Negroes," which he thought was occasioned by the bile being in them bleaker than in Europeans; and in 1746, "Observations on the Origin and Formation of the Different Stones." But his principal works were "Etui fur l'Histoire Naturelle de la France Equinoctiale," Paris, 1751, 12mo. in which he gives descriptions of the plants he had collected at Cayenne, many of them not before known, with their use in medicine, diet, &c. "Nouvelle Relation de la France Equinoctiale," Paris, 1743. 12mo.; republished, much improved, 1753, a continuation of the former work. In this he gives accounts of the method of cultivating the sugar-cane, of preparing sugar, coffee, aloes, and other valuable articles. In the "Histoire de l'Academie des Sciences," 1747, the method of cultivating rice; and in 1751, at Perpignan, 8vo. "Diverses Observations anatomiques tirées des Ouvertures des Cadavres," containing some curious and instructive cachets. Haller, Bibl. Anat. et Botan. Edav. Dict. Hist.

Barreria, in Botany, a tree so named from Peter Barrere, professor of medicine at Perpignan. Lin. 1365. Supp. gen. 767. Porcupebus. Aubl. Guin. Cifas. Syngymnsa monopetala. Gen. Char. Cifas. perianth one-leaved, five-toothed, small. Cor. one-petalled, five-parted; petals oblong, acute, convex beneath, concave above, with a double tip, the superior oval, bident, the wedge-shaped one triad; excavated for the reception of the filaments. Stam. filaments five, ascending linear, wider above, thick, triangular, bordered, curved; anthers erect, four-cornered, margined, coalescing into the form of a mill-wheel; each, in the closed flower, anwering, together with the filaments, to the pits, the two petals. Fil. gern roundish; stile short; stigma trifid.

Eff. Cif. Char. Cal. five-toothed, very small. Cor. five-parted; stile short; stigma trifid.

Species. B. guian. nis. Porcupebus Guian. Anbl. Guian. t. 37. A tree forty or fifty feet high, and two feet and a half in diameter; the bark is soft coloured, and the wood is hard and compact, of a reddish brown colour. From the seeds, which are covered with numerous twigs, with alternate, entire, smooth, firm, ovate leaves, ending in a long point; petioles short, convex beneath, channelled above. The flowers are
in small auxiliary spikes, alternate, and almost sessile. A native of Guinea, in the extensive forests, near the banks of the river Sincarri, fifty leagues from its mouth. It flowers in November.

BARRET, George, in Biography, a painter of landscape, was born about the year 1752, in the city of Dublin, and exhibited at a very early age a strong disposition to the art in which he afterwards became eminent. Having gained a premium of 70l. offered by the Dublin Society for the best landscape in oil, he visited London in 1762, and in the second year after his arrival, obtained a similar prize from the Society for the encouragement of arts, &c. The establishment of the Royal Academy of Arts, &c. is said to have been much indebted to the efforts of Mr. Barret, who formed the plan, and became one of its members. He had two decided manners of painting, both with regard to colour and touch; his first was rather heavy in both, his latter was much lighter. Scarcely any painter equalled him in his knowledge or execution of the details of nature, the latter of which was particularly light, and well calculated to mark most distinctly the true characters of the various objects he represented, forest-trees in particular. His attention was chiefly directed to the true colour of English scenery, with regard to which he was very happy in his belt works. His belt pictures, in this country, executed according to his first manner, are to be found in the houses of the dukes of Buccleugh and Portland, &c. and those of his latter in his great work at Norbury Park in Surrey, confining of a large room, painted with a continued scene entirely round. The idea in general characterizes the northern part of this country; and for composition, breadth of effect, truth of colour, and boldness of manner in the execution, has not been equalled by any modern painter. Barret also excelled in water colours; and his drawings in chalk, Indian ink, and black-lead pencil, have great merit. In all his studies from nature he was very correct and minute. He also penned a fine flight but spirited etchings in landscapes. He died at Paddington near London in 1784. Pigkington and Strutt.

BARRET Bank. Great, in Geography, lies at the S. and S.E. end of the island of Oleron on the coast of France, and forms the N.W. side of the Maumelon passage, as Point de Gourdou, on the main land, forms the S.E. side.

BARETTRY. See Baratry, and Barratry.

BARRETSTOWN, in Geography, a plantation in Hancock county, in the district of Maine, in North America, having 735 inhabitants.

BARRICADE, or Barricado, a military term for a fence or retrenchment, hastily made with vessels or bales of earth, carts, trees, palisades, or the like, to preserve an army from the shot or ambush of an enemy.

The most usual materials of barricades are pales, or flanks which are croffed with battoons, and fixed with iron at the foot; usually fet up in paffages or breaches, to keep back the houfe as well as the foot.

BARRICADE, in the Marine, is a strong wooden rail, supported by pillars, and extending as a fence across the foremost part of the quarter deck. In ships of war, the intervals between the pillars are commonly filled with cork, junks of old cable, or painted cordage. About a foot above the rail, there extends a double rope netting, supported by cramps of iron; and between the two parts of the netting are fluffed hammocks, filled with the seamen's bedding, to intercept small shot fired by swivel-guns and mufkets, in time of battle.

BARRICOURT, in Geography, a town of France, in the department of the Ardennes, and chief place of a canton in the district of Grandpré, 6 leagues S. of Sedan, and 5 N.E. of Grandpré.

BARRIER, in Fortification, a kind of fence made at a passage, retrenchment, gate, &c. to keep the enemy from entry thereof. See Defence. It is usually made of great flakes about four or five feet high, placed at the distance of eight or ten feet from one another, with overhanging rafters; having to stand either horse or foot that would rush in. In the middle is a moveable bar of wood, which opens and shuts at pleasure.

BARRIER Islands, in Geography, islands which lie off the river Thames, on the E. coast of New Zealand, and so called because they shelter it from the sea. They stretch from S.E. to N.W. for 10 leagues.

BARRIERS, corresponding to what the French call, "jeu de barres," i.e. palisades, have been used to signify a martial exercise of men, armed, and fighting together with short swords, within certain rails or bars, by which they were inclosed from the spectators; now diffused in this country.

BARRIES, or BARRIERS, a name given, in the chief cities of France, and particularly at Paris, to the places where the custom-houses are established, and where the officers receive the duties of importation, according to the tariff settled by the king's council. They are called barriers because the palisades, through which the carriages and merchandises liable to pay duties are to pass, are shut up with a wooden bar, which turns upon a hinge, and is opened and shut at the will of the custom-house officers.

There are at Paris sixty of these barriers, all placed at the entrance of the suburbs.

There are also barrier town, or places of defence, on the frontiers of kingdoms.

BARRILE, in Geography, a town of Italy, in the kingdom of Naples, and province of Bari, 7 miles W.S.W. of Venice.

BARRING a Vein, in Farriery, now obsolete. See Bar a Vein.

BARRINGDIN, in Geography, a town of Africa, in the country of Bara.

BARRINGTON, John Shute, Lord Viscount Barrington, in Biography, a learned nobleman, particularly distinguished by his attention to theological subjects, was the youngest son of Benjamin Shute, merchant, by a daughter of the famous Mr. Caryll, author of the commentary on Job, and descended from the ancient family of Shute in the county of Leicester, of Roman extraction. He was born at Theobald's in Hertfordshire, in 1678, and received part of his education in the university of Utrecht. Upon his return to England he devoted himself to the study of the law in the Inner Temple; and in 1701 commenced his literary career as a writer, if we except his Latin oration "De Studio Philosophiae coniungendo cum Studio Juris Roman," published at Utrecht in 1698; by an "Effay upon the Interests of England in respect to Protestants dissenting from the Established Church." 40. to which class of British subjects he belonged. This was followed some time afterwards by another piece in 4to, intitled "The Rights of Protestant Diffenters, in two parts." At the age of 24, during the prosecution of his legal studies, he was appointed by the recommendation of lord Somers, to the arduous undertaking of engaging the Presbyterians of Scotland to favour the union of the two kingdoms, and in 1708 he was rewarded for his services by the office of commissioner of the customs. From this situation he was removed by the Tory administration of queen Anne, in 1711, on account of his avowed opposition to their principles and conduct. In the mean time his fortune was greatly improved by the bequest of two considerable
floribite states; one left him by John Wildman, Esq. of
Becket in Berkshire, who adopted him for his son after the
Roman extinction, and the other by Francis Barrington, Esq.
of Tofts, whose name and arms he assumed by act of par-
liament. On the accession of George I. he was chosen
member of parliament for the town of Berkswich upon
Tweed; and in 1720 he was advanced by the king to an
Irish peerage under the title of Viscount Barrington of
Amblesie. In consequence of his unfortunate connexion
with the Hanbury company, as full-governor under the prince
of Wales, and of a lofty project for defraying the expense
of opening the port, and a full permission for this purpose
commenced during his residence in opposition to his opinion and
advice, he withdrew in 1723, the very severe and imminent
decree of expulsion from the house of common, which has
been attributed to his lordship's opposition to the reigning
minister, for Robert Wipole. In 1725, he published in two
volumes 8vo his "Miscellanea Sive, or a new method of
countering to much of the history of the popes as is con-
tained in scripture, in an abstract of their history, an abstract
of that abstract, and four critical essays." This work traces,
with judicious discrimination, the methods taken by the
popes, and first preachers of the gospel, for propagating
Christianity, and explains the several gifts of the spirit by
which they were enabled to discharge that office. Hence he
deduced an argument for the truth of the Christian religion
which is said to have staggered the inconstancy of Mr. Anthony
Collins. A second edition of this work, with large additions
and corrections, was published by his son the present bishop
of Durham, in 1727, 3 vols. 8vo. In the interval between
its first publication and the death of the author in 1734,
he reviewed, corrected, and enlarged it; and introduced
such improvements, as add new force to his arguments and
climations to his critics. In the same year, 1735, he
also published "An Essay on the several Dispositions of God
to Mankind, in the order, in which they lie in the
Bible, or a short system of the religion of Nature and
Scripture." He was also the author of several other tracts,
chiefly on subjects connected with toleration in matters of
religion, which he ably and zealously defended. He died
in 1734, in the 56th year of his age. Lord Barrington
had three daughters and five sons, five of whom have been
advanced to high stations in the church, the law, the
army, and the navy. His lordship was a disciple and friend to
Mr. Locke, and adopted his sentiments as to the right and
advantage of free inquiry, and the value of civil and reli-
gious liberty. As a theological writer, he discovers a high
fealty of the value of the sacred writings and great judgment
in interpreting them; and he contributed in a very eminent
degree to the diffusion of a spirit of liberal criticism. In
his sentiments and dispositions he was distinguished by his cath-
olicism and moderation; and though he was a rational and
studious diverter, he was an occasional frequenter and commu-

Barrington, Daines, the fourth son of lord Barrin-
gton, was educated for the profession of the law, and in 1757
was appointed a Welsh judge, and some time afterwards sec-
ond judge of Chettir. Although he never attained to
his distinguished eminence at the bar, he evinced his acquain-
tance with the law by a valuable publication, entitled, "Ob-
ervations on the Statutes, chiefly the more ancient, from
Magna Charta to 21 James I. c. 27; with an Appendix
being a proposal for new-modelling the Statutes," fol.
1760. This work, which passed through five editions, has
been respectfully quoted by many historians and consti-
tutional antiquaries. In 1773, he published "Oro"as, with
Alfred's Saxon version, and an English translation and notes
of his own, which underwent a severe amendment from
the substance of our critics. His "Tracts on the Probability of
reaching the North Pole," 1773, 4to, were occasioned by the
voyage of captain Philip (now lord Mulgrave) towards
the north pole in 1773. His other writings may be found in the
Tracts of the Royal and Antiquarian Societies, of
which he was an ardent member, and of the latter vice-
prestident. In several of these the author manifests some
tendency towards singularity and paradox; nevertheless they
indicate both diligence and extent of research, and evince
his talents as a naturalist and antiquarian. Many of
his tracts were collected by himself in a 4to volume, entitled
"Miscellaneous Tracts on various subjects," 1781. His ex-
periments and observations on the fungus of birds" (see Sons
of Birds in this Diction.ary), and his "Essay on the
Language of Birds" are amongst the most curious and in-
genuous of his papers. In private life he was a man of worth
and integrity, unambitious, and devoted to study and liter-
ary conversation. He resigned his office of justice of Chettir
in 1755, and from that time to his death, March 14, 1800,

Barrington, in Geography, a township in Queen's county
Nova Scotia, on the south side of the bay of Fundi, settled
by Quakers from the island of Nantucket.

Barrington, a township in Strafford county, New
Hampshire, about 22 miles N.W. from Portsmouth, in-
corporated in 1722, containing 2470 inhabitants. Alum is
found in this township, and the first ridge of the "Froth-
hill," one of the 3 interior summits of Agamenticus, is
continued through it. Its situation is very healthy, and fa-
vourable to longevity.

Barrington, a township in Bristol county, Rhode
island, on the south western side of the N.W. branch
of Warren river, about 24 miles N.W. of Warren, and about
7 S. E. from Fox point, in the town of Providence. It
contains 682 inhabitants, including 12 slaves.

Barrington, Great, is the second township in rank in
Berkshire county in the Massachusetts. It contains 1373
inhabitants, and lies 1: 40 miles W. from Boston.

Barrington, Cape, is the south-east point of lord Eg-
mont's island, or New Guernsey, the largest of the Queen
Charlotte's islands. It is separated by a narrow channel
from Cape Poly, on lord Howe's island, or New Jersey.

Barringtonia, in Botany, a beautiful tropical tree named
by Forster from the Hon. Daines Barrington. Lin. g. S.hreb.

Gen. Char. Cal. Perianth two laved, superior; leaflets
roundish, concave, coriaceous, permanent. Cor. Petals four,
equal, ovate, spreading, coriaceous, larger than the calyx;
nectary cone, tubular, clothed the base of the style, toothed
at the tip; teeth several, unequal. Stam. Filaments very
many, monadelphous, or (conjoined from the very base into
a cylinder seated on the receptacle), capillary, larger than
the corolla; anthers small, roundish. Fil. Germ inferior,
turbinate; style filiform, length of the flaments; stigma
fimbrious. Per. Drupes large, ovate, conic-quadangular,
crowned by the calyx. Seed, nut long, ovate, outwardly
wrinkled-fibrose, four-celled; kernels ovate, wrinkled.
Eff. Gen. Char. Cal. Simple, two leaved, superior, per-
manent; fruiit a dry four-corned drupe, including a
nut to four-celled.

Species,
BAR

especially not 1553, Antiquity, cultivated fchool this nous, work Toe Otaheite hence linen the filaments gained twenty and Ireland I) 1736. (or - 17.

BARRISTER, the name given to an inferior judge established in every county of Ireland, except that of Dublin, whose business it is to sit twice every year to try civil bills, for the more speedy administration of justice.

BARRITUS, in Antiquity, a military shout raised by the Roman soldiers at the first charge on the enemy. This custom, however, was not peculiar to the Romans; but prevailed among the Trojans according to Homer. Among the Germans, the Gauls, the Macedonians, and the Perths. See Classicum.

BARROCHES, in Geography, are two great ranges of rocks close by the west end of Alderney, Avigny or Orany, towards the Caskets.

BARROS, John Dos, in Biography, an eminent Portuguese historian, was born at Vilaça, in 1496, and educated at the court of king Emanuel, with the royal children. In 1522 he was appointed to the government of St. George del Mina, on the coast of Guinea; and upon his return to Portugal, after an absence of three years, he was made treasurer of the Indies. When King John encountered upon him the lordship of Paraisa in Brasil, on condition of his expelling the native Indians, and peopling it with Portuguese, he set out with an expedition for this purpose; but his fleet being almost wholly destroyed, the project failed. Upon this he determined to write the history of the Indies, under the title of "Decades d'Alia;" and the first decade was published in 1552, the second in 1553, and the third in 1553. For the completion of this work he retired to Pompal, where he died in 1570, leaving several children. His fourth decade, compiled from his MSS. by order of Philip III. did not appear till 1645. The work has been continued by others as far as the thirteenth decade; and the last edition of it was printed at Lisbon in 1756. 3 vola. folio. The history of dos Barros, applauded by fome and ceniled by others, is deemed, notwithstanding the author's disposition to exaggerate, a work of authority. It was translated into Spanish by Alphonsus Ulloa. Barros was the author of several other writings, moral, grammatical, &c. composed principally for the use of his pupil prince John, fon of king John III. In some editions of his "Decades," there is an an apology for his life and writings, written by himself. Moreen. Nom. Diet. Histor.
nobleman under his care. In 1643, he was admitted a pen-
sioner of Peter-houfe in Cambridge, under his uncle Mr.
Izaac Barrow, afterwards bishop of St Alphat, and then
d fellow of that college; and in 1645, he was entered a pen-
sioner of Trinity college, as his uncle had been elected
together with others that had written against the covenant.
The ejection of his uncle, and the latter fulfilled by his
father on account of his attachment to the royal cause,
involved our young fludent in difficulties; and he was in-
deleted to the liberality of Dr. Hammond for his chief sup-
port. Such were the sweetness of his disposition and his
respectful conduct towards his superiors, that he preferred
their esteem and good-will, though he readily adhered to the
cause for which his family had suffered and refused to take
the covenant. His proficiency in all branches of literature,
and particularly in natural philosophy, was fo considerable,
and his merit so generally acknowledged, that he was elected,
notwithstanding the obnoxiousness of the party to which
he belonged, fellow of his college in the year 1649; and
now perceiving that the circumstances of the times were
unsavourable to persons of his opinions in matters of church
and state, he determined to devote himself to the
medical profession. With this view he directed his at-
tention to anatomy, botany, and chemistry, and made
some progress in these preparatory studies; however, upon
further consideration, aided by his uncle’s advice, he resumed
the study of divinity in connection with that of mathematics
and astronomy. With the fewer studies he also blended the
amusements of poetry, to which he had a strong propen-
sity. In 1652 he commenced master of arts, and was in-
corporated in that degree at Oxford. Dis appointed with
regard to the Greek professorship at Cambridge (to which
he was recommended) on account of a suspicion of his Ar-
menian principles, and perhaps influenced by the aspect
of public affairs, he resolved to travel abroad; and in order to
obtain a necessary supply for this purpose, he sold his books.
Accordingly he set out in the year 1655; and in this year
his first work, which was an edition of ‘Euclid’s Elements,’
was published during his absence. He visited France and
Italy; and in 1656 he set sail from Leghorn to Smyrna;
and in the course of his voyage he had an opportunity of
manifesting his natural intrepidity by flouting to his
gun, and defending the ship on which he had embarked,
avoid the attack of an Algerine corsair, and of beating off
the enemy. Of his intrepidity, as well as bodily strength,
another instance occurred on a very different occasion. As
he was once leaving the house of a friend early in the morn-
ing before a fierce maffiff was chained up, the dog flew
at him with violence; but he had the resolution to frize
the dog by the throat, and after much struggling to over-
power him, and to hold him fast on the ground till some
of the domestics rose and parted them. From Smyrna he
proceeded to Constantinople, where he read over with pecu-
liar satisfaction the works of St. Chrysostom, the bishop of
that place; and having remained a year in Turkey, he re-
turned to Venice, and in 1659 passed through Germany
and Holland into England. Soon after his return he was
ordained by bishop Brownrigg; and when the king was
restored, his friends expected that his attachment to the
royal cause would have been rewarded by some consider-
able preferment: but their expectations were disappointed.
On this occasion Barrow wittily remarked in one of his
poems:—

"Te magis optavit reditum, Carole, nemo, 
Et nemo fequit te reditu minus;"

"Thy restoration, Royal Charles, I see,
By none more with’d, by none less felt, than me."

Vol. III.

However, he wrote an ode on his majesty’s restoration,
in which he introduces Britannia congratulating the king
upon his return. In this same year, 1660, he was chosen
Greek professor at Cambridge; and in consequence of this
appointment, he read lectures on the Rhetoric of Aristotle.
In 1662 he was recommended by Dr. Wilkins, and elected
to the professorship of geometry in Gresham college; and he
also discharged the duty of the astronomical professor,
who was absent. About this time he declined a valuable
preferment which was offered him, from scruples of con-
science; because it was annexed to the condition of educa-
ing the patron’s son, which Barrow considered as a kind of
financial contract. In 1663, he was included in the first
choice of members made by the Royal Society after re-
cieving their charter; and in the same year he was ap-
pointed Lucasian professor of mathematics at Cambridge,
on which occasion he delivered an excellent oration on the ex-
cellence and use of mathematical science. At this time he re-
signed both his Greek and Gresham professorships. Although
the baron to which he had attained was peculiarly adapted
to his distinguished talents and acquisitions as a mathema-
tician, he determined in 1669 to exchange his mathematical
studies for those of divinity; and accordingly, as soon as he
had published his ‘‘Lectiones Opticae,’’ he resigned his
professor’s chair to the illustrious Newton. In 1670 he
was created doctor in divinity by mandate; and in 1672 he
was nominated to the mastership of Trinity college by the
king, who observed, ‘‘that he had bow’d it on the ball schollar
in England.’’ To the patent of his appointment was annexed a clause which allowed him to marry; but as
this privilege was inconsistent with the statutes of the col-
lege, he infil’d on the clause being erased. On this oc-
casion he resigned the preferments of a small procure in
Wales, and of a prebend in the cathedral of Salisbury, which
he had previously enjoyed and the profits of which he had
distributed to charitable uses. In 1673 he was chosen vice-
chancellor of the university; but his services in this high
and honourable station were speedily terminated by his
death, occasioned by a fever, in London, May 1677, in the
47th year of his age. His remains were interred in Well-
minster Abbey; and a monument, with an appropriate epi-
taph, was erected for him at the expense of his friends.
Dr. Barrow had nothing in his person or external appearance,
that was likely to command any degree of attention and
respect. He was of a low stature, and of a meagre, pale
aspect; and he was singularly negligent with regard to his
dress. Pope, his biographer, mentions a circumstance to
this purpose, which shews the effect of his inattention to
outward appearance. Being engaged to preach for Dr.
Wilkins at St. Lawrence Jury in London, his slovenly and
awkward gilt and meagre aspect prepossessed the audience
so much against him, that, when he mounted the pulpit, the
congregation withdrew, and he was left alone in the
church. Mr. Richard Baxter, the nonconformist div-
ine, however, was one of those few that remained; and
his testimony was highly honourable to the preacher, for he
declared that he had never heard a better sermon, and that
he could with pleasure have listened all day to such preach-
ing; upon which those persons who complained to Dr.
Wilkins of his subtiltute were ashamed of their conduct in
deferring the church, and reduced to the necessity of ac-
knowledging that their prejudice was solely the result of
his uncouth appearance. His sermons were distinguished
not only by their excellence, but by their length. He took
great pains in composing them, and in transcribing them
three or four times, as he found it extremely difficult to
please himself. M. Le Clerc (Biblioth. Univ. t. iii. p. 325.)

4 X
B A R R O W.

To the public, gentlemen and ladies, who have been pleased to observe the late Mr. Barrow, in his public capacity, this present book will improve their esteem, and confirm them in their good opinion of his abilities and integrity.

Introduction.

The late Mr. Barrow, after having for many years excelled in the higher branches of learning, and having made himself conspicuous as an instructor in the schools, has, in the year 1655, published a collection of his lectures on the optics, under the title of "Lectiones Opticae XVIII.; Cantabrigiae in scholis publicis habite," etc., London 1659, 4to.; this work was revised and enlarged by Newton, and has been highly commended by the best judges. "Lectiones Geometricæ XIII. in quibus praebetur demonstratio generalis linearum curvarum symptomatis declaratur!" London 1670, 4to.; published in 1672 and 1674, with the "Optics." "Archimedes Opera; Apollonii Conicorum Libri IV.; Theodoci Sphæricæ, methodo nova illustrata, et faciencie demonstrata!" London 1675, 4to.; After Dr. Barrow's decease, were published his "Lectio in qua theologorum Archimedes de Sphæra et Cylindro, per methodum indivisibilium inventi, ac breviter demonstrata, exhibentur!" London 1678, 12mo.; and "Mathematicæ L.-Gentis, habitæ in scholis publicis Academiae Cantabrigiensis!" London 1683, 8vo. Besides these, Dr. Barrow left several curious papers, written with his own hand, and communicated to William Jones, etc., to Dr. Ward. Ward's Lives of the Professors of Gresham College, p. 157, etc. Dug. Brit.

Barrow, in Geography, a noble river of Ireland, supposed to be the Blegum Brugia of Ptolemy. It rises in the mountain of Slepp B'oom in the King's county, and running for a short space north east, makes a kind of elbow; and continuing afterwards a south west course, it divides the King's and Queen's counties from that of Kildare. At Athy, in the latter county, a branch of the grand canal from Dublin to the Shannon has formed a junction with it; which contributes much to the advantage of the adjoining county. It proceeds next through the heart of the county of Carlow, and then separates those of Kirkkenny and Wexford. A little before it reaches the town of Ros, it receives the Nore, and then varying its course somewhat to the west, minglest its waters with those of the Suir, forming with it the haven of Waterford. The navigation of this river has been deemed of such great importance that 2,600 pounds have been granted by parliament to remove some obstructions in it; and a corporation established for the purpose has been enabled to raise 20,000l. more to render it completely navigable. It is now (182-2) expected that boats will soon regularly ply from Waterford to Athy, and then by the grand canal to Dublin. The circumstance of the three rivers, Barrow, Nore, and Suir, all rising in the same mountain, proceeding from it by different courses, and uniting their streams before they fall into the sea, has been mentioned by many writers. Amongst others, Spenser has noticed it in his epistle of the marriage of the Thames and Medway (Fairy Queen, book iv. cant. 11); in which he represents them as three brothers, sons of the giant Diomus and the nymph Rheusa. He speaks of the Barrow as abounding in salmon:

"The third, the goodly Barrow which doth hound Great heapes of salmon in his deeps beforeme."

Campbell's Political Survey, &c. &c.

Barrow, Little, a river of Ireland, which runs into the Barrow, about four miles E. of Portarlington.

Barrow Harbour is an extensive bay in that of Bonavista in the island of Newfoundland, divided by Keel's head on the E. from the port of Bonavista, and from Bloody bay on the W. by a large peninsula joined to the island by a narrow isthmus, which forms Newman's found; which, as well as Cloghe found, are within Barrow harbour.

Barrow Point, a cape on the south coast of Ireland, in the county of Cork, 5 miles east of Kinsale.

Barrows, or Tombs, in Topography, a name usually given to those hillocks or mounds of earth which were apparently

fays of them, that they were trivial or exact disquisitions rather than harangues to please the multitude; and Dr. Tillotson, who published them, observes in his preface, that "their own elegance and eloquence will prove them better;" and king Charles II. used facetiously to call him "an un-
Barrow.

ciently raised over the bodies of deceased heroes and persons of distinguished character. This mode of interment may be traced to the remotest antiquity, and instances of it occur in all quarters of the world. A learned antiquarian, well known for his indomitable and indefatigable research (see Geth's Sepulchral Monuments of Great Britain), confers barrows as the most ancient sepulchral monuments in the world. Homer describes the embankment which contained the construction of barrows in describing the funeral rites attended by the interment of Patroclus and Achilles. The body of Patroclus was laid on the top of a great pile of wood about one hundred feet square, and covered with the fat of animals offered in sacrifice, the carcases of the beasts, and the bodies of the Trojan captives cruelly slain in cold blood on the occasion, were then thrown on the pile round its edges, and the whole reduced to ashes. The remains of the fire were next day extinguished by pouring wine on the embers; and as many fragments of the bones of the deceased as could be collected, were wrapped up in fat, and put into a rich urn, having a linen veil flung over it. The whole army then threw earth upon the spot where the urn had been committed, so as to cover the bones of the Trojans, of the beasts, and all the ashes that remained, and then reared a high rude hill, under which, nearly in the centre, the urn was placed. After this ceremony, solemn games were performed, and chariot races were exhibited round the barrow, in honour of the deceased. To this purpose, the elegant translator of Homer, in his account of the funeral of Patroclus, expresses part of the funeral ceremony:

"High in the midst they keep the dwelling bed Of rising earth, mortal of the dead."

Iliad, xxiii. 310.

In Plutarch's Life of Alexander, we find that when that great conqueror arrived at the ruins of Troy, he anointed with much ceremony the stone placed on the barrow of Achilles, purged out libations, and, as the custom was, ran naked round the sepulchre, and crowned the stone with garlands.

Herodotus, the father of history, mentions the barrow of Alyattes, the second of that name, king of Lydia, and father of Croesus, raised 2505 years ago, and seen by Dr. Chandler in A. D. 1794, five miles from Sard, the ancient Sardis. This tumulus or barrow, formed by the joint exertions of the merchants, the labourers, and the prostitutes, was about a mile in circumference, 1300 feet broad, and terminated by a piece of water called the Gygean lake, still remaining. Dr. Chandler, in his "Travels through Asia Minor," vol. i. p. 42, describes this and other barrows in their present state; and Herodotus states, that the lower part of it was a mass of large stones, but that the rest of the sepulchre was a tumulus of earth.

It is customary among the Greeks to place on barrows, either the image of some animal: or tomb, termini, or round pillars with inscriptions. Pausanias describes the famous barrow of the Athenians in the plain of Marathon, on which were pillars of this kind; and on that of Alyattes were five stones, on which were engraved letters, denoting how much each clod of the persons concerned had performed towards it, and it appeared that the greater portion was done by the young women. An ancient monument in Italy, near the Appian way, called without reason the sepulchre of the Curtii, has the same number of termini with that of Alyattes, the base, which is square, supporting five round pyramids. We are informed in the scriptures, that when the king of Ai was slain by Joshua, his carcase was placed at the entrance of the city, and upon it was raised a great heap of stones. Several other passages of the sacred writings lead us to conclude, that though the Jews were prohibited from adopting such funeral customs of the Gentiles, they did not think themselves restrained from erecting these monuments to their deceased relatives. Diodorus Siculus, speaking of the Buliines, says, that after piling together the limbs of a dead body with stone, they cast it into a hollow receptacle, and placed over it a large heap of stones. Virgil alludes to this mode of interment as used in Italy in the times to which the Aenid refers. Xenophon relates that it obtained among the Persians; the Roman historians record it as taking place among their countrymen; and it prevailed no less among the ancient Germans, Britons, and other nations.

According to Herodotus, the Geri, a people of Scythia, raised barrows; and the custom of erecting them in various parts of the world continued through a long series of ages. Gough says, that they continued in use till the 14th century.

The ancient barrows are of various sizes; some of them being small, and perhaps designed for children, or the younger branches of the royal family; or for persons of meaner rank; others distinguished by their height and bulk, and built like hills at a great distance, which might probably have been the sepulchre of some renowned monarch or warrior, or general burying-places.

Stadelberg, in his description of the northern and western parts of Europe and Asia, informs us, that great numbers of tumuli, called by the Russians "borghi," are found in Siberia, and in the deserts which border on that country towards the north; and that in these tombs are found many plates, ornaments, and trinkets of gold. Some of them are raised by earth as high as houses, and appear in the distant plains like a ridge of hills; whilst others are set round with rough-hewn stones. Archaeologia, vol. ii. p. 230.

The custom of interring with the dead their arms, their jewels, and sometimes their horses and servants, is traced by M. Legrand D'Auffy (Mem. de l'Institut, National des Sciences, &c., Paris, vol. ii.) to the mythology of the northern Asiatic nations, which taught them to believe that they should make an appearance in another world, corresponding to the ornaments and attendants deposited in their tombs; and the remains of this superstition have descended through many ages. According to this writer, a great part of the riches acquired by the northern nations in their irruptions, has been interred in the tombs of the conquerors. Tracusses have been frequently found in the barrows so common in Tartary; and, in attempting to ramshack these monuments, the Siberians have had so many conflicts with the Tartars, that the Russian government has been obliged to put a stop to their researches.

Denmark, Sweden, Lower Saxony, and many other countries on the continent, abound with sepulchral monuments of this kind. Mr. Cox, in his "Travels in Poland," (vol. i. p. 130) mentions two large barrows in the vicinity of Cracow; one by tradition called the burial-place of Casimir, duke of Poland, who is supposed to have built the town in the year 720; and the other called the sepulchre of his daughter Venda, who is reported to have drowned herself in the Vistula to avoid a marriage with a person whom she detested. As popular tradition records these as favourite characters in their country, it has honoured them with interments under the most conspicuous of these monuments called barrows.

The barrows of England are very numerous scattered over the plains of Wiltshire, the downs of Dorsetshire, Kent, and Surrey. Monuments of the same appropriation
BARROW.

are also abundant in the northern counties of England, North Wales, Scotland, and Ireland; but most of these consist of vast piles of stones and are designated by the name of "carn," or "cairi." (See Carn.) The most considerable barrow in England is that of Silbury Hill in Wiltshire. (See Axbury.) A barrow in Derbyshire, situated on the summit of a hill called "Fin-cop," has been carefully investigated by Mr. Hayman Rooke. (See Archaeology, vol. x.) It differed two or three feet in height, one of which had an oblong piece of dressed black Derbyshire marble fastened by a strong cement to the skull: some urns also appeared, with ashes and burnt bones, together with arrow-heads of flint, and a spear-head shaped out of a piece of lime-stone, and made very sharp at the point. Mr. Rooke conjectures, that this elevated spot, secured by a double fence, may have been the site of a Briton town or fortresses, and that the barrow was the sepulchre of the chieftain and his relatives; the weapons of flint and of lime-stone undoubtedly suggested a very remote period, and, when found as they were, appear to indicate the relics of a primitive and barbarous people. Dr. Plott takes notice of two sorts of barrows in Oxfordshire, one placed on the military ways, the other in the fields, meadows, woods, &c.; the former he supposed were of Roman erection, and the latter were more probably erected by the Britons or Danes. Some of these barrows appear rude and constructed only of earth; others are more regular, and trenchèd round, some of them with two or three circumvallations, and surmounted with monumental stones. (Platt's Nat. Hill. Oxfordshire, ch x. s. 4.) We have an examination of the barrows in Cornwall by Dr. Williams, in the "Philosophical Transactions," No. 458; from whose observations we find that these barrows are composed of foreign or adventitious earth; that is, such as do not occur on the spot, but must have been fetched from some distance. In one of them was found an urn made of burnt or calcined earth, very hard, and very black within; it had four small handles, and in it were found seven quarts of burnt bones and ashes. As it was the ancient practice to burn the dead, it appears from these barrows, how the people that used this mode of burial expressed their respect for the dead; it was by erecting over them these tumuli or barrows, composed of earth or stone brought from distant places; and the barrow was generally proportioned to the rank and power of the deceased person.

Each fowler, or friend, might bring some of the earth or stones from distant places where they lived, and thus compose the tumulus. Many passages might be quoted from ancient authors to this purpose. The contents of these barrows, as well as their size and form, have been very various: in some have been found stone chests containing entire urns; and in others, bones neither lodged in chests nor deposited in urns: arms of various sorts, amber beads, &c. have not been uncommon.

The links or fends of Skail in Sandwich, one of the Orkney islands, abound in round barrows, some formed of earth alone, and others of stone covered with earth. In the former was found a coffin made of a flat stone, and as it was too short to receive a body at full length, the skeletons had their knees folded to the breast, and the legs doubled along the thighs. A bag made of rushes has been found at the feet of some of these skeletons, which contained the bones, probably, of another person of the same family. In one of these were discovered multitudes of small beetles; and as similar insects have been found in the bag which enclosed the sacred Ibis, it may be supposed that the Egyptians, and the nation to which these tumuli belonged, might have had the same superstition respecting them. Some of the corpses interred in this island appear to have been burned; as the ashes deposited in an urn which was covered with a flat stone, have been found in the cell of one of the barrows. This coffin, or cell, was placed on the ground, then covered with a heap of stones, and cased with earth or sods. This barrow and its contents evince them to be of a different age from the former. These tumuli appeared to be a kind of family vaults, two tiers of coffins having been found in them; and it is not improbable, that on the death of any one of the family, the tumulus was opened, and the body interred near its kindred bones.

Barrows are very numerous in Ireland. Ledwich supposes them to have been of Scythian origin, and to have been introduced in Britain after the Romans had left it. It was a law of Odin, the great Gothic legislator, that large barrows should be raised to perpetuate the memory of celebrated chiefs; these were composed of stone and earth, and were formed with great labour and stone art. At New Grange in the county of Meath is a mound of this kind, the altitude of which from the horizontal floor of the cave is about 70 feet, the circumference at the top is 300 feet, and the bale covers two acres of land. It is founded on an astonishing collection of stones, and covered with gravel and earth. In the "bren-teid," or fiery age, which was the first among the Northerns, the body was ordered by Odin to be burned with all its ornaments, and the ashes to be collected in an urn and laid in a grave; but in the "hoelt-tiid," or age of hillocks, being the second, the body, untouched by fire, was deposited in a cave or sepulchre under a barrow; and this mode was practised till the third epoch, called "chribendoms-old," or the age of Christianity. Governor Pownall, who has given an account of New Grange, in the second volume of the "Archaeology," observes, that the mode of burial, and the species of sepulchral monument at New Grange, may be traced through Denmark, Sweden, Russia, Poland, and the Steppes of Tartary; and he conjectures that this mound was a Danish work; which was also the opinion of Sir Thomas Molyneux, M. D. in his "Essay on Danish Mounts," published with "Boaste's Natural History of Ireland." About 1699, a Mr. Campbell, who resided in the village of New Grange, observing stones under the green sod, carried many of them away, and at length arrived at a broad flat stone that covered the mouth of the gallery. At the entrance, this gallery is 2 feet wide and 2 high; at 13 feet from the entrance, it is but 2 feet 2 inches wide: the length of the gallery, from its mouth to the beginning of the dome, is 62 feet; from thence to the upper part of the dome, 11 feet 6 inches; the whole length being 71 ½ feet. The dome or cave, with the long gallery, exhibits the exact figure of a crofs, the length between the arms of which is 20 feet: the dome forms an octagon, 20 feet high, with an area of about 17 feet; it is composed of long flat stones, the upper projecting a little below the lower, and closed in and capped with a flat flag. There are two large oval rock basins in this cave, one in each arm of the crofs; from which, and the cruciform shape of the structure, it is supposed to be the work of semi-Christian Oldmen in the ninth century. The custom of burying the treasure acquired by piracy, in the barrows of great men, accounts for the Roman coins found at New Grange. For a more particular account, the reader is referred to Mr. Ledwich's Antiquities of Ireland, p. 307—328. General Vallancey, however, and other antiquaries, consider this cave at New Grange to have been "a sanctum Mithraeum," or a cave for the worship of the sun, introduced by
by the Perfo-Scythic colony, which they suppose to have come to Ireland from Spain, and to have established the customs of the eastern nations.

Tumuli or barrows are also found in great numbers in America; and the American Indians are said to practice a similar mode of burial at this time, generally depositing, with the bodies the implements of war and agriculture used by the deceased. Mr. Jeffeson, in his "Notes on the State of Virginia," p. 156, has given a particular account of the American barrows. They are of different sizes, and formed of different materials; some of earth, and some of loofe stones. That they were repositories of the dead is generally allowed; but the particular occasion on which they were constructed has been a subject of discussion. Some have thought that they covered the bones of those who fell in battles fought on the spot of interment. Some ascribe to them a custom prevalent among the Indians, of collecting at certain periods all their dead, wherefore deposited at the time of their death. Others again have supposed that they were general sepulchres for towns, conjectured to have been situate on or near those grounds; and this is an opinion that has been supported by the quality of the lands in which they are found, those constructed of earth being generally in the fossetl and most fertile meadow grounds, on the sides of rivers; and also by a tradition descending from the aboriginal Indians, which reports, that when they settled in a town, the first person who died was placed erect, and in this posture covered and supported by earth; that another died, a narrow passage was dug to the first, the second reclining against him, and the cover of earth replaced, and so on. Mr. Jeffeson examined one of these barrows, situate in his own neighbourhood, on the low grounds of the River, opposite to some hills on which had been an Indian town; and has particularly described its form, which was spheroidal; and also its contents, which were collections of human bones in a disjointed and scattered state. This barrow, he conjectured, might have contained a thousand skeletons. The circumstances which he has recited militate against the opinion that it covered the bones only of persons fallen in battle; and against the tradition, which would make it the common sepulchre of a town, in which the bodies were placed upright and touching each other; and indicate, that it has derived both origin and increace from the customary collection of bones, and the deposition of them together. But in what way ever this tumulus was formed, it seems to have been well known to the Indians; a party of whom, some years ago, proceeded through the woods directly to it, without any inquiry; and having remained near it for some time with expressions of sorrow, they returned to the high road, from which they had departed about six miles for the purpose of this visit, and then pursued their journey. There are many other similar barrows in other parts of the country. For further particulars relating to sepulchral monuments of this kind, we refer to Gough's Sculpchral Monuments of Britain; Douglas's Nennia Britannica; King's Monumenta Britannica; Archæologia, vol. ii. & xii.; and Britton's Beauties of Wiltshire, vol. ii.

Barrows, in the Salt Works, are cafes made with flat eft wickers, in the shape almost of a sugar-loaf, with the bottom uppermost, wherein the salt is put as it crops, and set to drain. Phil. Trans. No. 53. p. 1055. Houghton. Collect. No. 211. p. 81.

BARROWBY, WILLIAM, in Biography, son of Mr. William Barrowby, a physician of considerable repute and eminence in London. At a proper age he was admitted of Emanuell college in Cambridge, and in 1733 took his degree of Bachelor in Medicine. Soon after, he was made fellow of the Royal College of Physicinn in London, and one of the physicians to Bartholemew's hospital. He died suddenly, after eating a hearty meal, December 20, 1752, being only forty-two years of age, and then in great practice. There is a fine print of him, engraved in mezzo into by Miller, after a painting by Hayman, his father, who survived him, died October 17th, 1738, being then senior member of the College of Physicians. Our author published, in 1737, a translation into English of Afinus's treatise "De Morbo Gallico," London, 2 vols. 8vo. Eloy. Diet. Hill.

BARROWISTS, in Ecclesiastical History. See Brownites.

BARRULET, or BARRELET, in Heraldry, signifies a diminution of the bar, consisting of its fourth part.

BARRULY denotes the field of the shield of arms, when it is divided bar-ways into many equal parts.

BARRY, EDWARD, in Biography, a native of Dublin, received his medical education at Leyden, under the celebrated Boerhaave, and was created doctor of physic there in 1719. After practicing some years at York, he went to Dublin, and was made professor of medicine in the university of that city, first physician to the army there, and fellow of the Royal Society in London. In 1727, he published "A Treatise on a Consumption of the Lungs, with a previous account of nutrition, and of the structure and use of the Lungs," 8vo. London, in which he maintains the doctrine of his preceptor. To the third edition of this work, enlarged and improved, published 1759, he gave the title of "A Treatise on the Three Digestions and Discharges of the Human Body, and the Disease of their principal Organs." Haller. Bib. Anat. Eloy. Diet. Hill.

BARRY, GERALD, commonly called Geraldus Cambrensis, i.e. Gerald of Wales, in Biography, a writer of the twelfth century, was born near Pembroke in South Wales about the year 1146, and defended from a noble family allied to the princes of the country. After an early education at home, he was sent for further improvement to France, where he obtained great reputation for his proficiency in the rhetoric of the age in which he lived. Upon his return in 1172, he obtained several ecclesiastical preferments, of which the principal were the archdeaconry of Brechin, and the canony of Hereford. As he was active in church affairs, he acquired a reputation which induced the chapter of St. David's to elect him bishop of that see at the age of 30 years; but as he had reafn for apprehending the jealousy of king Henry II., he declined this ecclesiastical dignity. However, he was mortified by being under a necessity of refusing what was the great object of his ambition; and in order to divert his chagrin, he visited France; and at Paris he pursued his study of civil and canon law, and of divinity, with such success that he was offered the professorship of canon law in the university: but he thought proper to decline it. In 1180, he returned to his own country; and as great confusion prevailed at St. David's in consequence of the expulsion of the bishop, he was entrusted with the administration of that see for three or four years. In 1184, Henry II. appointed him his chaplain, and availed himself of his advice in the management of Welsh affairs. In the following year he was sent to Ireland with prince John as his privy-councillor and secretary; and was there offered the united bishoprics of Ferns and Leighlin, which he declined accepting, because he disapproved of the measures pursued by John. During his stay in that country, he was principally employed in collecting materials for two works relating to Irela

Ireland.
Ireland which he had projected. After his return to Wales, in 1187, he wrote and revised his “Topography of Ireland,” and at Oxford, he publicly recited the three parts of the work on three successive days, fasting on the first day all the poor of the city, on the second the principal doctors and scholars, and on the third scholars of inferior rank, fielders, and burgesses. In the following year he accompanied Baldwin of Canterbury on a journey through the mountainous parts of Wales, for the purpose of inculcating on the people the necessity of a crusade; and he was thus furnished with materials for his ‘Itinerary in Wales,’ which he afterwards published. At this time Girald took the crofs; but being otherwise employed at home, he obtained a dispensation from the pope’s legate for not pursing his voyage to the Holy Land in the retinue of king Richard I. Upon some difficulties, he retired from court in 1192; and took up his abode for six or seven years at Lincoln, where he pursued his theological studies and composed various writings. In 1196, he was solicited by the chapter of St. David’s, and the chief men of the country, to canvass for the vacant see; but in declining it, he made use of a saying which has become memorable; “Virum episcopalem peti, non petere, debere,” i.e. a man fit for a bishopric ought to be tried, and not fee. However, he soon changed his mind; and for being next year unanimously chosen by the chapter, he went over to Ireland to engage his relations in support of his claim. But during his absence, a mandate was issued from the archbishop and judiciary for the election of Geoffrey the prior of Llanthony. Girald appeared to the pope; and after much delay and three journies to Rome, he only so far prevailed as to annul the election, and to obtain the appointment of a new choice. Geoffrey was at length the successful candidate; upon which Girald resigned his arch-deanery of Brecon to his nephew, and withdrawing from public concerns, devoted himself to his studies. In 1215, he was offered the bishopric of St. David’s, but the offer was connected with conditions which he did not approve. The time of his death has not been precisely ascertained; but it is known that he was alive after the year 1222.

Giraldus Cambrensis was a voluminous writer; and there were few of the literary topics of his age that did not employ his pen. According to the account given of him by Mr. Thomas Wharton (Hist. of Poetry, diff. ii.), he was an historian, an antiquary, a topographer, a divine, a philospher, and a poet. Many of his works, he says, are written with some degree of elegance, and he abounds with quotations from the best Latin poets. But his style is in general pure, unaffected, concise, and full of quibles and conceits; nevertheless, many of these defects must be attributed to the times in which he lived. Whatever may be thought of the vanity which he manifests in speaking of himself, of his family, and of his performances, he was without doubt in a very great degree credulous, and to much addicted to fables, that his statement of facts is in many cases unworthy of confidence. With the events recited in his “History of the Conquest of Ireland,” he has intermixed all the propheties he could collect of Caleolus, Merlin, and various other impostors; and hence he was led to give to his history the title of “Vatican.” This work, and also his “Topographia Hiberniae,” have been charged by the Irish writers with numerous mistakes and falsities. They were first printed by Camden, at Frankfurt, in 1602. His “Itinerarium Cambriae” was printed with the annotations of David Powel. The purpoze of his “Ecclésiae Spectulum, five de monachis ordinibus, ex ecclesiasticis religionibus varis distinctionibus, lib. iv.” was to expose the vices of the monks, against whom he had conceived an inveterate hatred, so that he was accustomed to add to his itany, “From the malice of the monks, good Lord, deliver us.” Bog. Brit.

BARRY ISLAND, in Geography, the well-known of two islands off Cardiff point, on the coast of Wales, in the country of Glamorgan.

BARRY’S POINT, a projecting head land, on the west side of Little Island, up Cork harbour.

BARRY, in Heraldry, is when the shield is divided into equal parts horizontally, confiding of two colours: or that, Barry of six, argent and fable.

Barry Brandy Counterchanged, is when the bars are crossed by lines bendwise. See Plate of Partition lines.

Barry Indented, is when the lines which cross the field to form the bar are indented.

Barry Wavy and Barry Nebule, are formed in the same manner by the lines being wavy nebule.

Barry Longchique Counterchanged, is when the bars are crossed by lines bendwise, dexter and sinister. See Plate 3 above.

Barry Pile, is when the bars are charged with piles. See Plate 5 above.

BARRYERAS VERSSELLIAS, in Geography, is a large bay, with very good anchoring on the coast of Dalmatia, between St. John’s island and Syppomba island, 7 leagues north-east from it; situated in about 42° S. lat. and 6° W. of the mouth of the great river Amazon.

Barry, a town of Hungary, and chief place of a county of the same name, eight miles west of Leventz.

Bars, or Barco, Cape, lies on the east side of the passge into the White Sea, and to Archangel, from the N.W., and is the north point of the Gulf of Muren. N. lat. 66° 30’. E. long. 45° 45’.

BARSA, in Ancient Geography, an island near the coast of France, mentioned in the Itinerary of Antonine. See Isle of Bara.

BARSALUM, a town of Acre, situated on the banks of the Euphrates, on the coast of Samoter.

BARSALLACH POINT, in Geography, a cape of Scotland, on the coast of the county of Wigton, in Luce bay, 3 miles N.W. of Borrowhead.

BARSALLI, a kingdom of Africa, bordering on the river Gambia, and inhabited by a tribe of negroes called JALOFFS. The government of this kingdom is a despotic monarchy; and the people are in such an abject state of submission, that they fall on their faces whenever any one of the royal family appears. In time of war, every soldier has his share of booty; and the king contents himself with a very moderate portion. The kingdom is divided into a number of provinces over which the king appoints governors, called “bumeys,” who pay him an annual homage, and fend a certain tribute or revenue to the exchequer. These bumeys, though powerful and absolute within their respective jurisdiction, are subject to the absolute dominion of the sovereign. The king maintains his despotic power so completely, that he admits of no other counsellor besides his prime minister, who is himself in a degree the prime minister. This minister is also the general of the king’s forces, and the interpreter of his will, from the very letter of which he must never deviate. The king and court profess the Mahometan religion, though they pay little regard to that part of it which forbids the use of wine; for the king cannot live without brandy, nor is he ever more devout than when he is drunk. When he flands in need of a fresh supply of brandy, or of any other necessary, he sends to the governor of James fort, begging that he will dispatch a boat with the merchandise for which he has occasion; and for the payment he plundereth the neighbouring towns, and screws a certain
a certain number of his subjects, whom he sells for slaves, and exchanges for European commodities. The general dread of the people is a kind of calico furplice that hangs down below the knee, and is sometimes plaited about the waist; and they also wear a great number of gold tincture in their hair, ears, nose, and round their necks, arms and legs. The king of Barfalan, whose Moore saw in 1732, had a prodigious number of women; but when he went abroad, he was seldom attended by more than two, who seemed to be dressed out in the whole finery and jewels of the reign. The preface of his crown paid the same fervile homage to the sovereign with his lowest filthy: nevertheless it was usual for the king's children to dispute the right of succession with his brethren; and the longest sword generally gained the prize. Maj. Un. Hist. vol. 14 (164). See Jacobs.

BARSANIANI, in Church History, a sect who held all the errors of the Severians and Thedians.

BARSANITI, Francesco, in Biography, a native of Lucca, born about the year 1560, fitted the civil law in the universitas of Padua; but, after a short residence there, he chose music for his profession. With this view he placed himself under the tuition of fame of the ablest masters in Italy; and having attained a considerable knowledge both in the practice and theory of the art, he determined to settle in England, and came thither with Gemianali, who was also a Luccale, in the year 1713. He was a good performer on the hautbois when he first came over, and also on the flute: as a hautbois player, he found employment in the opera band; and derived considerable profit from teaching the flute. He published, with a dedication to the earl of Burlington, five folios for a flute with a thorough base, and afterwards six folios for the German flute and base. He also formed sonatas for two violins and a base, the first six folios of Gemianali. He continued many years a performer at the opera house. At length having encouragement to remove to Scotland, he went thither; and it may be said of him with greater truth than of David RVitzi, that he immortalized the muse of that country by collecting and making ballads to a great number of the most popular Scotch tunes.

About the year 1750, Bartani returned to London; but being advanced in years, he was glad to be again employed in the opera band as a performer on the tenor violin; and in the summer season, in that of Vauxhall. At this time he published twelve concertos for voices, and four after Sci Antiphone, in which he endeavoured to imitate Palestrina and the old ecclesiastical composers. But the profits arising from these publications were so small, that the fate did not cover the expense of printing them. Bartani was an excellent harmonist; but his productions were dry and fancif. He required small faults by correcting the productions of young composers, and making ballads to those of old pretenders to counterpoint. But towards the end of his life, he subsisted chiefly by the industry and economy of an excellent wife, whom he had married in Scotland, and the fladies and talents of a worthy and ingenious daughter, who, with the most promising voice and disposition for music, had been bound apprentice to a master who had undertaken to prepare her for a public finger, and with whom she had vanquished all the difficulties of the art to point of execution; but she totally lost her singing voice, on going to Oxford to perform at a choral meeting, by sickness in a flage coach; and never being able afterwards to sing, she was engaged by Colman as a comic actress at his theatre in the Haymarket; and having a great fund of natural humour, and a good figure, acquired great applause. The winter after she went to Ireland, and became a favourite actress in humorous parts, and at length was married to Mr. Daly, the manager of the Dublin theatre; but died soon after to the great regret of all who knew her.

BARSCHIERS, in Geography. See BARSCHIERS.

BARSCHLING, or BARTLING, in Ichthyology, one of the sphenus names of the common perch, Perca fluviatilis Vide Mrfighi, Daudb., &c.

Barse, an English name for the common perch, a well-known fresh water fish. It is also the name now in use for the same fish in the Saxon language, and is one of the many Saxon words we have yet retained.

BARSERS, in Geography, a town of Norway, 90 miles N.E. of Ronitsh.

BARSIR, a town of Persia, in the province of Kerman, 60 m. N.E of Sirjan.

BARSOUN, lies on the coast of Sweden, in the Baltic, leagues N. by W from the north end of Oland island, and nine leagues from the Wellersh mouth channel, among a labyrinth of rocks, impassable except by direction of pilots at Oland.

BART, a port on the southern coast of Nova Scotia.

Bart is also a township of Lancaster county, in the state of Pennsylvania.

BARTAPOUR, a town in India, in the country of Kerman, on an island in the Ganges, 93 miles east of Delhi, and 90 north of Lucknow.

BARTAS, William de Saluste du, in Biography, a French poet, was born, in 1544, at Montfort in Armagnac; and having entered into the service of Henry IV, he was employed by him in commissions to England, Denmark, and Scotland, in which last country James VI. would gladly have retained him. He was a Cavalier, and received in times of bad taste the reputation of a poet. His works were numerous, written in a style sometimes mean and barbarous, and sometimes timid and extravagant, and abounding with ludicrous and disgusting figures. His most famous work was "A Commentary on the Work of the Creation of the World," in seven books, which was held in high estimation, and passed through 30 editions, was translated into various languages, and formed a part of almost every religious library. Bartas is highly commended by Monf. de Thou for his candour, modesty, and simplicity of manners. Towards the close of his life he retired to his small estate of Du Bartas in Armagnac, and devoted himself to study. He celebrated in verse the victory of his master Henry, at Ivry in 1590, and died in the following year. His works were collected and published in folio, at Paris, in 1611. Gen. Dict. Nouv. Diet. Hist.

BARTAVELLE, in Ornithology, among the French naturalists, the same bird which Latham describes under the name of perdix rufus; which see.

BARTEN, in Geography, a town of Prussia, and capital of a small country called Barteland, in the province of Natagen, 40 miles S. E. of Königsberg.

BARTENSTEIN, a town of Prussia, in the province of Natagen, located on the river Alle. 28 miles south of Königsberg. This town was built in 1371, and at first called Ronithal.

BARTENSTEIN is also a town and castle of Germany, in the circle of Franzania and principality of Holenburg.

BARTERING, in Arithmetic and Commerce, the act of trucking or exchanging one commodity for another of like value.

The word comes from the Spanish baratar, to deceive or circumvent in bargaining; perhaps because those who deal this way usually endeavour to over-reach one another.

This is also called bartry, 13 Eliz. cap. 7.

In order to solve all questions that occur under this article, find the value of that commodity, the quantity of which
BARTHE, Nicholas Thomas, was the son of a merchant at Martigues, and born in that city in 1733. He was educated under the fathers of the oratory; and obtaining a prize from the academy of his native place, he afterwards became a member of it. His father had defined him for the bar; but his talents led him to the cultivation of polite literature and poetry. Removing to Paris, he devoted himself to the theatre; and in 1764, began to write for the stage. His pieces were "L'Amateur," "Fables Inédites," "La Mère jalouse," and "L'Homme perpétuel." The two first were well received, but the last did not possess sufficient energy and vivacity to please the public. Barthe then ceased to write for the stage, and engaged in a translation of Ovid's "Art of Love." He also published a collection of fugitive pieces in verse, in which species of composition he excelled. His epistles are also admired for their philosophical gaiety. Barthe blended with impetuosity of temper a friendly heart. Attached to social pleasures, he passed his time chiefly at Paris; and after having undergone the operation for an incarceration hernia, died in this city in 1795. Nouv. Dict. Histoire.

BARTHE, De Niephre (La) in Geography, a town of France, in the department of the higher Pyrénées, and chief place of an canton, in the district of Bagneres; 6 leagues south of Tarbes. The place contains 856, and the canton 10,426 inhabitants: the territory includes 180 kilometres and 22 communes. N. lat. 43° 4'. E. long. 0° 17'.

BARTHELEMY, John James, in Biography, a French abbé distinguished by his literary character, was born in Jan. 1716, at Caflis, a small port in Provence. At the age of twelve years he was sent to Marceilles, and pursued his studies in the college of the oratory under the instructions of father Ronaud. As he intended to devote himself to the ecclesiastical profession, he removed to the Jefuïtes' college for the study of theology and philosophy; but dissatisfied with his masters, he formed a plan of private study, which comprehended the Greek, Hebrew, Chaldee, and Syrian languages, and in the prosecution of which he brought on a dangerous illness. Upon his recovery he entered into the study, where he received the clerical tonsure; and by the influence of a young Maronite, he became a proficient in the Arabic language. From Mecejiles he retired to his family at Aubagne, and in this domestic retreat pursued his studies with unabated application. Among his friends at Marceilles, whom he occasionally visited, was M. Cary, who possessed a choice cabinet of medals and an appropriate library, to which he had access; and he was thus led to indulge the predilection for this kind of study, which distinguished his researches and character in the progress of his life. In 1744 he visited Paris, and was introduced by M. de Boze, keeper of the royal medals and secretary of the academy of inscriptions, to the most eminent members of the three academies, and also recommended to be his assistant in the care of the cabinet of medals. In 1747, he succeeded M. Buret as associate to the academy of inscriptions, M. Le Beau declining a competition; and when he was nominated by the minifter to the office of secretary to the academy, he waved the nomination in favour of M. Le Beau, as an acknowledgment of his liberality. In return, M. Le Beau, when he resigned this office, gave his interest to Barthélémy, who succeeded him. Thus did these distinguished rivals vie with each other in the exercise of a liberality which reflected equal honour on both. Barthélémy enriched the Memoirs of the academy by many communications relating to ancient monuments, and among others by a valuable dissertation on the inscriptions found at Palmyra by the English travelers. On the death of M. de Boze, in 1755, Barthélémy succeeded him as principal keeper of the medals. In the following year he followed M. de Stainville, afterwards duke de Choiseul and prime minister, to Rome, and made a tour to Naples, where the subterraneous treasures of Herculanum and Pompeii engaged his particular attention, and where he exerted himself with peculiar zeal in the preservation of the Greek manuscripts. As he was not allowed to make any tran
transcript, it was by some contrivance and with the help of a retentive memory that he was able to bring away a spiciemen of the most ancient mode of writing practiced by the Greeks. On his return to Rome he gained great applause for a new and ingenious explanation of the famous Mosaic at Palestrina, the ancient Præneste, which, according to him, related not to Syria, but to the emperor Adrian. In 1757, Barthélemy returned with his patron M. de Stainville to Paris, who, on his accession to the office of prime minister in 1758, anticipated and more than gratified his wishes, which were moderate, by various pensions, and at length by the place of secretary-general of the Swiss. When his patron Choiseul was banished, in 1771, to his seat of Chandos, in order to make way for D'Aguesseau, Barthélemy accompanied him in his exile, and as he determined to reign his secretaryship, an accommodation took place, by which he retained a pension of 10,000 livres on the poll. His income was now about 35,000 livres per annum, which he reduced, by several grants to indigent men of letters, to 25,000. This income he enjoyed with liberality; and he devoted a great part of it to the benefit of his family, and to the purchase of an ample and well-located library. Thus twenty years of his life were spent in literary affluence; but in advanced age he found himself reduced, by the forfeiture of places and pensions, to mere necessaries. During the last years of his life he was obliged to procure by putting with his library. This reverse of condition, however, he supported not without complaint, but even with gaiety. His celebrated work, "The Travels of the Younger Anacharsis," had been the labour and amusement of thirty years; its plan was laid in 1757, and it was published in 1788. It was received with universal applause, and in consequence of it he was admitted into the French academy by acclamation. Declining the office of king's librarian, which was offered to him in 1792, he continued to employ himself in the cabinet of medals, which had been augmented under his direction, so as to have doubled its number of ancient medals. It was his wish to have published a catalogue of its treasures, with faithful engravings, for the information of the learned throughout Europe; but though he had obtained, in 1757, the concurrence of the ministry, the embarrassment of the finances, and the critical events that disturbed the country, prevented the execution of this favourite project. In 1792, the infirmities of age crowded upon him; and the calamities of the times which a person of his age and character might have hoped to escape, aggravated his other complaints. Having been denounced under pretence of the crime of seditiocracy by a clerk belonging to the library whom he had never seen, he was arrested, and removed from the house of M. de Choiseul, on the 21 of September 1793, to the prison of the Ménalidonettes. With suchingular patience did he submit to this fate, that when he was conducted to the cell that had been prepared for him, he quietly replied. An order, however, was soon given for his liberation, and he was allowed out of cell, and carried back to the house of his kind and liberal patronesses. By way of repetition for this unmerited aggrievement, he was offered the place of chief librarian; but his increasing infirmities were a sufficient apology for declining it. His decay was gradual; but the severity of the winter of 1793 hastened the termination of his life, which happened on the 28th of April, on which day, two hours before his death, he was reading Horace, till the book fell from his cold hands. He then appeared to go to sleep, and in that state expired; having attained to the commencement of his 80th year. His corporeal frame is said to have been impregnated with an antique character; and his bust, sculptured by Houdon, and ex-

presive of the simple tranquility and conduct of a great mind, might suitably be placed between those of Plato and Aristotle. The principal work of this truly eminent person is his "Voyage de jeunes Anacharsis en Grèce," 3 vols. 4to. or 7 vols. 8vo., which details the history, manners, customs, literature, &c. of Greece, under the form of the supposed observations of a traveler Anacharsis, a disciple of the ancient Sceythian philosopher of this name. (See Anacharsis.) This person (see the author's advertisement prefixed to the work) is represented as visiting Greece in the year 573 B.C. and fixing his residence at Athens, whence he makes excursions, not only to the other Grecian cities, but to Egypt, Asia Minor, Persia, and the islands of the Aegean sea. On this basis of fiction is formed a real and instructive history, supported by the authority of the most approved ancient writers and by citations from their works. The narrative of Anacharsis is addressed to Aemines and Pheidon, a Persian satrap and his lady, whose characters are meant as portraits of the duke and duchess of Choisil. It is preceded by an introduction, in which is given a rapid but luminous view of the previous history of Greece. The elegance of style, the beauties of narration, and the judiciousness of reflection, render this the first work (says a biographer of approved judgment and taste) in point of entertainment and instruction, that so brilliant a subject has produced. It has added a capital piece to the literary cabinet of Europe, and its value has already been recognized by various editions, and translations into different languages. To the English edition in seven volumes, 8vo., is added an eighth in 4to. containing maps, plans, views, and coins, illustrative of the geography and antiquities of ancient Greece. An anonymous writer (see Monthly Review, Appendix to vol. lxxxi.) has suggested, that the learned author of Anacharsis may have taken the hint of his plan from the "Athenian Letters," consisting of the imaginary correspondence of a set of Greek gentlemen, the contemporaries of Socrates, Pericles, and Plato; but in reality the actual correspondence of a society of ingenious persons of the university of Cambridge, who, in this affirmed mode, communicated to each other the result of their researches into ancient history, and produced the best commentary on Thucydides that ever was written. However, the abbé Barthélemy having seen this in France, says the English translator, wrote a letter in consequence to M. Dutens, a respectable foreign gentleman residing in London, in which he affirms him that "it was not till after the publication of his work, that he heard of the Athenian letters; and that chance alone gave him the idea of it." A collection of miscellaneous pieces of the abbé Barthélemy, in 2 vols. 8vo., was published at Paris in 1798. Gen. Biol.

BARTHELEMY, St. in Geography, a town of France, in the department of the Lot and Garonne, and chief place of a canton, in the district of Leufant, 24 leagues north of Toulouse.

BARTTHUS, GIUSEPPE, in Biography, a learned philosophical writer of the sixteenth century, was born at Chiarina, in Brandenburg, in 1575; and received his education at Gotha, and in several other academies both in Germany and Italy. His talents and attainments attracted notice at a very early period. At the age of 12 years he translated David's plaudits into verse, and in 1667 he printed a collection of all his Latin poems, written from his 13th to his 19th year. In his 16th year he composed a learned dissertation on the method of revising the Roman authors, and at 18 he wrote a commentary on the Æneis of Virgil. His acquaintance with the modern languages was extensive, and he made translations from the French and the Spanish. Such was
his attachment to literary studies, that he renounced every other employment and retired to Leipsic for the purpose of prosecuting them without interruption; and so numerous were his works, both printed and manuscript, that, according to the account of Mr. Bylde, few clerks in office have transcribed more papers than Bartholin. As to his morals they were not very correct, and like many other men of letters he engaged in several literary squabbles. Towards the close of his life, however, he devoted himself wholly to his religious duties: and it appears from his "Studia," published in 1614, that he was thus industriously employed. He died, after having been twice married, in 1658, at the age of 71 years. The chief of his works is his "De aerophylaxis," printed at Frankfort in 1624, fel comprehended in 26 books, and containing numerous emendations and illustrations of authors, both sacred and profane, to which he added two other such volumes left in MS.; his "Latin version of Æneas Gaza on the immortality of the soul," with an edition of the original joined to the work of Zachary of Mitylene," Leipf. 4to. 1653; "Notiz in Claudiano," 4to. Frankfort. 1653; "Comment. in Statio," 5 vols. 1664. As he trusted wholly to his memory, and never corrected what he had written, his works abound with mistakes and contradictions. Gen. Dict.

BARTHOULINE, Caspar, son of a respectable clergyman at Meltme in Sweden, a province of Sweden, and born the 12th of February, 1595, gave early signs of an uncommon capacity, which his father took care to cultivate, by giving him the best instruction his circumstances would permit in his own country. Being well grounded in the learned languages, he went, prompted by his thirst for knowledge, to Rudbeck, Wittenburg, and in succession, to the principal schools in Germany, France, and Italy. travelling generally on foot, his finance not permitting him to use the ordinary conveyances. Having accumulated a vast flock of learning, in languages and philosophy, but particularly in anatomy and medicine, to which his genius peculiarly inclined him, in 1610 he commenced doctor of physic at Basf; and the following year, going to Copenhagen, he was first made professor of the Latin language, and in 1613 of medicine, in the university there. This post he continued to fill until the year 1623, till the infidelity of a vow he had made, when afflicted with a febrile idea, that if he should recover he would dedicate a portion of his life to the study of divinity, he abandoned medicine for theology, to which he added himself for the remainder of his life; enjoying, with the professorship of theology, to which he was preferred at the university of Copenhagen, a canonry at Roschef. He died July 30, 1629, at Sora, a small town in the island of Zealand, leaving, as we learn from an inscription on his monument at Copenhagen, where he was buried, six sons and one daughter. His publications were numerous; and though not always well chosen as to the subjects, and adopting in them many popular and erroneous opinions since expounded, yet they were of considerable utility by exciting a spirit of inquiry; to which we may attribute more at least of the discoveries in anatomy, and other branches of natural history, made about that time. A complete catalogue of his works is given by Vander Linden, and by Haller, in his Bib. Anatomi, &c. The following will be sufficient to be noticed here. "Anatomica institutiones, corporis humani utrinque sexus historiam et declamationem exhibentes." Wittenburg, 1611, 8vo. This work, much improved and enlarged by his son Thomas, has passed through numerous editions. "Enchyridion phyicicum, ex praecl. et recentiss. philosophis accuratc c?ccinatnatur," Argent, 1625, 12mo. "Opulenta quatuor singularia. 1. De unico-
work, intitled "De Bibliothecae Incendio, Differtatio ad Titus," complaining heavily of the malignity of Vulcan. Among the numerous manuscripts destroyed by the fire, he laments in a particular manner those intended to elucidate his "Antiquitates puerperii variantium genitum, imprima Romanorun." "Opus (he says in his letter to his sons) vara eruditione, nii me fecellit opinio, referatum, cuius primi lineamenta duxi amnis abhinc triginta et amplius, in suo Ct. Walckii, qui id argumentum defiderari monuit. Meursius quidem, Graeci litterarum interpretes celebres, De Gracorum puerperio folia tria olim publici juris fecit, sed nula brevitate lectorum curiosum fatare non potest. Ad plura digniores ego, quique autorem veterum fetich affirmo, quique philologorum aliquorum observationes, quique variarum gentium inutilitatem, mortem Ritus, antiquitates uppeditatn, quique ad hoc argumentum illustrandum Ebrat doctores, Graeci sapientes, Romani scriptores conferre potuerunt, eum delictu felegi, et suo ordine reddidi, grata et diffusa varietate nascenti tempora percursi, quid nemo ante tautivitatem, quid in purpureo, quid poetae auctum fecerit. Ornatum librum juvare magnum, variis veteranis inscriptione, etfiguram passim Roxme, Neopoli, Caetce, Filotresina, in Scilicet magno studio a me collecta ex ruderibus, et doctorum virorurn monumentis, si induxas ex quio temporis, facia cognoscant, idem publico exsolvire poterimus. Jam in ipso puerperio fuctu, in partu labratis, extinctus, Lucianum itnicam nuncquam solicitast, nec prolum nec poltvertam. Ahit enim iniqua, unde negat risare quiescunt. His vetustate Calpurn, qui had his attention to the fame folior, and probably copied many of the notes made by his father, in some small degree required the accident by adding them with some observations of his own to a new edition of his father's works, which he published in 1676. On which occasion the father writes (see end of the work), "eripuit mihi Vulcanus argumentum bone de publico renedi, ut tibi occasionem proceret caligine proluns vetutatis obductam materiam propulsandi. Ex meo infortunio, tibi gloriosa victa vdtuiter. Quemadmodum Saturnus in cullo Paganorum cedere coactus est filio Jovi, et." The respect, however, that was every where paid him, and the letters of condolence he received from his numerous and learned correspondents, from to have from confided him, as these fearcours might have been any interruption in his labours, every year almost to the end of his life producing some new publication. The titles of a few of his dissertations, in addition to those already named, are here given; for the rest, the reader is referred to Vander Linden de Scriptis Medicis, but particularly to Haller's Libriph. Anatomiae, the Bib. Med. Pract. et Chirurg. in which ample tints of the titles of the works, of the different editions they passed through, and ayles of the contents of the most valuable of them, will be found. "Anatomica Anecrimitis difficiliter histiora," Panormi, 164.4.80."De Angina Puerorum Campaniae, Sicilique epidemica," Neapoli, 164.6.80. "De Luce Hominum et Brutorum," Latine, 1647, attempting to account for the emotion of light seen in trancers. In a later day he adds, "et de rariis et admirandis herbis, quae mociu lacuit." "Demus Anatomica Haffianis," containing a catalogue of the anatomical preparations, machines, &c. contained in his cabinet, 1642, 8vo. "Centuria qutsttor epilfularum medicarum," containing his correspondence with the most celebrated men of the age in which he lived. This valuable collection has been completed, and republished at the Hague in 1749, in five volumes, 8vo. "De infolitis partibus humani vis." Haffii, 1646, 8vo. "A collection of histories of states voided by the navel, anus, et per os etiam, si dies placet." Historiae Anatomiae, Cent. vii. Two centuries, forming two small volumes, were published at a time. Though some of the observations, taken on the credit of other observers, are apocryphal, and should not have been admitted, the number of authentic and curious articles contained in these volumes have flamed a value on them which time is not likely to obliterate. The last work we shall mention is the "Acta Medica et Philosophica Haffi- nica," of which four volumes in 4to, were published by him, the fifth and last volume by his son. He began making this collection, which contains many of his own productions but a much larger proportion from correspondents, soon after his return to Copenhagen, driven there by the destruction of his library. As in all similar collections, amidst some very valuable articles many insignificant and useless pieces will be here found. He died in 1685, leaving five sons and three daughters. Two of the former, Caspar and Thomas, continued in the steps of their father, "at hau hofibus suis," contributed to the collection last named, and left other anatomical and medical works. Of the others we have no account. Haller, Bib. Asiat. et Bib. Med. Pract. Elnot. Hist.

BARTHOLINE, ERASMUS, a younger brother of Thomas, born at Rothchild, August 13, 1625. Following the steps of his father and brother, he travelled through England, France, Germany, and the Low Countries; and having acquired much valuable knowledge in natural philosophy and medicine, went to Leyden to perfect himself in those studies, where he continued three years. In 1654 he went to Padua, where he received the degree of doctor in medicine. On his return to Copenhagen, he was appointed professor in mathematics, and was rewarded with a seat in the grand council of Denmark. These honourable offices he continued to fill with great credit to the time of his death, Nov. 5 1698. In the Acta Haff. vol. iv. he gives an account of a quartan fever, epidemic in Copenhagen in the year 1679, which he cured in himself, as well as in many others, by giving a single draught of the Peruvian bark on the accbission of the fever. In 1661, he published "De Figura Nivis Differtatio," with the observations of his brother Thomas on the use of snow in medicine; in 1664, "De Comitis," 4to. Haff. in 1674. "De Natura Mirabilibus," also 4to; and in 1679, "De Acce Hafffenis," Frank. 8vo. Albert, another of the sons of Caspar Bartholine, left behind him a small work "De Scriptis Dauerorn," which was published by Thomas at Copenhagen, 1666. 4to.

BARTHOLINE, CASPAR, eldest son of Thomas, was born at Copenhagen in 1650; and treading in the steps of his father and grandfather, acquired almost equal reputation with them. Though accused of plagiarism, and of affuming to himself the honour of discoveries made by others, yet the merit of polishing genius and industry cannot be denied him. Indeed Haller, who had spoken lightly of him at first, on the authority of Swammerdam and Drenckent, treated him some years after (Bib. Med. Pract. v. 3: p. 34.) with more respect, calling him, "Vir acuti ingenii, qui demum ad magnos honores, et locum honoratum in regio insigni erudit." The early part of his life was spent in travel, in which he engaged in the acquisition of knowledge; and he had the happiness of associating with Roych, Swammerdam, Daveney, and other celebrated anatomists, all eagerly engaged in the same pursuit. Being at Rome on his travels, at the age of 22 he published, in Latin, a learned and accurate treatise on the flutes, or rather on the wind-instruments in general, of the ancients, under the title, "De Tuba Vetricum, et engine antiquo uius, libri tres." This work first appeared at Rome in 1677, dedicated to cardinal Sigismund Chigi. The second and bolt edition was published at Amsterdam, 1679, 12mo. with double the number of copper-plates with which the Roman edition had been ornamented.
representing ancient musical instruments from drawings chiefly made from ancient sculpture, which are well executed; and illustrated with quotations from the classics where their life is mentioned. No book of the kind seems to have been written since of equal authority; as recourse has chiefly been had to this little tract, by Bianchini, Bonanni, and others who have written expressly on the subject of ancient musical instruments. In 1678, he was received doctor in medicine at Paris. Returning thence to Copenhagen, he was made professor in medicine at the university there, and was in such high estimation as to be raised by the king, in the latter part of his life, to considerable offices in the state. Besides republishing several of the works of his father, and contributing largely to the Acta Haffiensia, his own disquieted treatises are sufficiently numerous and valuable to entitle him to rank with the celebrated authors of that age. The titles of a few of them follow; the remainder will be found in the Bib. Anat. et Med. Prac. of Haller. "Exercitationes medicinae varius generis, imprimit Ansonian," Leid. 1675, 8vo.

In the seventh, he gives an account of a ptychus efficacious in stopping hemorrhages, taken inwardly. An experiment was tried with it successfully before the king. "De Diaphragmati structura nova," Paris. 1676, 8vo. Drelincourt claims the honour of this discovery, and as Caspar B. was only twenty-two years of age when he published this account, Haller seems to decide in favour of the claim of Drelincourt. "De Formatione et Nutritione Fetus in Utero," Haffine, 1678, 4to. "Specimen Historiae Anatomiae Partium Corporis Humani," Haffine, 1701, 4to. He died early in the last century, but in what year is not known. His brother Thomas was appointed to the professorship of law and history. One work of merit is attributed to him, "De Catus Mortis a Dania gentibus contempto," and a dissertation published in the fifth volume of the Acta Haffiensia, "De Vermibus Aceti, et de Vermiculis feninalibus." The rest of the family of Thomas, are said to have distinguished themselves so as to be appointed to honourable situations; but these perhaps were rather the homage paid to the virtues and talents of their ancestors than to their own merit, as none of their works have been noticed by bibliographers. Vander Linden. Haller. Bib. Anat. et Med. Prac.

**BARTHOLOMEUS DE CLANVILLE,** an English writer who flourished about the middle of the 15th century, wrote "De proprietatibus rerum," which was first printed in fol. by Caxton, 1480, translated into English by Trevisia, and printed by Wynken de Worde in 1507, and again by Bertholst fol. 1533. The original has passed through many editions. In the seventh chapter, he treats of many diversities of ad carne; taken, Friend X's, principally from Conflantine. Haller. Bib. Med. Prac.

**BARTHOLOMEUS.** St. in *Geography,* a town of Germany, in the circle of Bavaria and provostship of Butchcfeldgen, near the Kongig, 15 miles south of Reichenhall.

**BARTHOLOMEO DE XONCIANI,** St. a town in North America, in the province of New Mexico.

**BARTHOLOMEO.** A town of North America, in Mexico, and province of Guispe, chiefly populated with Indians,—Alfo, a town of Italy, in the kingdom of Naples, and province of Otria 13, 11 miles I.S.E. of Nard. —Alfo, a town of Italy, in the kingdom of Naples, and province of Constantza, 6 miles south of Volturnara.

**BARTHOLOMEW.** St. in *Geography,* one of the 12 apostles, whose native country was Galilee, is supposed by some writers to have been the same with Nathanael, one of our Lord's first disciples. It has been generally thought, that he preached the gospel in India; and that he carried thither the gospel of St. Matthew in Hebrew, where Panteaus found it towards the close of the second century on occasion of his peripatetic into that country for the same benevolent and laudable purpose. St. Jerome adds, that Panteaus brought this gospel home with him to Alexandria; but this fact is disputed; and St. Jerome is supposed to have mistaken the words of Eusebius, who only says that the Christians of Lyra had preserved that Hebrew gospel till the time of Panteaus. (See Euth. H. E. lib. v. c. 10. Hieron. de Vr. Libr. c. 36.) It has been alledged, that Bartholomew preached in Arabia Felix and Persia; and that, returning by way of the more northern and western parts of Asia, he preached at Hierapolis and in Lycaonia; and that he died at Albania, probably at a city among the Albanians, on the Capuan sea and confines of Armenia. At this latter place it is said, that he was slain alive by Advagius, brother to Polemon, king of Armenia. From hatred to the Christian religion, which the apostle had induced Polemon to embrace. But the time, place, and manner of his death have not been satisfactorily ascertained. Dionysius the Areopagite cites the writings of Bartholomew; and Jerome (ubi supr., et Pr. in Comment. in Matth.) mentions a "gospel of St. Bartholomew," which pope Gelasius, in his decree, refers to the clafs of apocryphal books. Of this book there are not any fragments extant; unless, as Mr. Jones (Method of setting the Canon, &c. vol. i. p. 211.) inclined to think, it was the same with the gospel of St. Matthew, which was used by the Hebrews or Nazarenes. This learned writer infers from the relations of Eusebius and Jerome, that this gospel was that which had been found in India; but that it had undergone many interpolations and additions: for, says he, it cannot be thought improbable that those who heard St. Bartholomew preach and explain this gospel to them should after his departure rather call it by his name, whom they knew, than the name of Matthew, whom they did not know. Blandines Charriales aubres (Hist. Ecc. l. iv. c. 32.), that Bartholomew dictated the gospel of St. Matthew to them from his memory, and did not bring it along with him.

**BARTHOLOMOW, of the Martyrs,** a Dominican monk, and archbishop of Braga, was born at Lisbon in 1514, and entered into the Dominican order at the age of 14; on which occasion he renounced his family name of Fernandez, and assumed that of the church in which he had been baptized. Having taught theology for 20 years, at great length, with great readiness and the charge of the archbishopric of Braga, to which he was appointed by Queen Catherine. Soon after his appointment, he was deputed, in 1561, to attend the council of Trent, in which he strongly insisted on commencing all reforms with that of the clergy. On his return from the council, he devoted his whole time and revenue to the exercise of benevolence. Accordingly, he used to say, "I am first physician to 1400 hospitales, which are the phials of my doocede." During the famine which afflicted Portugal in 1567, and lasted seven years, the poor of Braga were liberally supplied by the archbishop; and he even extended his donations to those of superior condition who felt the severity of the times. The famine was succeeded by a plague, and on this occasion the archbishop, who resided at Braga and obliged the parochial priests to do likewise, contributed in so small degree to the relief and comfort of the distressed. Having, after repeated solicitations for the poor, obtained leave to resign his archbishopric, he retired to a monastery of his order at Viana, where he spent the last eight years of his life in study and religious exercises; and here he died in 1592. In 1733 he was beatified by Clement XIV. The writings which he left were collected and published at Rome in 2 vols. folio. 1744. Nouv. Dict. Hist.
Bartholomew’s Day, St. in the Calendar, a festival of the Christian church, celebrated on the 24th of August.

On this day, in the year 1662, the act of uniformity which obtained the royal assent on the 19th of May, took place; in consequence of which about 2000 ministers relinquished their preferments in the church, or refused to accept of any upon the terms of this act. See Uniformity.

It was also on the eve of St. Bartholomew in the year 1572, that orders were issued for extending the horned fishery which had been begun at Paris, in consequence of which the town of Paris, as this fishery was liked in allusion to the Sicilian vespers, were repeated in Marseilles, Troyes, Angiers, Touloufe, Rouen, and Lyons: so that in the space of two months, 30,000 Porpoises were butchered in cold blood; if that expression may be used, in speaking of people influenced by the most detestable passions.

Bartholomew’s Hospital. See Hospital.

Bartholomew, St. in Geography, one of the Caribbean islands in the West Indies, about 27 miles north of St. Christopher’s and in circumference about 24 miles. It was peopled in 1638 by Poincy, the French governor of St. Christopher’s, and enjoyed by the French without molestation till the year 1689, when a defance was made upon it by Sir Timothy Thornhill, who ravaged the country, and carried off about 750 of its inhabitants, with their cattle and effects. The English government, however, disapproved of this conduct, and allowed the inhabitants to repopulate their island, as subjects of Great Britain. At the peace of Ryswick, it was restored to France; but as long as it continued in their possession, it was a nest of privateers, and it has had fifty English prizes in its harbour at the same time. It was ceded by France, in 1783, to the Swedes. The shores of this island are dangerous, and cannot be approached without a good pilot. The only port in the island is “Le Carénage,” near which stands “Guattiva,” the seaport town in the colony. This port is situated on the western side, and has excellent moorings; but it cannot admit vessels that draw more than nine feet of water. However, it will contain 100 such vessels; in which respect it is superior both to St. Eustatia and St. Christopher’s. The bay of “Colombier” is deep enough for large ships; but it has no town on its banks; nor has “Le Carénage,” any town belonging to it, but it is one of the several ports of trade. Its soil is but indifferent, and only a small part of it admits of cultivation; and yet it produces tobacco, cotton, and cassava, and abounds with woods of various sorts. The plantations that most abound are those of cotton, which succeed very well. The practice of the planters is to sow four or five grains of the seed in a hole, and when the plants appear they pluck up all but the strongest. After the first crop, they cut down the branches, and the plant pushes out new shoots, which bear like the original item; but after the second crop, the seeds must be again sown. The fences of these plantations are aloe trees, which are placed in a straight line, and as close together as possible; and when they arrive at maturity, they are impenetrable either by men or animals. St. Bartholomew also furnishes the neighboring islands with a peculiar kind of lime; and its birds are very numerous. The climate is in general healthy; though at certain times of the year the weather is variable. For nine months in the year it is pleasant; for, though the heat is scorching, the air is cooled and purified by a breeze, which is very refreshing. Hurricanes prevail from the middle of July till the middle of October. The population of this island is much increased since it has belonged to Sweden. At Guavina are Swedes, English, French, Danes, Americans, and Jews: but the planters are chiefly French. The natives generally live, without being subject to much ill health, to an old age. The men are robust, but the women are light, feeble, and indolent; and are customarily attended by slaves, who are employed in keeping off the infestations that would incommodate them. The houses are made of wood; and some of them are raised upon stone pillars, so that the wind can pass under them. Their windows are mere openings in the sides, with window-shutters or lattices. The inhabitants are supplied with fresh provisions, flour, dried fish, and salted meat from the continent of America. Although the island abounds with mountains, it is deficient not only of lakes and rivers, but even of springs. The fresh water is supplied merely by the rain, and is kept in cisterns; and it is sometimes produced from St. Christopher’s, and often at the charge of twelve lives per ton. The chief products for exportation are sugar, cotton, linum vitae, and iron wood. The coins used in this island are the moidore and the piastre; and they have also a licentious money called the pifon, a worth something more than 2/3 of a piastre; and a small silver coin called a dogg, and another coin called a bitt, of the value of 6 drachms. See “A Voyage to the Islands of St. Martin, St. Eustatia, and St. Christopher,” undertaken at the expense of the Academy of Sciences at Stockholm.” N. lat. 17° 50'. W. long. 6° 11'.

Bartholomew, St. an island in the Southern Pacific ocean, being one of the cluster of islands, called the New Hebrides. N. lat. 15° 4'. E. long. 157° 17'.

Bartholomew’s Islands. lies in the straits of Magellan, half a league E.N.E. from Elizabeth island. S. lat. 52° 50'. W. long. 71° 14'.

Bartholomew’s Island, or Whermyesen, is situated on or near the coast of New Guinea. S. lat. 8° 15'. E. long. 138° 35'.

Bartholomew, St. a parish in Charlestown diocese, in South Carolina, which, by the census of 1790, contained 12,606 inhabitants, of whom 10,538 were blacks. It sends three representatives and one senator to the state legislature.

Bartholomew, Cape, St. is the southernmost point of Staten land, in the straits of Le Maec, at the south end of South America. To the W.N.W lies Middle Cape, and between them is a bay. To the easterly of it is a small island.

Bartholomew, is the name of a ledge of rocks, nearly west from the S.W. extremity of St. Mary’s island, the largest of the Brittle islands; between which and St. Mary’s island, is a channel called St. Mary’s sound.

BARTHOLOMITES, in Ecclesiastical History, a religious order founded at Genoa in 1307; but on account of the irregular lives of the monks, the order was suppressed by pope Innocent X. in 1650, and their effects were confiscated. In the church of the monastery of this order at Genoa is preferred the image which, it is pretended, Christ sent to Abgarus.

Bartisch, George, in Biography, surgeon and oculist at Drefden, born at Königsberg about the middle of the 18th century, is said to have invented a speculum to fix the eyelids while performing an operation on that organ; which was improved by Verduyn, and still further by Rysch and Kau, for they contended for the honour attached to it. He wrote a treatise on the diseases of the eyes, in the German language, published at Dresden in fol. 1753. It has since been translated into Latin, and passed through several editions. There are many plates; those representing the different parts of the eye are taken from Vefalus. Infected with the sepsis of the age in which he lived, he attributes some of the disorders of the eye to witchcraft.

BARTLETT, a plantation of America, in Hillsborough county, New Hampshire, containing 248 inhabitants.

BARTMEISE, in Ornithology, the name of the bearded titmouse, parus hirundo in Frich. Hist. Birds.

BARTOLET, in Biography. See FLAMEL.

BARTOLI, Daniel, a learned Jew, born at Ferrara in 1608; a author of many profound and useful works, written in Italian with a precision and purity of style which have inclined his countrymen to rank him among the first scientific writers in their language. The great historical work of Bartoli appeared in 4 vols. folio, printed at Rome in succession from 1670 to 1673. After the life of St. Ignatius, he begins with the establishments and labours of the Society in Asia, comprised in 3 vols. and divided into those of the East Indies, Japan, and China. In two other volumes he treats of England and Italy. This performance was translated from the Italian into Latin by Father Giannini, and printed at Lyons. He published at Bologna, in 1680, a work in 4to, intitled “Dil fuoiu de remori armoric e dell’ otro” (of harmonic vibrations of found and of the ear). In this truly scientific and ingenious work are to be found several discoveries in that art, which were perused by polished writers on the subject. It contains four dissertations; the first treats of the similarity between the circular undulations occasioned in still waters, and the propagation and motion of sound. The second, of the motion of sound compared with that of light: of echoes, or reflection of sound, and of its augmentation in a whispering room or gallery. Third, of harmonic vibrations and ratios of sound; of sym pathetic sounds; of the breaking a glass with the voice. Fourth, of the mixture of sounds: of confluence; harmonics; and the immense increase of sounds in a vessel, or inclosed place, by repercussion. With many other curious enquiries; and ends with the anatomy of the ear.

BARTOLI, Pietro Sante, called Perugino, an engraver of reputation, was born at Perugia about the year 1675, and reduced chiefly to Rome, where he died in 1700. He is mentioned as a painter, but his character as an engraver is more established. He drew in a correct, agreeable style; and his plates, which are chiefly etched, are executed in a free, masterly manner. His distinguishing excellence consisted in copying the bas-reliefs, and other works of the ancients. His manner is original; and though his name is not always marked at full length upon his plates, they are easily distinguished by persons acquainted with his works, as the freedom and lightness of his pencil cannot easily be counterfeit. Among his detached prints are: “St. Charles kneeling, accompanied by an Angel,” from Antonio Caracci; and the “Adoration of the Shepherds,” from Annibale Caracci. Simut.

BARTOLO, a lawyer of the 14th century, was born in 1343 at Saliscirato, the ancient Sentinum, in the march of Ancona, pursued the study of the law at Perugia and Bologna, and attained to such eminence, that he was distinguished by the pompos titles of “Light and Star of Jurisconsults,” “Master of Truth,” “Lamp of Rights,” “Guide of the Blind,” &c. In 1339, he was elected professor of laws at Pisa; and after remaining 11 years in the exercise of this office, he removed to Perugia, where he opened a school of law, celebrated through Italy, and frequented by a great number of students. When Charles IV. visited Perugia, in 1355, Bartolo secured his favour to such a degree, that he obtained for Perugia all the privileges usually granted to universities, and for himself the titles of counsellor, and domestic commissar of the emperor, with permission to bear the family arms of the king of Bohemia. Bartolo is said to have acquired great wealth, and to have died at Perugia in the year 1359; but the time of his death is not precisely ascertained. He was of a feeble constitution, and his temperance was such that he is said to have weighed his food. His learning and researches were extended beyond his own profession, and his regard for the scriptures induced him to make the Hebrew language the object of his particular attention. His works, comprehended in 10 vols. folio, were printed at Lyons in 1545. Nouv. Dict. Hist.

BARTOLOCCI, Julius, a Cistercian monk, was born at Cellano in Abruzzo, in the year 1613, and became famous for Hebrew and Rabbinical learning. Having been 36 years professor of Hebrew in the college of Neophytes at Rome, and also Hebrew writer in the Vatican, he died in 1687. His great work is intitled “Bibliotheca Magna Rabbinica de Scripturis et Scriptis Hebraicos,” 4 vols. folio. It was printed by the college “Propaganda,” and the volumes appeared successively in 1675, 1678, 1683, and 1693. The fourth volume was completed by his scholar Iambonati, who, in 1694, added a fifth intitled “Bibliotheca Latino-Hebraica.” This work furnishes valuable materials for guiding the interpreters of the Hebrew scriptures. Bartocci left also annotations on the book of Tobit. Moreri, BartoLOIO, Baccio. See BACCOLO, BRENNER, See FREIBERG.

BARTON, Elizabeth, called commonly “The Maid of Kent,” was an enthusiastic imposter, first known in 1525, as a servant at Aldington in Kent. Being subject to hysterical fits, which were attended with a variety of Vanities and dilutions, the superlubions of the age led the common people to believe that she was supernaturally inspired. Matters, the parson of the parish, thought that she was a fit person to be employed in order to support the declining cause of Rome, or to give celebrity to his own chapel, and accordingly resolved to exhibit her as a prophetess. With this view, he and some of his friends took her under their tuition; and taught her to act her part to well, that she not only deluded the common people, but imposed on the credulity of several persons of rank and learning; among whom were Sir Thomas More, Fisher, bishop of Rochester, and Warham, archbishop of Canterbury. The monk and ecclesiastics, who were appointed by the latter to investigate this business, made a favourable report, and encouraged the imposture. The nun, for such was the character she had now assumed, was conducted in triumphal procession, and attended by a mob, to the chapel of the Virgin at “Court of Street;” and when she appeared before the image of our lady, she fell prostrate in one of her trances, delivering rhymes, speeches, &c. all of which tended to the honour of that faint, and of the Papist religion. Having for some time performed in this way, very much to the honour and profit of her employers, she was further instructed to denounce menaces against the king on account of his divorce from queen Catharine, and his marriage with Anne Boleyn, and also his enmity to the church, and to declare his subjects absolved from their allegiance. Henry, who had for some time despised the imposture and its abettors, being at last justly incensed, inflicted an order that, in November 1533, the maid and her accomlices should be apprehended, and brought into the star-chamber; all of whom, upon their examination, confessed the imposture, and afterwards publicly confirmed their confession before the people at St. Paul’s church. Some attempts having been made to induce the nun to retract her confession, measures of severity were adopted, and an act of parliament was passed (25 Hen. VIII. c. 12.) which attained them of high treason, for a conspiracy against the crown and life of the king. Accordingly Elizabeth Barton, and five of her accomplices, were beheaded at Tyburn.
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born in April 1534; the deluded man, who was a simple and ignorant woman, having made a previous acknowledgement of her crime and the justice of her sentence. Dug. Brit.

Barton-upon-Humber, in Geography, a large market-town in Yorkarborough hundred, Lincolnshire, England, 34 miles from Lincoln, and 167 north from London. It consists of several streets irregularly built, and has two large churches. By an ancient register this appears to have been a much more considerable and extensive place than at present; but the destructive plague which infested it in the reign of Queen Elizabeth, may, in a great measure, have caused its decline. The moat early pasture to Hale is from Barton-Nevy. The market is held on Monday; and it has a fair for horse, oxen, and sheep.

At Horknow, in this neighbourhood, was lately discovered a curious Roman telferated pavement, which is particularly described by Mr. Lysons, in the first part of "Reliquiae Romanae." This town includes 412 houses, inhabited by 1709 persons. N. lat. 53° 40'. W. long. 0° 22'.

Barton, a township of Orleans county, in the state of Vermont, America, formerly in that of Orange, lies S.W. of Brownington; 6 miles S.W. by W. from Willoughby lake, and 140 N. easterly from Bennington.

Barton, in Devonshire, and the west of England, is used for the demesne lands of a manor. Also for the manor-house. And, in some places, for out-houses, fold-yards, &c.

BARTRACH. In Geography, an island in the bay of Killala, at the mouth of the river Moy, about 2 miles long, and half a mile broad; 2 miles N.E. of Killala.

BARTRAMIA. In Botany. See TRAUFFETTA.

BARTSA. In Geography, a town of Hungary, 14 miles N.N.E. of Széchen.

BARTSENLU, a town of Arafic Turkey, in the province of Natalia, 32 miles S. of Kutsia.

BARTSIA, in Botany, a genus of plants so named by Linnaeus, in memory of his friend Dr. Bartch. It is an intermediate genus between rhinanthus, euphrasia, melampyrum, and pedicularis; distinguished by its coloured calyx. Lin. gen. 730. Schreb. 1796. Juss. 300. Clus. didyma angustifolium. Gen. Char. Cal. perianth one-leaved, tubular, permanent; mouth oblong, two-lobed; lobes emarginate, coloured at the top. Cor. monochlamys, tinged; upper lip crept, fladder, entire, longed; lower, reflex, trident, obtuse, were small; filaments were small, bristle-shaped; the lower of the upper lip; two somewhat shorter. Stem. Anther two. Thers. oblong, approximating under the top of the upper lip. Pila. Germ ovate. Style, filiform, longer than the calyx. Stigma, obtuse, nodding. Per. capulose ovate, compresse, acuminate, two-celled, oblong, two-valved; partition contrary to the valves. Seeds. Numerous, angular, small.

Eff. Gen. Char. Cal. two-lobed, emarginate, coloured. Cor. coloured less than the calyx; upper lip longer.

BARUCH, in Scripture Biography, was the son of Neriah, of the tribe of Judah, and the faithful disciple and servant of the prophet Jeremiah, who employed him as his secretary or amanuensis. This prophet having received orders in the reign of Jehoiachin king of Judah, whilst he was in prison, to write all his prophecies till that time, dictated them to Baruch, by whom they were read to the people assembled in the temple on occasion of the feast of expiation. B. C. 605. Baruch terrified by the threats contained in the roll which he had read to the people, was encouraged by an assurance that, notwithstanding all the calamities which would befall Judah and Jerusalem, he should obtain a deliverance. (Jer. xli.) Archbishop Usher and Dr. Prideaux are of opinion, that this roll was read a second time to the people, in the fifth year of Jehoiachin, B. C. 603, after which it was committed to the flames by the king himself; and the Jews keep an annual fast, even to this day, in commemoration of the burning of the roll; the day marked for it in their calendar is the 29th of Calue, the sixth month of the Jewish year, and corresponding to our November. After the burning of this roll another was immediately written, by God's special command, from the mouth of the prophet by the hand of Baruch; and to this were added many other words, and particularly that prophecy with respect to Jehoiachin and his house, which is denounced against them for this impious fact, in the 30th and 31st verses of the 52d chapter of Jeremiah. In the fourth year of Zedekiah (B. C. 594.), Baruch went to Babylon with his brother Neriah, and carried thither a written account of the prophecies contained in the 52d and 53d chapters of Jeremiah, which denounced the judgments that were to be executed upon Chaldea and Babylon by the Medes and Persians. Baruch, having read these prophecies to Jehoiachin and the other captives, threw the roll that contained them into the Euphrates, as the prophet had commanded him. Baruch accompanied Jeremiah into Egypt, and after the death of the prophet, he retired to Babylon, where, according to the rabbins, he died in the 12th year of the captivity. The book of Baruch, contained in the Apocrypha, is an epistle, or letters, to the captivity, by King Jehoiachin and the Jews in captivity with him at Babylon, to their brethren that were still left in Judah and Jerusalem, with an historical preface, in which it is related, that Baruch being then at Babylon, drew up this epistle in the name of the king and the people, by their appointment, and read it to them for their approbation; and that a collection having been made, the epistle with the money was sent to Jerusalem. No Hebrew copy of this book is extant; but there are three copies, one in Greek and the other two in Syriac. The Jews have not received this book into their canon; nor is it found in the ancient catalogues of the scriptures, cited by the fathers and the councils. In the latter catalogues, it is annexed to the book of Jeremiah, and cited by some of the fathers as a part of Jeremiah. St. Jerome (Præf. in Jerem.) expressly rejects it out of the canon; nor does he translate it, because it was not in Hebrew, nor received by the Hebrews. On the other hand, St. Cyril of Jerusalem, and the Latine councils held by A. D. 356, mention Baruch among the canonical books of Scripture. In both the catalogues which they have given, these words occur: "Jeremias cum Baruch Lamentationibus et Epistolam." But it has been alleged, that by these words they meant to express no more than Jeremiah's prophecies and lamentations; that by the epistle, is meant merely the epistle in the 29th chapter of Jeremiah; and that the name of Baruch is added only because he had collected these together, and annexed the last chapter, which is supposed to be Baruch's, the prophecies of Jeremiah, ending with the 51st chapter, as it is positively said in the last words of it: and it must be acknowledged, says Dr. Prideaux, that as neither in St. Cyril, nor in the Latine council, any of the other apocryphal books are named, it is very unlikely that by the name of Baruch, in either of them should be meant the apocryphal book under this title, which has the least pretence of any of them to be canonical. Although the church of Rome has admitted it, and its authority has been sanctioned, after some hesitancy and difficulty, by the canon of the council of Trent, it is condemned by Protetants to the class of apocryphal books. Prof. Conn. p. 1. b. i. vol. i. p. 87, &c. Depuy's Eccl. Hist. vol. i. p. 26.

BARUCO, or BARICA, CARM. in Geography, is the western point of Golfo Dulec, or fresh-water bay, and distant from it about four leagues, on the S.W. side of the islands of Parma, in the Northern Pacific ocean, S. E. S. from Cape Nelson, and S. E. from the gulf of Salimas. N. lat. 8° 26'.

BARUD, the name of several small places of Egypt, on the east and west side of the Nile, situated not far from Manfouret, Front. and Dendera.

BARVER, a town of Germany, in the circle of Weilphala, and county of Dicpholz, six miles E. N. E. of Diepholz.

BARVILISKI, a town of Lithuania, in the palatinate of Troki. 12 miles S. W. of Troki.

BARULES, in Church History, a feast which maintained that the Son of God had only a phantom of a body; that souls were created before the world, and that they lived all at one time.

BARUM, in Geography, a town of Germany, in the circle of Lower Saxony, and principality of Luneburg; 10 miles south of Luneburg.

BARUST, in Commerce, an Indian measure containing 17 gantans; it ought to weigh about three pounds and a half avoirdupois.

BARUTH, in Geography, See Bariout, and Berystus.

BARUTH, a town of Germany, in the circle of Upper Saxony, 22 miles S. E. of Potsdam, and 34 N. E. of Wittenberg.

BARWICK, PETER, in Biography, of a respectable family of Witheraback in Weilmorland, was at a proper age admitted of St. John's college in Cambridge. Where, in 1642, he took his degree of Bachelor in Arts. Quitting that seminary during the troubles which at that time disturbed the country, he was entertained at the house of Mr. Sacheverel of Leicestheret, as tutor to his son. In 1655, he took his degree of Doctor in Medicine, and soon after was made physician in ordinary to king Charles II. which occasioned him to come to London, where he soon acquired considerable reputation for his skill in his profession. He is said to have excelled particularly in his treatment of the small-pox, as well as of typhus and malignant fevers; perhaps following the method recommended by Sydenham in those complaints: but he has left no publications on these subjects. He wrote very ably in defence of Harvey's doctrine of the circulation, at that time much agitated; and M. Carrera attributes to him a treatise, published in London, 1671, 4to. "De in qua Medicinae Annum Exspectat." But the work by which he is principally known, is the life of his brother John Barwick, late dean of St. Paul's, written in elegant Latin. It was published in 1721, 4to, large 8vo, by Hilkiah Belford, and an elegant portrait of the doctor, engraved by Vertue, affixed to it. His defence of the "Eikon Basilike," against Dr. Walker, which was written in the 74th year of his age, "does not only flow, but..." Grange...
Granger says, "the warmth of his loyalty, but discovers not a little of the perversity of old age." He died August 1705, in the 85th year of his age, highly honoured and respected by all who knew him. Granger's Biog. Hist. of England. Ely, Dict. Hist.

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Barwick, John, an eminent English divine of the 17th century, and dean of St. Paul's, was born at Wethersfield, a little village of Welford, in 1612; and being designed for the church, he was sent to school at Sedbergh in Yorkshire, where he manifested early indications of genius and pertness. In 1631, he was admitted into St. John's college in the university of Cambridge, where he became so distinguished, that he was chosen, at the age of twenty, to manage a dispute relating to the election of a master, which was heard before the privy council; and by his conduct in this business, he acquired celebrity in the university, and was also taken notice of at court, and by the ministry. Having taken several degrees at the university, he bore an active part in the civil war, and made one of a party of horse which conveyed the college plate and a small supply of money to Nottingham, where the king had set up his standard. He also published a tract against the covenant, which was so offensive to persons in power, that he was obliged to retire to London, where he rendered all the service in his power to the royal cause. As he possessed talents that justified confidence, he was employed on various occasions of importance by the king and his friends; and he seems to have been successful in his endeavours to reclaim some persons who had been induced to abandon the cause to which he was devoted. During his majesty's confinement in Carisbrooke castle, Mr. Barwick contrived to preserve for him a free intercourse with his friends; and he also concerted a plan for his escape, which however did not succeed. After the king's death, and when the royal cause seemed to be desperate, Mr. Barwick, though in a very weak state, exerted himself in maintaining a daily correspondence with the ministers of king Charles II. This office he was at length obliged to devolve, first on his brother Dr. Peter Barwick, and then on another of his brethren, whom he endeavoured to reserve, at the hazard of his own life, from the danger to which he was exposed in consequence of a treacherous discovery. When Mr. Barwick was threatened with torture if he did not immediately disclose the names of the persons who were concerned with him, he kept the secret with invincible firmness; upon which he was committed to the Tower by an order of council, dated April 9th, 1650. Here he was confined in a close dungeon, and debaamed the use of pen, ink, and paper, and of all books except the bible. In this situation he remained many months, during which his diet was herbs or fruit, and water-gruel made of oatmeal or barley, with curdled boil in it, and sweetened with a little sugar; and yet such was the benefit which he derived from this slender diet, that though he was afflicted with a phthisis, atrophy, and dyspepsia, when he was committed, he recovered beyond all expectation, and grew plump and fat. This fact has been mentioned by many physicians, as a proof of the advantage of temperance, even in the most invertebrate diseases.

After two years' confinement, he was discharged in 1652, upon giving security to appear at any time within a twelvemonth before the council of date. At the expiration of the year, being satisfied by president Bradshaw, who had been dismiffed by Cromwell, that neither he nor his friends would be exposed to any danger from the recognizance into which they had entered, he again engaged with ardour in public business, and conferred with several persons whom he had drawn over to the king's service, on various schemes for restoring monarchy. He was also employed in conducting the king's correspondence, which he did with fidelity and success; and when a restoration was likely to take place, he was sent over by the bishops to represent to the king the state of ecclesiastical affairs. On this occasion, he was received with expressions of cordial esteem by his majesty, and appointed one of his chaplains. Upon his return, he visited the university of Cambridge, and took the degree of Doctor in Divinity. Upon the king's restoration he was offered a bishopric, which he declined accepting, that the world might not imagine that his extraordinary zeal for episcopacy was owing to any secret hope he might indulge of being made a bishop. Up in this he was promoted to the deanship of Durham, with which he kept the rectory of Houghton le Spring, four miles distant from the city. The revenue which he thus acquired, he liberally employed in repairing public buildings, relieving the poor, and maintaining hospitality. In 1661, he took possession of the deanship of St. Paul's; and by his interest with his majesty he obtained two royal grants; one for the repair of the cathedral, to which he himself contributed; and the other for securing its privileges. The king also appointed him one of the nine assistants to the twelve bishops employed in the Savoy conference; and he was unanimously chosen by the clergy in convocation, their procurator. His various engagements brought on his old complaint, which was aggravated by renewed application after a temporary respite, and which terminated in his death, Oct. 9th, 1662. By his will he bequeathed the greatest part of his estate to charitable uses. As his time was so much devoted to political and public matters, we may well imagine that his writings were not numerous: they consisted only of three sermons: the piece against the covenant already mentioned; and the life of the bishop of Durham, annexed to his funeral sermon. Many of his letters to chancellor Hyde may be found in Thurloe's Collection of State Papers. Biog. Brit.

BARYGAZA, in Ancient Geography. See Barach.

BARYGAZENUM PROMONTORIUM, a promontory of India, placed by M. D'Anville at the south entrance of the "Barygazenus Sinus," or the present gulf of Cambaya.

BARYPYCNUM, in Greek Myth. The ancients gave this epithet to five of the eight flable or fixed founds of their diagram; namely, the hypate hypaton, the hypate monon, the monon the para to, and the para dize menon. These four terms, barypycnume, metaphore, parade, and derdile, imply the lower fixa or dense founds; that is to say, the fixa or coarse intervals, that mean of the fixa, the acme of the fixa, and the width of the fixa, meaning in the Greek metaphore the parhypate, the parhypate, the line, and the meta of the tetrachords of the fixa kind. By fixa or close, the intervals of the femitones in the chromatic and quarter tones in the enharmonic, are implied. See Greek System.

BARYTES, or ponderous earth; terra ponderosa, schwerde Germ., baryte, Fr.

The English and French names of this earth are derived from the Greek baryes, heavy, on account of the high specific gravity of the Ponderous Spars or native sulphate of barytes, which is the commonest form in which this earth appears.

§ 1. Historical notices respecting barytes.

It is to Scheele that Chemistry is indebted for the discovery of this substance in 1774. In his valuable essay on manganes, he informs us that the nitric and muriatic solutions prepared from the native black oxyd of this metal contain besides, an earth differing from all those hitherto known by its strong affinity for sulphuric acid, &c. In 1775 Gahn made his analysis of the ponderous spars, and found it to consist of the earth newly discovered by Scheele, and sulphuric acid. Bergman repeated and confirmed the experiments of these chemists, and named the earth Terra ponderosa.
BAR

A method of obtaining pure barytes.

The only way of procuring this earth in a state of sufficient purity for chemical experiment, is to expose crystallized nitrate of barytes in a platinum crucible to a moderate red heat till it becomes quite dry and has ceased to give out any vapours; the nitric acid will be wholly decomposed and volatilized, leaving the barytes behind in the form of a greyish white porous mass or fine adherent to the crucible. The nitrate of barytes is obtained either by dissolving the native carbonate of barytes in very dilute nitric acid; or by heating the native sulphate of barytes in a close crucible with charcoal, and thus converting it into sulphate of barytes and then treating this with nitric acid, which will dissolve the earth, and leave the sulphate behind. A much more economical way however of preparing this earth is mentioned by Bartyo (Ann. de Chimie, vol. 40). Take sulphate of barytes, pulverize it together with charcoal, and expose it for half an hour to a full red heat; by this means the greater part will be converted into sulphate of barytes. Pour boiling water on the mass, and a clear yellow liquid will be obtained by filtration; add to this solution of soda; and a copious white precipitate of carbonate of barytes, four times the weight of the soda employed, will be deposited. This being separated from the solution of sulphate of soda and washed repeatedly, is to be mixed with charcoal and again heated for half an hour; the carbonate will be or the greater part converted into effuse powdery carbon, and the barytes will remain in a crucible. By a short digestion in boiling water, and frequent filtration, a clear superfluous solution of barytes is obtained; from which, by evaporation, a white and fluffy, in a silver crucible, the pure barytes is readily obtained.

§ 5. Chemical and physical properties.

Barytes, or earths containing the metal stannous, are very white and compact; and, if used as a pigment, its powdery state cannot be avoided, and must always be very dirty, unless it is at a high temperature, or the ground earth is vitreous and adherent to the crucible. It is a hard earth, and is capable of being mixed with a piece of glass, if fused and partly volatilized, communicating a yellow color to the mass.

Its affinity for water is very considerable. When exposed to the air, it gradually imbibles moisture, swells, and falls to

pieces, attracting at the same time the carbonic acid of the atmosphere and becoming mild; hence the necessity of keeping it in dry well-lidded vials. When well dried, with a little water, it exhibits the same appearance as quinolite, but with greater gravity; the mass becomes white, is remarkably increased in bulk, and a large quantity of heat is evolved. If stirred up while wet with an additional portion of water, to the confluence of a small pile, it cools, and, as it cools the state of a field, makes up of confounded needle-like crystals; but this by exposure to the air becomes carbonated and falls into powder.

Water boiled upon pure barytes, is capable of taking up its weight of this earth; the greater part of which, when depoits by cooling, in flaker denate crystals implanted into each other, or by carrying on the process very slowly, in the form of compacted hexagonal prisms terminated by a feathery pyramid, and of a brilliant lustrous hue. These crystals are to be composed of 33 parts of water and 47 of barytes. By a boiling heat, it is completely dissolved, and at length the water being evaporated, a white powder remains, which is pure barytes. By mere exposure to the air, they become efflorescent, and the earth is found to be carbonated. They revolatilize about 82 per cent of water at the temperature of 10°. The fluid that remains after the expression of the crystals of barytes takes 47° of the earth in its own solution, and is called barytic watcr; improperly, barytes, or barytes. This solute is perfectly limpid and colorless, and possesses properties very analogous to lime water. By exposure to the air, it becomes covered with a crust of carbonated barytes; and this being removed or falling to the bottom, a fresh crust begins to be formed till the whole of the earth is thus separated from the water.

Barytes, like the other alkaline earths, combines with all the known acids; and the barytic fahs thus produced are for the most part readily crystallized, and are distinguished by the thing mutual affinity to their elements; sulphuric acid and in particular is diffused by it from every other combination.

Among the simple inflammables, phosphorus and sulphur appear to be the only ones capable of uniting with barytes. If alternate portions of phosphoric and pure barytes are put into a firing glass tube closed at one end and exposed to a red heat, the phosphoric melts, sublimes, and combines with the barytes that is in contact with it, in a very fine white mass of a metallic luster, the phosphuret of barytes. This substance, when broken up, exaltes a strong frits, and a dark, changes gradually by exposure to the air into phosphurate of barytes, and immediately decomposes, giving out phosphoric and hydrogen gas.

The affinity between sulphur and barytes is very considerable. Pure barytes digested in warm water with sulphur will take upon them a quarter of its weight of this substance; being then evaporated to dryness and heated red hot in a crucible, the result is a reddish yellow mass, or fleshy mass, fullphuret of barytes. Its properties have been very little examined into, on account of the great deal with which it is decomposed. Sulphuret of barytes has the remarkable power of attraction for water, is very volatile, and is thrown off when cold, but is still more so in hot water. In this case, however, a decomposition of part of the water is effected; the by said water ascending with a portion of its bubbles, and the oxygen with another portion. The two continuations of these, however, are very uncertain, and having been very investigated by Bartsch, we shall treat of them somewhat at large.

When phosphuret of barytes is thrown into hot water it immediately
immediately dissolves, the liquid becomes of a yellow colour and exhalas a strong smell of sulphur and hydrogen; a white earthy sediment is precipitated, and as the liquid cools, a con- siderable quantity of crystals either acicular, prismatic, or in plates, makes their appearance: which being dried by peurren between filtering paper becomes perfectly white. Thus sulphure of barytes by the action of water furnishes three chief products. 1. The earthy sediment is re- generated sulphur of barytes; being produced by the oxogen of the water combining with part of the sulphur into sul- phure of hydrogen, and this as soon as formed satirnuing itself with barytes. 2. The crystals are hydralsulphure of barytes, a salt remarkable for being the only one of the earthy or alkaline hydralsulphures that is soluble in being crystallized. It is very little soluble in water, is easily soluble in acid, and is decomposable by the mineral acids with extraction of sulphured hydrogenc gas. Barytes being produced in the decomposition of sulphure of bar- ytes, it may be made in the direct way by pouring sul- phure of hydrogen gas through a Woud's apparatus containing barytes diffused in water. 3. Besides the sulphur and hydralsulphure of barytes, there remains from the de- compition of the sulphure of barytes, a yellow liquor, which, by the addition of muriatic acid, gives out a large quantity of sulphured hydrogen, and yields at the same time a copious precipitate of sulphur: hence it appears to be sulphure of barytes, intimately mixed or more probably combined with sulphured hydrogen.

There are therefore three modes in which sulphur can combine with barytes: the first is simple dry sulphure of barytes, soluble in water and without decomposition; the second is hydrosulphure of barytes, crystallizable, soluble in water and decomposable by muriatic acid without decomposing barytes; the third is sulphured hydrosulphure of barytes, soluble in water, not crystallizable, and when decomposed by muriatic acid giving out both sulphur and sulphured hydrogen.

Barytes, in consequence of its alkaline properties, acts on vegetable and animal matter with great energy: it forms indoluble soaps with oils, curdles and diffuses insoluble fibre, &c.

In the dry way, barytes diffuses flex in the same manner as potash does: three parts of barytes and one of flex being intimately mixed and fused together, produce a yellowish green mass entirely soluble in nitric, muriatic, or acetic acid, from which the flex may be separated in the usual way. In the moist way barytes being mixed with newly precipitated alumina makes a compound insoluble in water, but which is readily taken up by an excess of barytes.

Barytes diffuses certain metallic oxides, especially those of lead; but these combinations have not been much attended to.

Barytes was for a long time supposed to be a very refractory metallic oxide. Berzelius, Lavoisier, and other eminent chemists adopted this opinion from its great specific gravity, from the greenish hue that it communicates by fusion with the other earths, and from its being precipitable from its solutions in acids by prussic acid. But, in answer to these arguments, it may be remarked, that metals in proportion as they become exchanged approach to the state of acids; with rare barytes profit of alkaline properties in a very eminent degree: and that prussic acid, when quite pure, does not precipitate barytes; this appearance is being always occasioned by the presence of fulminate of potash, with which the prussic is generally contaminated.

Barytes is an active poison to animals; as are most of its salts. It is not in de use in the large way, but is of con- siderable importance in the laboratory as a test for sulphuric acid and an effectual reagent to separate this substance from all its other combinations.

The order of the affinities to which barytes is suilj close as far as they have been investigated, appears to be in the mord. way,—sulphuric acid, oxalic, ferrous, fluoric, phosphoric, fusco- locholic acid, nitric, muriatic, citric, tartaric, ascitic, hori- tic, boric, baryc, acetic, boric, sulphureous, arsenious, and prussic acids, water, fat ox, sulphur, alumin, fluid in the dry way,—phosphoric acid, boric, arsenic, sulphureous, fluoric, and muriatic acids, sulphur, oxygen of lead, and alumine.

Barytes is a very efficacious leeching in cases of indigestion, dyspepsia, and much other disease of the stomach. It is well known to be possessed with the power of precipitating phosphatic and all other metallic oxides, so as to separate them from the substance which has taken them up. By this means it is very serviceable in many cases of disease, and is the best leech cucumis has.
given in favour of births protracted to even more than twelve months, which Le Bas thinks might, and, he had no doubt, had happened. Bouvard and Louis, on the contrary, contending against the authority of these pretended cases of protracted gestation brought by their antagonists, which they do not admit to have been completely proved in any one instance, fix the time of parturition in women to nine calendar months from the time of conception; allowing it may be extended beyond that time ten or twenty days, and denying that in any one well-authenticated case, proof had been produced of a woman's being delivered of a living child later than that period. This opinion is now, we believe, universally established. The following are the titles of the books written by Le Bas on the subject:— Questration important: Peut on déterminer le temps de l'accoucheement? Paris 1794, 8vo. "Nouvelles Observations sur les naiffances tardives," 1795, 8vo; written in answer to Louis, who had confuted his arguments, and denied the authenticity of the cases brought in support of them. "Lettre à M. Bouvard, au sujet de sa derniere consultation," 1795, 8vo. Bouvard had taken the same side with Louis. "Réponse à un ouvrage de M. Bouvard," 1795, 8vo. This is written with much sincerity: the last recourse, when defending a bad cause. Hailer, Bib. Chimur.

**BAS**

**BAS,** in Geography, a small island in the English channel, near the coast of France, in the district of St. Pol de Leon, near Penpoul, the harbour of St. Pol, one French mile in length, and 1/4 of a mile in breadth: difficult and dangerous of access on account of the rocks overgrown with sea-weeds. The eastern part of the island is rather mountainous, but towards the west and north-west the coast is lower, and well cultivated. The whole population comprehends about 800 persons, who inhabit three villages, viz. Forêt-de-Neve, Carn, and Gouslès. The island is defended by four batteries and two forts, with eleven pieces of cannon and 80 canoneers, besides a garrison of 50 men to guard the coasts. It has only one spring of water: the soil is sandy: the men are all sailors, and the women cultivate the ground. The richest proprietor here does not possess more than six or seven cows, of which there are only about 200 on the whole island. Not a single tree grows here. The isle abounds with fish. The inhabitants live together in fraternal concord, and consider themselves as members of one family. N. lat. 52° 50′; W. long. 4° 17′. This is the fairest of a bar which runs in eastward from Quiberon bay on the south of Vilévre river, on the west coast of France.

**BAS en Béjíca.** A town of France, in the department of the Upper Loire, and chief place of a canton in the district of Yvilleaux; one league north-west of Montluel. The place contains 5686 and the canton 11,173 inhabitants; the territory includes 20747 square miles and six communes.

**BAS Relief.** See Basso relevé.

**BASAAL.** In Botany, the name of an Indian tree, growing about Cochin and Reya's Hill.

**BASAG.** In Ancient Geography, an island of the Indian ocean near Arabia Felix, according to Pliny.

**BASALT, artificial, or black porcelain; a composition having nearly the same properties with the natural basalt, invented by Meisser, Wedgwood and Bentley, and applied to various purposes in their manufactures.**

**BASALT.** In Mineralogy. Argilla basaltice, Werner; figurate trap of Kirwan.

The colour of this mineral is generally greyish black, or more rarely bluish or brownish black: its surface is usually reddish brown, from a partial decomposition. It is found in large masses, comprising entire insulated mountains of a somewhat conical form. Of itself it is definite of figure, but not infrequently contains flinty particles of olivin or basaltic hornblende: its fracture is uneven, falling into fine splinters, sometimes approaching to the even or flat conchoidal. It flies, when broken, into indeterminate rather sharp-edged fragments.

The most usual form of basalt is that of columns, straight or curved, perpendicular or inclined, from three inches to three feet in diameter. These pillars are divided either by horizontal joints at right angles to their axes, or by articulations formed by the convex end of one piece inserted into the concave extremity of the adjoining one. The forms of the columns are pentagonal, hexagonal, octagonal, rarely triangular or quadrangular. Basalt also sometimes occurs in tables, or globular or elliptical concentric masses, called by the French basaltite en boules.

It gives a clear ash-grey streak, is almost hard enough to give fire with flint, and is very difficultly broken. It is generally opaque, though sometimes slightly translucent on the edges. It is remarkably obscure when struck with the hammer. Sp. gr. according to Bergman, 31 Briffon, 2.864. It is somewhat magnetic.

Before the blowpipe, basalt fuses without addition into a black opaque glass, attractive by the magnet. When heated in a charcoal crucible, according to Klaperoth, it fuses into an ash-grey mass of a dull earthy fracture, and minutely spongy texture, overlaid with grains of iron: it fuses in this proceeds 9 per cent. of its weight. In a clay crucible, it fuses into a dense glass, opaque in mass, but transparent, and of a clove-brown colour, in thin splinters.

Its constituent parts, according to Bergman, are:

- Silica — 50
- Alumina — 15
- Lime — 8
- Magnesia — 2
- Iron — 25

The geological characters of basalt, and the various controversies with regard to its origin, and that of the other Rocks of Secondary Transformation, will be treated of at large in their proper place. It will be sufficient to mention here, that basalt belongs to the stratified mountains, and that it very rarely contains any petrifications. When in mass, it never includes any metallic veins; and when it occurs in the form of dykes, in coal strata or metalliciferous rocks, it produces a total separation of the ore or coal on each side of the dyke.

It is seldom if ever quite pure, being generally mixed with basaltic hornblende, common hornblende, and olivin; more rarely with zonite, felsipar, quartz, feshor, and calceous spar. Aicna is sometimes found on its surface, though very seldom penetrating its substance. When mingled with these in considerable proportion, it is easily decomposable into a remarkably fertile clayey loam.

The north-east coast of Ireland presents the most perfect and magnificent ranges of basaltic columns in the world: the celebrated Giants' Causeway is an assemblage of many thousand articulated pillars projecting into the sea, at the foot of a lofty basaltic promontory, exhibiting a polygonal pavement somewhat resembling a solid honeycomb. The promontory at Fairhead is a vast colonade of upright basaltic pillars, the shafts of which are 250 feet in length. Scotland also contains many beautiful specimens of columnar basalt; the little island of Staffa in particular almost entirely consists of basaltic pillars, both vertical and bending. The central district of Auvergne in France, and the northern parts
parts of Italy at the foot of the Alps, as well as Saxony and Hesse in Germany, are also remarkable for their tufatic columns.

Besides the use of tufa as a material for building and paving, it has of late been employed as an ingredient in the manufacture of glass bottles; it serves instead of more costly substances, and the glass, though black and opaque, has the advantage of being considerably stronger than the common green kind. When calcined and pulverized, tufa is an excellent substitute for puszolana in the composition of mortar, to which it gives the property of hardening under water.


BASANITE of Kiriwa, in Mineralogy. See Siliceous Schistus.

Basanites, in Natural History, a name given by many authors to the touchstone, used for trying gold, &c. They speak of a basaltine which yielded a bloody juice, and was good against druses of the liver.

 BASANTUS Lapis, in Ancient Geography, the name of a mountain in Egypt, according to Ptolemy.

 BASANUS, in Natural History. See Touchstone.

 BASARA, in Ancient Geography, a town of Palestine, in Galilee, 20 miles from Gaba, in the vicinity of Ptolemais. Josephus.

 BASARTSCHIK, in Geography, a confederate town of Romania, in Turkey of Europe. It is tolerably well built, has broad and clean streets and good trade, and is seated on the river Maritz. N. lat. 40° 40'. E. long. 24° 31'.

 BASARUCO, in Communes, a small base coin in the East Indies, being made only of very bad tin. Of this coin there are two sorts, good and bad; the value of the base fort is 1/4 less than that of the good. Three basarucos are equal to two rees of Portugal.

 BASCANIA, in Antiquity, ridiculous or grotesque figures hung up by the ancient smiths before their furnaces, to divert envy.

 BASCARA, in Geography, a town of Africa, in Biskulverg. The soil in its vicinity is fertile in grain and fruits, particularly dates, which are excellent.

 BASCHARGE, a town of France, in the department of the Forêts, and chief place of a canton in the district of Luxembourg. The place contains 8,38 and the canton 9,422 inhabitants; the territory includes 245 kilometres and 13 communes.

 BASCINNO, a town of Italy, in the kingdom of Naples, and province of Abruzzo Ultra, 4 miles S.S.E. of Parma.

 BASCULUMBAY, a town of Asia Minor, in the province of Natolia; 30 miles east of Pergamo.

 BASE, Basis, in Architecture, denotes an assemblage of mouldings constituting the lower part of a column, of a pier, or of a pediment.

In the Grecian remains of the Ionic order, the lower torus, astragal, or fillet of the base, rests immediately under the upper step of the building; but in those of the Corinthian order, a square plinth is added to the base. This practice is observed in all the Roman works, with the exception of the temple of Vesta at Tivoli and at Rome; small circular mouldings, in which a plinth radiating to the centre would have had an unpleasing effect. Modern architects have universally given plinths to their bases; and the following rules may be deduced from their works: the height of the first bases of columns to be half a diameter, those of pedestals, two-thirds of the height of the respective column and pedestal; the plinths of the Tuscan and Doric orders, one-half the height of the base; and one third in the Ionic and Corinthian. For the particular proportions of the mouldings, we refer to the plates.

The Attic or Atticurgic base consists of two toruses and fillets, with an intermediate scotia. (See Pl. XVII. of Architecture; and Pl. I. fig. 1, from the temple of Jupiter Olympius at Athens; and figs. 2, from the temple of Minerva Polias, of the same place.) This base, probably the most ancient of any, is employed in all the Athenian remains of the Ionic and Corinthian orders; in Roman antiquities, it is frequently used in the Corinthian order, and confidedly in the Ionic; and it has been adopted in every order by modern architects. It may be observed in this place, that, of the Grecian Ionic bases, the upper torus is frequently fluted. See Pl. 1. fig. 2. Plate XXVIII.

The Tuscan base. The remains of antiquity do not furnish any complete specimen of the Tuscan order; and modern architects have accordingly varied in this order more than in any other; the base, however, has been determined by all to consist of a fillet and torus. See Pl. XIV. of Architecture.

The Doric base. It has been the practice of antiquity to execute the Doric order without a base. The majestic strength of this dignified order required no additional flabbity from a base, the projecting mouldings of which would have embroiled the comparative narrowness of the non-triglyph intercolumniation. But modern architects having adopted a column modelled rather on Roman than Grecian proportions, have for the most part, with great propriety, added a base to their slender order. The Doric base invented by Vitruvius (see Plate I. fig. 3.) consists of a fillet, astragal, and torus; all other architects have used the Attic base.

The Ionic base. The base peculiar to this order, as described by Vitruvius (see Plate I. fig. 4.), consists of a torus and fillet resting upon two scoties, divided by astragal and fillets. On this base there is an example in the remains of the temple of Minerva P at Priene. (See Pl. XXVIII.) However, the practice of ancient and modern artists, with few exceptions, has given the Attic base to this order.

The Corinthian base (see Plate XXIX.) differs from the Attic, in having two scoties with astragals between the torus. This base is found in the Pantheon, and in the columns of the Campo Vaccino. In the other Roman and in the Grecian antiquities of this order, the Attic base is employed.

The Composite base. The composite order has no peculiar base, and uses the Attic and Corinthian bases in different. Vitruvius, Stuart's Athens. Deh. des. de Rome. Arch. di. A. Pallado. Regno di J. B. da Vignola. Base, Radiers, that has its statures cut like cables. Base, in Fortification, denotes the external side of the polygon, or that imaginary line which is drawn from the flanked angle of a bastion to that which is opposite to it.

Base of a Figure, in Geometry, denotes the lowest part of its perimeter; in which sense, the base stands opposed to the vertex, which denotes the highest part.

Base of a Triangle, is properly the lowest side, or that which is parallel to the horizon.

Thus, the line AB is the base of the triangle ABC.
B A S

Plate III. Geom. fig. 8. Not but, on other occasions, the line, AC, or BC in the triangle, may be made the base.

In a right-angled triangle, the F is perpendicular to the base; in the other, the other base.

Base, a fixed line, is known to be that on which it lies. Then the chord opposite B is the base of the cylinder, A图. Plate III. Geom. fig. 39.

Base, in &c. &c. is straight line to the hypothesis, and parallel to the central intersection of the several planes, and that of one side.


Base, in Heredity, reaches the bottom of the limb; and the charge that remains to be base.

Base Defined in Optik. Sec. Distinct.

Base of 3d Heart, in Anatomy, denotes the broader or upper part of it, which, to the sides of which is the two anterior, &c. The 4th motion of L. Newton's hypothesis, is the entrance of the water, &c.

Base, or Basis, in Chemistry, a term which was applied, by the old chemists, to designate those substances of a not-alkali, peroxide, combined with, and were acted upon, by more volatile or active meritit. Thus the alkaline earth, and metallic oxyd, which form compound salts by uniting with acids, were called the bases of these salts.

M. La Place, though they maintain that in every combination, the neuter form of alcohol between two ingredients is united and equal, have yet retained the term, for the sake of precision, to express either species or families of alkali, which differ with regard to the acid, but agree as to the alkali, earth, or metallic oxd which they contain.

Thus, salts with a base of porphyr, include all those species which are formed by the combination of the various acids with the particular alkali porphyr. Again, salts with an alkaline base comprehend the three families of salts with bases of porphyr, soda, or ammonia, as distinguished from the other salts with earthly or metallic bases. The utility, therefore, of this mode of expression is evident; for though the compound salts are usually divided into genera, according to their acids, as sulfates, nitrites, muriates, &c. yet it is often desirable to distinguish them according to their element or base, for which the Lavoisierian nomenclature has not particularly provided.

The term base is also used on other occasions as a method of denoting species; as when we say, sulfureous acid is composed of oxygen united with a base of sulphur: the vegetable acids of oxygen, and a compound hydrogen and carbon. Sometimes also the word base is applied in a more indefinite manner; as in the expression, phosphat of lime is the base of animal bone, azot is the base of muscular fibre: where it means the characterizing or principal part.

Base, Engl. Baso, Fr. Basso. Itali. in Musik, the lowest part in the harmony of a musical composition. We prefer the derivation of the word from bazo. Lat. to base, or basso; as the word bass is already naturalized in the use that is made of it in architecture, the base of a pillar. Sir Francis Bacon uses it musically for a deep or grave sound; "in pipes the lower the tone the baser, and the farther from the mouth of the pipe, the more base sounds they yield." Nat. Hist. No. 93. And Dryden thus expresses the string of an instrument that gives a base sound: "At thy we-harped'9 thumb from thore to skewer, The trebles squeak for fear, the bases roar."

Dr. Johnson says, base is applied to deep, grave sounds; it is frequently written base, though the comparative basset seems to require base.

The base is the most important of all the parts of polyphonic composition, being the foundation upon which all the other parts are built, and it has long been a maxim among musicians, that "in the base to be good, the harmony and modulation are seldom defective."

The word base is applied to various purposes in music; as base viol, principal base, continued base, ripieno base, ground base, thorough base, &c. most of which explain themselves: the rest will be further noticed in their places. But the base of a common chord or part of a chord, called by the Italians base principale, and by the French base fondamentale, is what we belong to this article, and requires an explanation of its own.

A principle or fundamental base, in practice, is that base which carries the common chord of 1st or the chord of the 7th.

In the Encyclopedic Methodique, there are rules given of M. Suzeur for arranging the parts to a low base, which M. Faurery says are excellent; yet he has nothing to object to every one of them. We find no dispute with either of those able musical critics, their rules or exceptions; we fear that both will be uneasiness to young composers, and that an experienced composer will hardly avoid a dictation for the arrangement of the several parts in his compositions. All we shall recommend to the young harmonist, or juvenile organist, is to accompany low notes in the base by wide intervals. In common chords, when the base is low in the scale, thirds have a very growing bad effect, particularly on the organ. In raising up the parts with the left hand, when the right hand has common chord divisions derived from common chords, the left hand should only give the fifth and eighth to the base. For the fundamental and supped base, to the trebl. scale, major, minor, and chromatic. See Counterpoint, Composition, Score, Common Chords, and Thorough-Bass.

Base Fundamental. The general acceptation of the term base, in practical music, has been given in the preceding article. We shall now endeavour to trace the history of the fundamental base in theory; which Rameau and his adherents regard as a discovery in music, equal to Newton's doctrine of gravitation in astronomy.

The earliest notice in England of the phenomenon upon which the fundamental base of Rameau has been built, was in the Royal Society, in a paper written by Dr. Wallis "on the trembling of conical prisms." Mar. 1767. N° 134. p. 839. Abridg. vol. 1. p. 666.

"I have long been observed, that if a violin-, or harp-string, be touched with the bow or hand, in another string on the same or another instrument not far from it (if in unison to it, or an octave, or the like) as at the same time tremble of its own accord. I can now add, that not the whole of that other string, but thus this string, and the several parts frequently, according as they are unison to the whole or the parts of the first for brackets." (Here he gives the several divisions into which a string, when caused to sound, divides itself, and a description of the forms of the several enlargements on a plate; but of these we shall have further occasion to speak hereafter.)

"This was first of all (as I know of) discovered by Mr. William Noble, M.A. of Eton college; and by him showed to some of our musicians at the same time since: and after him by Mr. Thomas Pigot, A.B. of Wadhams college,
college, without knowing that Mr. Noble had discovered it before. As we are now only proving a claim, we need cite no more of this paper; as the end of which another paper is referred to (N. Y. p. 874), which reference says: "Concerning the phenomena, an opinion is given by Dr. Narrodes, in Dr. Parr's Natural History of Oxfordshire."

D'Alambert (D'Alembert de Musique) speaks of Rameau as the discoverer of the harmonics, as we are other of the system built upon them. In the prose to the second edition of his Élémens de Musique, in which he has disserted and methodized the musical treatises of Rameau he says: "It was Rameau who first began to reduce chaos to order, and to throw a light upon the principles of harmony."

"He found in the forces of a single string or sounding body, the most probable origin of harmony, and of the pleasure which it affords us; he developed the principle, and showed whence the phenomenon of music were derived," &c.

And Rouffeau, D. R. Mofart. Harimics, says, that "Pere Merfenne and him uncou show having been that every found, though seeming a little simple, was always accompanied by other phenomena, in harmony, which formed with it the common chord major; and Rameau, setting off from this, and adding to it the parts of that harmonious system, which M. D'Alembert at length took the trouble of explaining to the world."
producing invisibly, and without human aid, the sweetest chord in the whole system of harmony.

Here all the phenomena are represented and explained, of kindred strings being caused to tremble and found merely by the tremors occasioned in the medium by the tone of a neighbouring string or sounding body.

Here too the theory of tuning strings, not only by tension but by weights, is explained; from which proportions, doubtless, the lurchchord of Plinius was tuned by weights instead of tension, some fifty years ago.

Having justly referred to Galileo the discovery of the harmonic proportions into which every single string or sounding body divides itself when caused to sound, it seems unnecessary further to explain this phenomenon here. We shall therefore proceed to the system built on this foundation by Rameau, under the title of Bassa Fundamental; concerning which, not only the author, but the French nation, have glowed as much as if he had discovered and conquered a new world in the celestial regions of harmony.

Bassa Fundamental, or Fundamental Bases, was first formed into a system by Rameau, and though the Italians meant the same thing by basso principe, so early as the time of Zarlinio, it was not so clearly explained; nor were

in a regular ascent or descent of the scale in modern harmony, the rule for accompanying the octave (see Regle de L'Octave) allows only common chords to the key note and the 5th of the key; which are consequently fundamental bases: the chords of the 6th and 9th are given to the root.

Rameau (Traite de l'Harmonie, p. 190.) has made all the following bases fundamental, by accompanying them with common chords.

By contrary motion, however, the principal base may have, and often has had, common chords with good effect, when ascending diatonically.

And if the seventh were added to many of these chords, they would be still more interesting, without divelling the base of the title of fundamental.

Of all the experiments that have been made in physical harmony, there has been no satisfactory origin found of

its derivation or derivatives, from a physical experiment, then generally known in Italy.

The natural harmony or common chord to every base, consists of the third, fifth, and eight above the base; or their octaves, which the Germans call the triad: or rather the unison, or any given found, with its third and fifth, constitute their triad, without the octave. If instead of the fundamental or lowest found (which Rameau calls the generator) the base takes the third or fifth of that chord instead of the lower found or principal base, the harmony is said to be inverted; and the lowest part, carrying the chord of the sixth, or & 9, is called the supponed base, and sometimes the base continuo. (See Supposed Base, and Basso Continuo.)

If any found is added to the common chord, except the seventh, the base is no longer fundamental.

The fundamental base should move by constant intervals, as 2d, 4th, 5th, or 6th; nearer rising or falling one note or degree with perfect and similar harmony to both; as it would occasion a violation of the rule against 5ths and 8ths in succession, and preclude all relation and connection of chord to chord. Common chords may be given to the following fundamental bases in succession.

By contrary motion, however, the principal base may have, and often has had, common chords with good effect, when ascending diatonically.

And if the seventh were added to many of these chords, they would be still more interesting, without divelling the base of the title of fundamental.
this origin neither satisfied theorists nor practical musicians. And in M. D'Alembert's second edition of his "Elements" he changed his ground, and instead of the chord minor of F,

he adopted that of C: \[ \begin{array}{c}
\text{F} \\
\text{G} \\
\text{A} \\
\text{B} \\
\text{C} \\
\text{D} \\
\text{E} \\
\text{F} \\
\end{array} \]

in which G is an

harmonic of C as well as of E♭. But this solution of the difficulty, fetched from far, and by no means satisfactory, was changed in the article "Fundamentals of the 7th volume of the Encyclopaedia, to A♭, without succeeding in proving it to be the work of nature.

The able Peyton in the new Encyclopaedia, I say, that F is the fundamental base of A minor. But though among the harmonics of a single base note there is, at the top of the chord, a found something resembling a 7th, it is not a major 7th; nor can F, or any grade found, produce a major 7th. All the harmonics produced by F, are the following, and in the following arithmetic order:

1 8 15 17 19 21 22.  F e f a c ¦ i.  1 3 5 6 7 8.

A major 7th may be joined to the common chord of F in practice, without taking from it the title of fundamental; but it is not one of its harmonics; e.g., F is not the fundamental base to A minor. Nor does nature give any indication of a minor chord either in the harmonics, or of found produced by two trebles. See Terra Suona.

Base-Viol. This instrument is now often confounded with the violoncello, though not of the same kind. In the 17th century every musical family had a chef de viol; all with six strings, and the finger-board fretted. The base-viol was the largest of these instruments, and called in England the six-stringed base; but in Italy, viol da gamba, on account of its reeling on the leg of the performer. The tenor viol, the next in size of that chef, is called viol da braccio, from its reeling on the arm or shoulder when played on. The smallest and highest of these instruments is called the treble viol.

A complete chef of viol contains eight instruments; two first trebles, two second trebles, two tenors, and two basses; all flowering and tuned alike, by 4ths and 3rds, and the necks fretted. The accordance of the open strings is as follows.

Treble Viol.

Tenor Viol;

or, Viol da Braccio,

Base Viol;

or, Viol da Gamba.

From the time of queen Elizabeth till that of Charles II, in all private concerts (where none that were public then) these, except the common flute, were the only instruments that were admitted into a gentleman's house; and indeed from the feebleness of the tone they may very properly be called strummed da camera, chamber instruments. At first, where voices could not be procured, the several parts of full anthems, services, and other choral mus...
but by further examination of this interesting controversy, he became a firm believer of the truth of the divine million of
Christ, though he denied many of those doctrines which formed Christians deem to be essential articles of the Christian
faith. In 1749, he was appointed private tutor to the son of a gentleman in Holstein; in this situation he had an oppor-
tunity of submitting to the test of experience the plan of
an improved method of education, which he had for some
time held in contemplation. The attempt succeeded to his
wishes; and though his pupil was only seven years of age,
when he undertook the charge of him, he was able in the
space of three years not only to read Latin authors, but to
translate from the German into that language, and to speak
and write it with a degree of fluency. He had also made
considerable progress in the principles of religion and morals,
in history, geography, and arithmetic. This success advanced
his reputation: so that in 1752 he was admitted to the
degree of master of arts at Kiels, and in the following year
he was chosen professor of moral philosophy and the belles
lettres in the academy at Soroe in Denmark. Here he pub-
lished several works, which were well received; particularly
his "Practical Morality for all conditions," containing hints
of his improved plan of school education. His lectures
on morality and religion were much frequented; but as he
spoke with freedom on some points of theology that were
generally received, he was removed from the Danish court to
the gymnasium at Altona, and allowed the salary which he
had enjoyed as professor. In the 4th year of his age he
began, in opposition to the advice and remonstrance of his
friends, to attack publicly many received tenets of the church,
and he published his "Philately," in which he urges
bouts concerning the eternity of future punishment; his
"Methodical Instruction in Natural and Revealed Religion," in
which he avows his different from the common doctrine
concerning Jesus Christ, the Holy Ghost, inspiration, bap-
tism, the Lord's supper; &c.; his "Theoretic System of Sound
Reason," and some other works of a similar kind.
In consequence of these publications he was represented by
Gotze, Winkler, and Zimmermann, clergyman of Hamburg,
as holding opinions hostile to revelation, as a man void of
principle, and as an enemy to religion. The populace like-
wise were incensed, and threatened to stone him. He was
preferred, however, from becoming a victim to intolerance,
by the protection of count Bernstorf and some other friends
at Copenhagen. In these circumstances he directed his at-
tention to an improvement of the usual method of school-
education; and for his encouragement in the prosecution of
it, he was received by the Danish court from attendance at
the gymnasium of Altona, and allowed a pension of 350
dollars. Having solicited and obtained considerable sub-
scriptions, he published in 1759 the heads of his "Element-
ary Bank," which he submitted to the inspection of many
respectable and learned friends, by whom it was approved.
In 1771, the fund which he had collected amounted to
11,500 rix-dollars; of which a thousand had been contrib-
uted by the emperors of Russia, who read his plan and
invited him to Petersburg. Although he met with some op-
position, he obtained very considerable encouragement; and
he was invited by the prince of Delfau, with the promise of
a pension of 1500 rix-dollars, to establish the school which
he had projected in his territories. Accordingly, he removed
to Delfau, which afterwards became the chief place of his
residence. Having published several detached parts of his
work, he determined in 1772 to continue it. In the fol-
lowing year he published the principles of "Arithmetic and
the Mathematics," and in 1774 his grand treatise in four
volumes, with 100 copper-plates, under the title of "Ele-
mental Work," by way of distinction from his "Element-
ary Bank" which he had published in 1770. This publi-
cation was favourably received, and was soon translated
into Latin and into French. As he had betted six years' la-
bour on the completion of this work, his health declined;
and in this state he wrote his "Legacy for the Confidence,"
being a work on the principles of natural and revealed re-
ligion. The prince of Delfau, having permitted him to
establish his school in any place which he found most con-
venient, he travelled to Frankfort on the Maine; and on
his 51st birth-day, he determined to put his plan in execu-
tion, and, on account of his humane object, to give his fe-
munity the name of the "Philanthropium." This school was
intended to be a seminary for rearing up young teachers
and professors, and a pattern for all the other schools of
Germany. The children of wealthy parents were to be ad-
mitted for the sum of 350 rix-dollars per annum; all the
former errors in education were to be carefully guarded
against; and the children of poor people were to be educa-
ted in it also, either to render them fit for becoming teachers
themselves in schools of lower rank, or for being useful
servants in respectable families." At Delfau, whether Bade-
dow returned from Frankfort, on the 27th of December
1774, the 6th birth-day of the hereditary prince of Delfau,
he opened his "Philanthropium," appointing Wolke as
head master, and undertaking the direction of it for seven
years, promising to read lectures, and to give a few hours'
instruction daily to the pupils without any emolument.
The plan, however, was not encouraged agreeably to Bade-
dow's expectations, and he therefore relinquished it. His
disappointment and other circumstances led him to seek re-
lied from drinking, by which he impaired his health and in-
jured his reputation. In the melancholy period that elapsed
from 1778 to 1783, he employed himself in examining the
nature of pure Christianity; and whatever may be thought
of his peculiar opinions with regard to some of its doctrines,
it appears he had been a friend to truth, and a zealous ad-
vocate for religion and virtue. In 1785 he published a plan
by which children might be more easily taught to read, and
distributed 500 copies of it in various schools. His plan was
introduced by himself in two schools at Magdeburg, and it
succeeded to his wishes. Having experienced great friend-
ship at Magdeburg, he removed to this city towards the
close of his life, and died there in 1790 in the 67th year of
his age. Bafedow is represented by his biographers as a
man of acute judgment and penetration, and possessed of
great sensibility and a lively imagination. His works, which
relate chiefly to religious subjects or to education, amount
to upwards of 50 different treatises. Beytrag zur Labern
geschichte, &c.; or Biographical Anecdotes of Joh. Berth.
Bafedow, taken from his own works, and from other authen-
tic sources, 5vo. Magdeburg, 1791.

BASELIECE in Geography, a town in Italy, in the kingdom of Naples and province of Capitanata, 7 miles S.S.W. of Volturara.

BASELS, Basilius, in our Old Writers, a kind of coin abolished by king Henry 11. 1158.

BASELLA, in Botany. Lin. gen. 582. Reich. 413. Schreb. 520. Juss. 74. Gar. 126. Clafs and order, pentandria trigynia. Nat. Order of Holarctane; Artifices Joff. Gen. Char. Calyx none. Cor. siven-leafed, pitcher-shaped; two outer divisions broader, one within the rct, converging above, fleshy at the base. Stam. filaments five, tubulate, equal, falkened to the corolla, and shorter than it; anthers roundish. Pill. germ superior, febularia; styles three, filiform, of the length of the flaments; fligmas oblong, on one side of the tops of the styles. Per. corolla perma-


manent, closed, fishy, counteracting a berry. Seed, single, roundish.

Eff. Char. Cal. none. Cor. seven-lobed; two opposite divisions shorter, at length berried. Seed, one.

Species. 1. B. rubra, red Malabar night-shade, eucuta. Lin. h. t. Cuff. 39. Gandola rubra, Rumph. Amb. t. 154. f. 2. "Leaves flat; peduncles simple." It has thick, strong, succulent stalks and leaves, of a deep purple color; climbing to the height of eight or ten feet, and producing many side-branches; in the dark-flower living through the winter, and producing great quantities of flowers and seeds. The fruit is a sort of loquorius berry, of a very dark red color, a little flattened, furrowed cross-wise at top, and containing a single nut. A native of the East Indies, Ambhina, Japan, &c.; and cultivated, in 1759, by Miller. From the berries a beautiful colour is drawn, but when used for painting, it changes to a pale colour; the juice is said to be used for staining calicines in India. 2. B. alba, white Malabar night-shade, Gandola alba, Rumpin. Amb. Prol. Alm. 143. f. 1. Murafkiki, Kamof. Amun. 78. The flesh firm, the leaves obtuse and flat, and the flowers and fruit smaller than in the foregoing. Miller raised from seeds, let by Juffuca, two varieties; one with the purple leaves and stalks, the other having leaves variegated with white. Cultivated by him at Compton in 1691. A native of China and Ambhina. 3. B. indica, shining Malabar night-shade: "leaves subcordate; peduncles crowned, branching." A native of the East Indies. 4. B. nigra, black Malabar night-shade; "leaves round-ovate; spires lateral." Stem perennia, trailing, slender, round, succulent, branched; leaves thick, smooth, entire, alternate, petiolate; flowers purple and white, lateral, f. w. in long, solitary spikes. Cylia three, roundish, acuminata, very small scales; corolla one-petalled, with a short swelling tube, and a five-leafed border; germ four-lobed; styles shorter than the filaments; berry roundish, deep black, small, four-lobed, with four blunt concave clefts at top. Lordrio apprehends, that the berry is formed from the germ, and not from the corolla. He thinks that this plant is the same with the "Gandola alba" of Rumphius; but different from the B. alba of Linnaeus. Perhaps none of these are specifically distinct. A native of China and Cochin, in the hedges and fences of their gardens.

Propagation. These plants are propagated by seeds, sown on a hot bed in the spring, and planted, when fit to remove, in a separate pot, filled with rich earth, and plunged in a warm bed, where they must be treated like other exotics. They may also be propagated by cuttings, which should be laid to dry for a day or two after being separated from the plant, before they are planted, that the wound may heal; other wise they will rot. These should be treated in the same manner with the feeding plants. These plants flower from June to autumn, and the seeds ripen in September and December. Martyn's Miller's Diet.

BASELLI, BENNET, in Biography, son of Mark Baelke, physician of Bergamo, a town in the Venetian territories, studied anatomy and medicine at Padua, asfifed by Fabricius ab aqua pendente, and other celebrated masters, under whom he is said to have made great proficiency in the knowledge of his profession. Returning to Venice in 1594, he was refused admission into the college of physicians there, on account of his practising surgery jointly with medicine. Irritated by the injustice, as he thought it, of the law by which he was rejected, he published at Bergamo, in 1624, a defence of surgery, under the title of "Apologie, qua prae chirurgice nobisater lintens pugnavit, libri tres, 4to. Elyay. Diet. Med." BASEMENT, in Architecture. Stereobata. Stylobata. Soubasement, Fr. The lower part or story of a building when it is in the form of a pedestal, with a base or plinth die, and cornice or plat-band.

In the Roman antiquities, the temples are generally raised on a basement which has exactly the members and proportions of a pedestal to the columns of the portico; but in modern architecture, the basement constituting the lower story of a habitation has its proportions regulated by the nature of the apartments which it contains. The Italian palaces have frequently the summer habitations on the basement, which in that case is often as high as the principal story; but when it only contains offices, it sometimes does not exceed one half of that height. These proportions may be considered as extremes, which it will not be proper to exceed; for the principal story loses its importance when too much elevated, while a very low basement will not admit any tolerable proportions of windows and doors.

Basements are commonly decorated with reliefs of various kinds; they are crowned with a cornice or plat-band, and supported on a base or socle. The height of the reliefs, including the corn, should never be less than one module of the order of the principal story, neither should it exceed this measure; the plat-band should be the same height, as a rule, and the socle or plinth rather more. When the basement is furnished with a cornice, it should, also have a regular moulded base; the height of the cornice may be about one seventeenth of the whole basement, and the socle about twice as much. Chamber's Civil Architecture, Defiguris, etc. ed. de Rome.

BASENTELLE, in Geography. A town of Italy, in Calabria, where the emperor Otto II. was vanquished and made prisoner.

BASHARIANS, a sect of Mahometans, being a branch or subdivision of the Motazzites.

The Basharians are those who maintain the tenets of Balhar Ebn Motamer, a principal man among the Motazzites, who varied, in some points, from the general tenets of the sect, as extending man's free agency to a great length, even to the making him independent. He asserted, that God is not always obliged to do that which is best; for that, if he pleased, he could make all men true believers. Accordingly he taught, that God might doom an infant to eternal punishment; but taught at the same time, that he would be unjust in so doing. These sectaries also held that if a man repent of a mortal sin and afterwards return to it, he will be liable to suffer the punishment due to the former transgression. Vide Sale's Priscian. Dife. to the Koran, p. 162.

BASHAUF, Basha, or Pacha, a Turkish governor of a province, city, or other district. The Arabs pronounce it Balshu; but the word is Turkish, and properly Pashaw, denoting viceroy; whence is derived Pacha. As some of the provinces of the Turkish empire are too extensive for the government of the Pacha, this officer has a variety of subordinates; but it is in reality the sultan who dictates and commands, under the varied names of Pacha, Motfàlam, Kaim-Makam, and Aga; nor is there one in this descending scale, even to the lowest Deliba, who does not represent him.

All Egypt is, on the part of the grand signor, governed by a bashaw; who has in reality but little power, but seems principally to be meant for the means of communicating to his own persons, and to the orders of the several military agias (that is their bodies), the orders of the grand signor, and to see that they are executed by the proper effectives.

When Seim, sultan of the Ottomans, put a period to the dynasty of the Mamouks in 1517, he was sensible that
if he established a pacha in Egypt with the same authority which was possessed by the pachas in other provinces, the distance from the capital would be a strong temptation to revolt. For preventing this inconvenience, he projected such a form of government, that the power being distributed among the different members of the state, should preserve such an equilibrium as should keep them all dependent upon himself. The system of the Mamlouks who had espoused his first cause, appeared proper for this purpose; and he next established a divan or council of regency, composed of the pachas and the chiefs of the seven military corps. The office of the pacha was, as we have observed, to notify to this council the orders of the Porte, to expedite the tribute to Constantinople, to watch over the safety of the country against foreign enemies, and to counteract the ambitious views of the different parties. On the other hand, the members of the council possessed the right of rejecting the orders of the pacha on affixing their reasons, and even of deposing him; and it was necessary that they should ratify all civil or political ordinances. It was also agreed, that the 24 governors or bays of the provinces, should be chosen from the Mamlouks. This form of government has not ill corresponded with the views of Selim, since it has eluded about two centuries; and within the last 70 years, the porte has relaxed its vigilance, innovations have taken place, and the power of the Mamlouks has superseded and almost annihilated that of the Turks. In order to retain the pachas, the porte had conferred the divan to extend its power, till the chief of the Janizaries and Azabhs were left without control. Hence Ibrahim, one of the Kiyas, or veteran colonels of the Janizaries, about the year 1746, rendered himself in reality master of Egypt; and the orders of the sultan vanished before those of Ibrahim. About the year 1766, Ali Bey (see Ati Bey) rendered himself absolute master of the country. Since the revolution of Ibrahim Kiyas, and the revolt of Ali Bey, the Ottoman power has become more precarious in Egypt than in any other province; so that though the porte still retains there a pacha, this pacha, confined and watched in the college of Cairo, is rather the prisoner of the Mamlouks than the representative of the sultan. He is deposed, exiled, or expelled step by step, and on the mere summons of a herald clothed in black, called "Cezaronluk," he must defend himself from his high station, or be deposed. Some pachas, chosen expressly for that purpose by the porte, have endeavored by secret intrigues to recover the power formerly annexed to their title; but the bays have rendered all such attempts to dangerous, that they now submit quietly to their three years' captivity, and confine themselves to the peaceable enjoyment of their salary and emolument.

After Sultan Selim I. had taken Syriah from the Mamlouks, he felt that province, like the rest of the empire, to the government of pachas or vicars, as the term signifies. (See SYRIA.) But the province the pacha, being the image of the sultan, is, like him, an absolute despot. All power is vested in his person; he is chief both of the military and of the finances, of the police and of the criminal justice. He has the power of life and death; he has the power of making peace and war; and in a word, he can do everything. Tho' powers in their unlimited extent belong only to the pacha with three tails. The power of the pacha with two tails is not so considerable, for his department to extensive; he cannot put any one to death without a legal trial; he is, like another, chief of the armed force of his department; but when he takes the field, he is obliged to unite his standards to those of the pacha with three tails, and to march under his orders. The main object of such power vested with the pacha, is to collect the tribute and to transmit the revenue to their master. This duty fulfilled, no other is required from him; the means employed by the agent to accomplish it is a matter of no concern; those means are left to his discretion; and such is the nature of his situation, that he cannot be delicate in his choice of them; for he can neither advance, nor to the four corners, but in proportion as he can procure money. The place he holds depends on the favour of the viceroy, or some great officer; and this can only be obtained and secured by bidding higher than his competitors. He must therefore raise money to pay the tribute, and also to indemnify himself for all he has paid, support his dignity, and make a provision in case of accidents. Accordingly, the first care of a pacha, on entering on his government, is to devise methods to procure money, and the quickest is invariably the theft. The established mode of collecting the miri and the customs, is to appoint one or more principal farmers. For the current year, who, in order to incutate the collection, divide it into left farms, which are again subdivided, even to the smallest villages. The pachas let these employments to the biil bidder, wishing to draw as much money from them as possible. The farmers, whatever their fate have no object in taking them but easy,

strain every nerve to augment their receipt. Hence an ability in these delegates always bordering on dishonesty; hence those extortions to which they are the more easily inclined as they are free of being supported by authority; and hence, in the very heart of the people, a faction of men interested in multiplying impositions. The pacha may applaud himself for penetrating into the most hidden sources of private profits, by the clear-sighted capacity of his subalterns; but what is the consequence? The people, denied the enjoyment of the fruit of their labour, restrain their industry to the supply of their necessary wants. The husbandmen only knows to produce himself from staving: the smith labours only to support his family; if he has any surplus, he cautiously conceals it. Thus the arbitrary power of the sultan, transmitted to the pacha, and to all his subalterns, by giving a free course to extortion, becomes the main spring of a tyranny which circulates through every class, whilst its effects, by a reciprocal reaction, are everywhere fatal to agriculture, the arts, commerce, population; in a word, to every thing which constitutes the power of the state, or, which is the same thing, the power of the sultan himself.

This power is not subject to less shifts in the army. Perpetually urged by the necessity of obtaining money, on which its safety and tranquility depend, the pacha has resorted, as far as p. like, the usual military establishment. It diminishes the number of his troops, leaves them poor, winks at their disorder: and discipline is no more. It sometimes happens that the pachas, who are followers in their provinces, have personal hatreds against each other. To gratify these, they avail themselves of their power, and wage secret or open war; the various consequences of which are sure to be felt by the subjects of the sultan. It also happens that these pachas are tempted to appropriate to themselves the power of which they are the depositaries. The porte, in order to counteract their ambitious views, often changes the residence of the pachas, that they may not have time to form connections in the country; but as all the consequences of a bad form of government have a mischievous tendency, the pachas, uncertain of to-morrow, treat their provinces as mere transient possessions, and take care to make no improvement for the benefit of their successors. On the contrary, they listen to exhaust them of the produce, and to reap in one day, if possible, the fruit of
of many years. It is true, these irregularities, every now and then, are punished by the low-draw, one of the practices of the petty which bell displays the spirit of his government. The only sensible reason is always for having oppressed the subjects of the basin by the ports, by taking possession of the wealth of the extortioner, and resorting nothing to the people, leaves sufficient room to think that the government is far from disapproving a system of robbery and plunder which it finds so profitable. Every day, therefore, affords fresh examples of oppressive and robbery practices; and if none of them have hitherto succeeded in forming a stable and independent government, it is left owing to these wise measures of the divan, and the vigilance of the Capidjis, than their own ignorance in the art of governing. The pachas regard nothing but money; nor has repeated experience been able to make them sensible that this, far from being the pledge of their security, becomes the certain cause of their destruction. They are wholly devoted to amassing wealth, as if friends were to be purchased. As the pacha possesses the power of life and death, he exercises it without formality and without appeal. Wherever he meets with an offence, he orders the criminal to be seized; and the executioner, by whom he is accompanied, plunges him, or takes off his head upon the spot; now, sometimes he himself does not deliver this task. This duty he frequently commits to a deputy, called Wall. The administration of justice in civil suits is the only species of authority which the sultans have withheld from the executive power of the pachas. The officers appointed for this purpose are, by a wise regulation, all independent of the pachas. See Cani.

To the governors of provinces were formerly given indifferently the names of pacha and of beglerbeg, or beyler-bey; the latter at this day is reserved for the pachas of Bagdad and of Cutay; they have the pre-eminence over the other pachas, and generally command the troops which are brought into the field. The beyler-bey of Bagdad has under his orders the European troops, and the beyler-bey of Cutay those of Asia. They are nevertheless subordinate to the grand vizier, when the latter takes the general command of the armies. Formerly, the name bashaw, or pacha, was appropriated to such as had two children or horse-carriages before them; those who had the honour of three tails, called vizier-bashaws, were denominated begler-begos; and those who had only one, fand justoce.begos.

The appellation of bashaw is also given by way of courtesy at Constantinople, to the lords about the grand vizier's court, the officers in the army, and almost every person of any figure.

A bashaw is made with the solemnity of carrying a flag or banner before him, accompanied with music and fountains by the minstrel, an officer or purpOse for the investiture of bashaws.

Bashaw, used absolutely, denotes the prime vizier; the rest of the denomination being distinguished by the addition of the province, city, or the like, which they have the command of; as the bashaw of Egypt, of Palestine, &c. The bashaws are the emperors' pensioners. We find Lord complaints among Christians of their avarice and extortion. As they buy their governments, every thing is vended with them. Volney's Travels into Egypt and Syria, vol. i. ch. 10. vol. ii. ch. 33. Olivier's Travels in the Ottoman Empire, ch. 17. Roffia's Alepp, vol. i. p. 135, &c.

There are also fah-bashaws, or deputy-governors under the first. Phil. Trans. N° 218.

Bashaw, Captain, is the title of the Turkish high admiral, who commands the naval forces of the Ottoman empire, and is at the head of all the maritime establishments. He usually commands in person the fleets and all the naval forces of the empire; he nominates the captains and ensigns; he orders the building and repairing of ships; but the “Terfana-emini” is properly the naval minister, since he has the administration of the funds appropriated to the navy, the direction of supply of stores to the arsenals, and the care of the equipment of ships, and the superintendence of all the works. He has under him chiefs, deputys, and different harbour-masters, as well for the execution of his orders and for private superintendence, as for the police.

BASHEE ISLANDS, in Geography, a group of five islands situated in the Chinese sea, north of the Philippine islands, and south of Formosa. They are said to be so called by Dampier from the name of a liquor made of the juice of the sugar-cane and a small black grain, and used by the inhabitants. This name was given to the most easterly of the group, and at length was applied to them all. The productions of these islands are plantains, bananas, pine-apples, sugar-canes, potatoes, yams, and cotton; their quadrupeds are goats and hogs. The people, according to Dampier, are kind and hospitable. The names of the islands are Orange, Grafton, Monmouth, Isle of Goats, and Bashoo. This group is represented in the "Marine Voyage," p. 308. as consisting of five or seven islands; the northermost of which lies in N. lat. 42°. E. long. 122° 6'.

The two to the south-east are high lands; some of the others are of moderate height; the most northern except one is high and craggy at top; and between these two lie small rocks above water. Between these islands and that of Botol Tabac.-Xima, is a channel about 16 miles wide.

BASHEE, or Bashki, the most easterly island of the preceding group, appearing of a circular form, and being about 2 leagues in diameter. It has a town of the same name. N. lat. 41° 45'. E. long. 122° 15'.

BASCHIKIS, or Bashchieris, a people of the Russian empire. They call themselves Bashchieri; and derive their origin partly from the Nogis-tartars, and partly from the Bulgarians. Probably they are Nogys, whom the Bashares adopted among them: their country at least is a part of the ancient Bulgaria. They formerly roamed about the southern Siberia under the conduct of their own princes: to avoid the molestation of the Siberian khans, they settled in their present possession, spread themselves about the rivers Volga and Ural, and were subject to the Kazanian khanate. On the overthrow of that state by tsar Ivan II. they instantly took refuge under the Russian sceptre: they afterwards, however, frequently revolted against the government, whereby their prosperity as well as their population have been considerably diminished. In the year 1770, they consisted of twenty-seven thousand families, having their homes led in the governments of Ufa and Perme. The Bashchiers have been long without khan; and all their nobility have been gradually destroyed in the civil wars. At present every tribe or village touts for itself one or more ancients, or tarfchins; and the whole nation compose 34 wolofats. The huts or houses, which they inhabit during winter, are built after the Russian fashion; the principal part, which the family commonly po lishes, is furnished with large benches, which serve for beds; the chimney, of a conical form, and of the height of an ordinary man, is in the middle of this division, and long continued, that they are very useful for baking on this account. The Bashchiers are very subject to various complaints of the

In summer this people inhabit what the Russians call Jurtes: they are tents or covers of felt, which, like the huts, have several divisions and a chimney in the centre. A western village.
BAS

village contains from ten to fifty huts; but the summer encampment never exceeds twenty yurtes. These yurtes are a kind of hovels.

The Bashkirs have some knowledge of the art of weaving, and have looms; but it is from their own nation that they learnt their pride and the instructors of youth, they remain in the profoundest ignorance. With some knowledge of village, they retain a lining to the pastoral life; which spoils them for agriculture. They sow but little grain; consequently their harvests afford them only a few resources for the winter, being far from sufficient for their whole consumption. They apply with greater luxurare to the cultivation of bees; making hives in the trees to secure the purposes of hives which, to secure from the attacks of the bears, they have invented a variety of ingenious contrivances both as weapons and traps. One man, in frequent inspections, is known to pull off at least fifty hives. They have the art of finding out the mountains that contain mines; but, like the Tartars, they would think themselves disgraced by working them themselves. It must be owned, however, that they have not the strength of body which that labour requires.

Their practice is to let them out for a term of forty years to Russian contractors, assigning to them at the same time a tract of forest necessary for the forges. The poorest of them serve for wages in transporting the ore.

The women understand the art of weaving, fulling, and dyeing narrow coarse cloths; they likewise make the clothes for the whole family. They make a small quantity of linen of hemp; but they prefer weaving the filament of the common nettle, as that plant requires no culture, and the linen they make of it is extremely coarse. They have not the unwholesome practice of steeping their hemp or their nettle in water, but leave them to dry in the air on the top of their huts during the autumn and winter; then flapping off the bark, they pound them in wooden mortars. The men follow the more difficult business of making felt and of tanning leather. Both sexes wear shirts of the cloth made of nettle; they also wear wide drawers, which defeced to the ankle-bone, and a sort of slippers, like people in the East. Both men and women wear a long gown, that of the men being generally of red cloth bordered with fur; this they bind round their middle with a girdle, or with the belt to which they fix their semeinar. The poor have a winter pelisse of sheep skin, and the rich wear a horse skin in such a manner that the mane covers their back and waves in the wind. The cap is of cloth like the fruitain of a cone, and 10 inches high; and that of the rich is usually ornamented with valuable furs. The gown of the wives is made of fine cloth or silk, buttoned before as high as the neck, and fastened by a broad girdle, which the richer classes have made of steel. Their necks and throats are covered with a sort of shawl, on which are several rows of coins, or a string of flints.

The principal wealth of this people consists in their flocks; it is especially from their horses that they derive the necessities of life; meat, milk, vessels, garments. They have nearly as many and even rather more sheep than horses; and their horned cattle are about half as numerous; they likewise bring up some goats, and only the rich have camels. A man of the ordinary classes has seldom fewer than between thirty and fifty horses, many possess five hundred, and some a thousand, two thousand, and more. Their sheep are of the broad-tailed species; they esteem the others for the fine furs of their wool.

The most opulent of the Bashkirs are those who dwell to the east of the Urals, and in the province of Iriat. Some of them are owners of not less than four thousand horses, who fatten in the richest pastures: the wapas and goats oblige them in the month of June to quit their fine meadows, and retreat to the mountains: the horses then live their flesh and pine away, but regain their prime vigour on coming down again to the plains in the month of July.

Through the Bashkirs experience a long and very severe winter, yet they abandon their flocks and horses to the inclemencies of the season. They have neither granaries nor barns; they only lay up a little hay, which they range in cocks round the trees, referring it for the destitute cattle. The same that are healthy pick up a little grass or mors from beneath the snow, and are often reduced to the necessity of feeding on the bark of the young elms. No latter attention is paid to the camels, than to wrap them in some wretched coverings of felt which they few about their body. The cattle towards the end of the winter are become lean, weak, and emaciated. Though the flocks are never kept apart from the males, they rarely bring forth offspring; because the exhausted state of the flocks and herds during the winter, is unfavourable to generation. Neither the Bashkirs nor the Kalucks suffer the colts and the calves to fink their dams except during the night, their practice being to milk them in the day-time for their own advantage.

kumis, prepared from mare’s milk, being their favourite liquor. (See KUMIS.) They are also fond of a mixture of four milk and meal, called ARJAN. In the spring they drink the pop of the birch, which they collect by means of deep masons in the trees.

Their arms are the bow, the lance, the helmet, and coat of mail; from the Russians they obtain sabres, musquets, and pistols. A Bashkirian army presents a truly curious spectacle; observing no order in marching, they only form in ranks when they halt. Every one kindles a horse in his hand, which carries all his provisions: the hand however is not heavy; consisting only of cloth, shoe, care cloth dink in the kud, and a hand-mill to grind it to meal. With the meal they form a ball which they swallow, and which serves them for bread. Each warrior, drest in his long gown, equipped as he chooses or as he can. One has procured for himself the various kinds of arms, and carries a whole arsenal with him; the other fearcely pouffles more than one ill-conditioned weapon. Such troops as these render the armies of the ancient Persians at once so numerous and so little formidable.

They are all well mounted, are skillful in drawing the bow, and dexterously manage their horses. A small number of Bashkirs are easily victorious over a numerous squadron of Kirghises; sometimes one of their regiments will traverse a whole horde of Kirghises, put to flight by their very looks, and return triumphant without having fulfilled the slightest loss. The military service which they are bound to perform, and the only point in which they are called by the Russian yoke, consists in furnishing, in time of war, 3000 cavalry, which form 30 troops of 100 men each. The Bashkirsians are the most negligent and slovenly of the Tartars. In commerce they are the least intelligent; but, at the same time, they are the most hospitable, the most lively, and the most brave. Their diversions at any religious festival or at a marriage, consist in numerous libations of four milk, singing, dancing, wrestling, and horse-racing, in which they excel. In their songs they enumerate the achievements of their ancestors, or their own, and sometimes their amorous adventures. Their songs are always accompanied with gestures, which render them very theatrical. Among them age meets with the greatest respect. In their entertainments, it occupies the place of honour and the stranger, to whom compliments are paid,
is always flt among the old men. The language of these people is a Tartar dialect, very different from that spoken at Kafan. The Bakhtrians are, like most of the Tartars, Mahometans; but though they have their mosques, their madrasahs, and their schools, they are much addicted to fuf- ferition and forery. Their forefathers once gave even the devil, and pretend to engage with him in combat; and thus they delude the credulous vulgar, who consult them in their distress, and particularly when they lose any of their crop. Toole's View of Ruifi, vol. i. p. 473; Chantreaux's Travels, vol. i. p. 281.

BASIL or BASCHI, in Geography, a small town on a brook of the same name, at the distance of 4 German miles from the Culpeper fa.

BASHTIEN, Henry James Van, in Biography, a learned divine, was born at Hanau, in Germany, in 1792, and educated at Drewer, Leiden, and Franeker. In 1701, he was appointed professor of the oriental languages and ecclesiastical history in the gymnasium of Hanau, afterward professor of theology; and in 1712, he was elected member of the Royal Society of Berlin. He was afterwards professor of theology, the oriental languages, and history, in the gymnasium at Zerbit, where he died in 1758. About the year 1709, he established in his own house a printing-office, in which he printed many Hebrew and Rithmetic works. Among his writings are "Observ. Sac. lib. i. de integrat. Seer. Script." Frankf. 1708, 8vo.; "Comm. R. If Araban. in prophetem Mosis. &c." Hanov. 1710, fol.; "Difput. iii. de Nabitha vera & falsa," Hanov. 1710, 1711, 1712, 1713, 4to.; "Sylva Antiqu. Hebr. minus," Hanov. 1715, 8vo.; "Miscellanea Sacra, &c." Withe. 1719, 4to.; "Diff. de Idee, &c." Serv. 1719, 4to.; "Cumis Talmudicis," &c. Harau, 1742, 4to. Gen. Bibl.

BASIA ULTIMA. See Ulisma.

BASIA TRAIACI, in Botany, a name used by some for the common palagonium, or knot-grass.

BASCENTO, in Geography, a river of Naples, which rises near Potenza, in the province of Bulbiota, traverses this province, and runs into the gulf of Tarento. This is the ancient Metapontus, or Calyceum, on which Orestes Cesar and Mark Antony had an interview, brought about by the mediation of Octavia.

BASIL, Sr., denominated the Great, in Biography, was received in Baptism in the year 328 or 329. Having received instructions from his father in polite literature, he pursued his studies at Antioch under Libanius, at Cesarica in Palaestina, at Constantinople, and at Athens; in which latter place he formed an intimate acquaintance with Gregory Nazimius, and was introduced to Julian, afterwards emperor. In 355, he returned to his native country, and became a profiter of rhetoric, and a planker. His religious zeal, however, soon induced him to visit the monasteries in the deserts of Egypt and Lyby; and here his imagination was so transformed with the austerity of the devout nuns' ermites in these sequestered mansions, that he withdrew to a retired spot in the province of Pontus, and embraced the monastic life. He was soon joined by his brother and several friends, to whom he gave a set of ascetic rules; and he is regarded as the founder of all similar institutions in Pontus and Cappadocia. His monastic life continued, but not without some interruption by other avocations, for twelve years. Having been ordained priest by Eusebius bishop of Cesarica, he again withdrew to his solitude; but as his fame increased, he was elected to the see on the death of Eusebius in 309, 370, or 371. Here he succeeded Athanasius in the conduct of the Trinitarian controversy. Many attempts were made by the emperor Valens, who was an Arian, partly by friendly solicitations, and partly by angry menaces, to induce him to com-
Acadians, in the presence of Constantius. However, the Acadians prevailed against him in the council of Constanti-

nople, A.D. 362, and procured his d, position; nevertheless he kept possession of his see, and was acknowledged as bish-

op by the orthodox prelates. Baill is supposed to have di-

ded either at the end of Julian's reign, or the beginning of

that of Valens. Cave, H. E. tom. i. p. 216. Lardner's


Basil, in Bata. See OXYMUM.

Basil, Field. See CHASIDOMUS.

Basil, American Field. See MONARDA.

Bateau, Syrian Field. See ZEUMON.

Basil, Sons and Will. See TYNUS.

Basil, Order of St. in Ecclesiastical History, is the most

ancient of all the religious orders. It takes its name from

St. Basil, bishop of Caesarea, in Cappadocia, about the mid-

dle of the fourth century; who is supposed to have been

the author of the rules offered by this order, though

some dispute it. The order of St. Basil was anciently very

famous in the East, and still continues in Greece. The

habit of the monks is black, and plain, consisting of a long

cassock, and a great gown with large sleeves; on their head,

they wear a hood, which reaches to the shoulders; they

wear no breeches; sleep without sheets, on straw; eat no sub-

ject; and till the ground with their own hands. The

historians of this order inform us, that it has produced

1365 bishops, and bestowed, or acknowledged as saints,

5210 abbots, 11,885 martyrs, and an infinite number of confes-

sors and virgins. They likewise place among the religious

of this order of St. Basil, 15 popes, several cardinals, and many

patricians, archbishops, and bishops. It likewise beak

of several emperors and empresses, kings and queens, princes

and princes, who have embraced the rule of St. Basil.

This order was introduced in the West in 1557, and was

reformed in 1579 by pope Gregory XIII., who united the

religions of this order in Italy, Spain, and Sicily, into one

congregation; of which the monastery of St. Saviour, at

Melfina, is the chief, and enjoys pre-eminence over the

rest. Each community has its particular rule. Besides

the rule of St. Basil, which is very general, and prefers little

more than the common duties of a Christian life.

Basil, Right, or Balle, in Geography, one of the new

cantons of Switzerland, which joined the Helvetic confed-

eracy in 1501. It is bounded on the west and south by

the canton of Solothurn, on the east by the canton of

Bavaria, on the north-east by the territory of the

Rhinefels, and on the north-west by Aarival, and on the west by the bishopric of Balle. Its

extent is about 160 square miles, and its population is

estimated at 40,000 persons. The lower parts of this can-

ton are fertile in corn and wine, and also for pasture; but

the mountains are extremely barren. It has many medi-

cal springs and baths, and the air is temperate and balmy.

The religion of this canton is the reformed, or Protestant.

As to its ancient government, the bishops of Baill once

possessed the sovereignty over the city and canton; but when

they quitted this town in 1501, and retired, fist to Fribur,

and afterwards established their residence at Po-

teruia, they lost the inconsiderable authority and few pre-

rogatives that belonged to them. Upon the introduction of

the reformation in 1535, the constitution was in some mea-

sures changed, and the power of the arbitrariness limited.

Before the late revolution, the government was aristocratic,

inclining towards a democracy. The supreme legislative

power resided in the great and little councils, consisting of

about 350 members, and the authority of these two councils

was without control; they enacted laws, declared war and

peace, contracted alliances, and imposed taxes; they desig-
ned the several magistrates, appointed their own members, nomi-
nated to all employments, and conferred the right of bugg-

chirp. The general administration of government was com-
mittied, by the great council, to the femage or little council;

that is, to a part of its own body. This femage, composed of

sixty members, together with the four chiefs of the re-

public, two burgomasters, and two grand tribunals, was di-

vided into two bodies, which acted by rotation; the acting

division continued in office one year, decided finally in all

matters of importance, with the advice of the police, and exer-
cised general powers subordinate to the foreigner council.

The collective body of citizens assembling only once a year,

when the magistrates publicly took an oath to maintain the

constitution, and to preserve the liberties and immunities of

the people inviolate. The recitoval oath of obedience to the

laws was administered to the citizens in their respective

tribes. But, notwithstanding the humblest prerogatives of

the great council, the meanest citizen was legally capable of

being admitted into that body, and, by the singular method of

election, might possibly be chosen: for the vacancies in

the two councils were fupplied from all ranks of citizens,

the members of the universi only excepted. These citizens

were divided into eighteen tribes, fifteen of which belonged to

the larger towns, and three to the smaller; each of the

fifteen tribes returned four members to the femage, and each

of the eighteen to the great council. As these
councils were formerly determined by a plurality of voices, the

richest person was always almost certain of being chosen;

to prevent which, a regulation, called a "ternaire," was

established; that is, three candidates were nominated, and

from these the successor was appointed by lot. In 1740,
a sort was passed, by which the "ternaire" was changed into a "senator," by which six candidates were put in nom-

ination, and drew lots for the place; six tickets, contain-
in the names of the respective candidates, and separately

placed in silver bags, were put into one bag, and the same

number of tickets, five being blanks, and one marked with

the vacant employment, were put into another bag; the

regime burgomaster and the great tribune, appointed to be

the drawe of this official lottery, both at the same in-

s tant took a ticket from each bag, and the candidate whose

name came out with the ticket on which the employment

was written, obtained the pill—but it is now necessary to

pursue the detail. In 1758, the Helvetic confed-
BA S

vol. i. What other changes await the Swiss cantons, time
must develop. See SWITZERLAND.

BA S, or BASL, the capital of the canton of the same
name, is the largest, and seems formerly to have been one
of the most populous towns in Switzerland. Its extent is capable
of containing above 100,000 inhabitants, and it is said to have
220 streets, and five market-places or squares; whereas it
can now scarcely number more than 14,000. Among the
causes which have contributed to its decay, Mr. Coxe
mentions the jealousy of the citizen with regard to the
bourgeois, which they felt to design to confer upon for-
reigners; and, on this account, it is not surprising that great
efforts are made to balance that gradual waste of people which takes place
in great cities, from an influx of strangers, who are not permitted
to carry on commerce, or to follow any trade. The
late law that allows the freedom of the town and the right
of burghership to be conferred upon strangers, is clugged
with so many restrictions, that it by no means answers the
purpose for which it was intended.

Bale is beautifully situated on the banks of the Rhine,
near the point where the river, which is here broad,
deep, and rapid, after flowing for some way from east
west, turns suddenly to the north. It consists of two
towns, joined together by a long bridge; the large
town lying on the side of Switzerland, and the small
town on the opposite bank of the river. Its environs are
very beautiful, consisting of a fine level tract of fields and
meadow. It was anciently called Basilia, as we learn from
Ammianus Marcellinus; and in the middle ages, Basilia:
and it appears in history, soon after the reign of Charle-
smagne; having succeeded Augst, or the Augglia Raurac-
corum. Bale is very favourably situated for commerce;
and of this advantage the inhabitants have availed them-
selves, by establishing a great variety of manufactures,
particularly of ribbons and cottons; and by the extensive
trade that is carried on by the principal merchants. The
cathedral is an elegant Gothic building, and contains the
marble tomb of the famous Lefanfus, who chose this city as
his favourite place of residence, and published from hence
the greatest part of his valuable works. Bale has, besides
the cathedral, six parochial churches, and several other pub-
lic buildings such as a public granary and an arsenal, a
town-house, and a lately palace belonging to the margrave
of Baden-Durlach, a chamber of curiosities, several hospit-
als, &c. In the town-house is an exquisite piece of the
sufferings of Christ, by Holbein, who was a native of this
place; and a statue of Munatius Plancus, the Roman gen-
eral, who founded Augglia Rauracorum. In the arsenal is
shewn the armour in which Charles the Bold lost his life,
with the furniture of his horse, and the kettledrums and
trumpets of his army. On the fleir-cafe of the council-
house is a picture of the last judgment, in which, though
painted before the reformation, popes, cardinals, monks, and
priests, are represented in the torments of hell. Upon a
wall that includes the burial-ground of the church of the Pro-
tellants in the suburb of St. John, is painted, in oil colours,
the "dance of death," erroneously attributed to Holbein,
as it was painted before he was born, in which the king of terrors
is represented as mixing with all ranks and ages, and com-
plimenting them in German verses on their arrival at the grave.
From this ancient painting, it is thought, that Holbein
took the first hint towards composing his famous drawings on the
"dance of death." Prints were taken from some of
these drawings by Holir, which are now very scarce. The
university of Basle, founded by pope Pius II. in 1439, or
1460, was formerly eminent in the literary history of Eu-
rope. It was honour'd by the celebrated names of Occel-
padus, Amerbach, the three Baudin, Gryneus, Buxtorf,
Vol. III.

Wetstein, Belin, the Bernonillis, and Euler; and it still
boasts of the members who are ornaments to their native
town by their learning and talents. The public library con-
tains a small collection of books, remarkable for its rare
and valuable editions, particularly of those printed in the
15th century. Besides books, this library contains some
valuable MSS. In a suite of rooms belonging to it, are
a cabinet of petrifications, some ancient medals and gems, a
few antiquities found at Augst, a large number of prints,
and some fine drawings and paintings, confiding chiefly
of originals by Holbein, most of which are in the highest
pre-
formation. Basle is famous for the excellence of its police,
and the strictness of its municipal laws. Although the use
of coaches is not prohibited, yet no citizen or inhabitant
is allowed to have a servant behind his carriage. No person,
it is said, without the city, must wear lace of gold or silver;
and all young women are prohibited from wearing furs.
By such regulations, a distinguishing simplicity of manners
prevails even in the richest families. It was formerly a sin-
gularity belonging to this town, that all its clocks were an
hour faster than the real time, which, according to some,
was introduced during the council of Basle, in order to en-
mence the cards and bishops in due season for the dispatch
of business; others say, that they were put forward, in
order to defeat a conspiracy, by one of the burgomasters,
who had notice of the design; by which the conspirators,
thinking that they had milled the time and were too late,
were induced to retire; others say, that the sin-dial on the
cathedral, which regulates the clocks, declines from east
from the east, and this circumstance, according to Beloni-
ni, occasions a variation from the true time of about 45 minutes.
The inhabitants have long tenaciously maintained this an-
cient custom, and refilled every change; till in the late new
order of things, a revolutionary change has taken place with
regard to the clocks as well as the government, and they
have been altered to the true time. Basle was formerly the
see of a bishop; but though there is one that now bears the
title, he lives at Porrenz near Alvaize, and has no jurisdic-
tion in this city.

The famous council of Basle began its fittings in
1431, continued its deliberations, and proceeded in en-
acting laws and publishing edicts, until the year 1443,
notwithstanding the efforts of pope Eugenius, who had
been deposed from the popacy of the council in 1439,
and his adherents, to put a stop to their proceedings.
And though in that year the members of the council retired
to their respective places of abode, yet they declared pub-
licly that the council was not dissolved, but would resume
its deliberations at Basle, Lyons, or Laufenbe, as soon as a
proper opportunity occurred. Accordingly, in the year
1449, when Felix V. resigned the papal chair, the fathers
of the council of Basle assembled at Laufenbe, ratified his
abdication, and, by a solemn decree, ordered the univer-
sal church to submit to the jurisdiction of Nicholas
as their lawful pontiff. Nicholas set the seal of his approba-
tion and authority to the acts and decrees of the council
of Basle. The two grand points that were propounded to the
deliberation of the famous council of Basle, were the union
of the Greek and Latin churches, and the reformation of
the church universal, both in its head and in its members,
according to the resolution that had been taken at the coun-
icil of Conlance. In 1455, this council publicly abolished
the "annates;" and in 1456, a confession of faith was read,
which every pontiff was to subscribe on the day of his elec-
tion; the number of cardinals was reduced to twenty-four;
and the papal impositions called "expectatives," "refer-
vations," and "provisions," were annulled. Mait. Eccl.
Hist. vol. iii. p. 420, &c. N. lat. 47° 35'. E. long. 7° 29' 30".

5
BASIL, or Basle, being a principality of Germany, in the circle of the Upper Rhine, may be divided under two general divisions: the first lies to the south of Pierre Pertus, and forms a part of Switzerland; the second, to the north of the same boundary, includes that district which is properly situated within the German empire. The sovereign, that is, the bishop of Basle, or, as he is called by the Protists, the prince of Preterru, whose principal residence is Preterru, the capital of his dominions, was formerly chosen by the chapter of eighteen canons, resident at Arlesheim, and confirmed by the pope. He was a prince of the German emperors, and did homage to the emperor for that part of his territory which lies in the circle of the Upper Rhine. He was always considered as an ally of the Swifs by his union with the Catholic cantons, first formed in 1579, and renewed at different intervals, particularly in 1671 and 1697, and by being included in the treaty which those cantons contracted with France in 1715; but as he was not comprised among the allies of the Swifs, in the league between the thirteen cantons and Louis the XVIth, in 1777, he was not deemed a member of the Helvetian confederacy. The first particular alliance with France was concluded in 1739, between the bishop and Louis the XVIth, and was renewed in 1783. The population of that part of the bishopric of Basle that was ailed to the cantons amounted to 24,600. The form of government was a limited sovereignty, the bishop being bound, on all important occasions, to consult his chapter; and his prerogative being confined, by a great immunities enjoyed by his suffragans in general, and particularly by those of the reformed communion. He nominated all employments both civil and military, and appointed the bailiffs or governors; judicial justice was administered in his name, and his the power of pardoning. In civil proceedings, he received an appeal from the inferior courts; but in his German dominions, when the cause exceeded the value of a duplulum, it might be carried to the chambers of Wetzlar or Vienna. The subjects of the bishop are partly Protists and partly Catholics: the Protists inhabit the greatest part of the valley of Munster, and the whole district to the south of Pierre Pertus, and are about 15,000; the Catholics amount to 35,600. The French and German languages are both spoken in the bishop's dominions. The whole bishopric of Basle is now annexed to France. In 1793, their troops over-ran the country of Preterru, on the German part, under the pretence of delivering the natives from slavery, and took possession of the famous falls of Pierre Pertus. This district was ceded to France by the treaty of Campo Formio, and is formed into the department of Mont Terrible. In 1798, the Helvetian part of the territory was taken possession of, in the name of the republic, by general St. Cyr, under a declaration that France succeeded to the property, dominions, rights, and prerogatives of the bishop. This district was also annexed to the department of Mont Terrible. The bishopric of Basle is a fertile country, and many forges are employed in the manufactures of iron and steel. Basle, among Joiners, denotes the angle to which the edge of an iron tool is ground. To work on soft wood, they usually make their bāl 2 degrees; for hard wood 18°: it being observed that the more acute or thin the bāl is, the better and faster it cuts; and the more obtuse, the slower and fitter it is for service.

BASILIAN, or Bassillian, in Geography, one of the Philippine islands; 12 leagues in circumference, very fertile, especially in fruit and rice; 6 leagues S. W. of Mindanao. N. lat. 5° 51'; E. long. 121° 30'.

BASILARE Os, in Anatomy, a barbarous denomination given to the os pharnsonis, on account of its being situated at the bottom or basis of the skull; or because a great part of the brain rolls upon it, as on its basis.

BASILARIS Artexia. See Artery.

BASILE, St. in Geography, a town of Italy, in the kingdom of Naples, and province of Orantra, at 18 miles east of Matera.

BASILE, St. is also a town of the kingdom of Naples, in the province of Babblicata; 11 miles E. of Turin.

BASILEUS, Basileus, a title assumed by the emperors of Constantinople, exclusive of all other princes; to whom they give the title rex, king. The same quality was afterwards given by them to the kings of Burgundy, and to Charles the Caesars; from the successors of which last they endeavored to wrest it back again.

The title basileus has been since assumed by other kings, particularly the kings of England; "Ego Edgarus rex Anglorum basileus confirmavi."

Hence also the queen of England was intituled basileia, and Basilius.

BASILEUS, in Orithgology, a name by which many of the ancient authors called the Regus Orithi, the Alcove, the Motacilla Regulus of the Latin Fylen, or the golden-crowned warbler.

BASILI, in Geography, a river of European Turkey, which runs into the gulf of Colokitia, 4 miles N. N. E. of Colokitia.

BASILI, St. a town of European Turkey, in the Morea; 8 miles S. of Corinth.

BASILIA, a town of Poland, in the palatinate of Volhynia; 52 miles W. S. W. of Constatinop.

BASILIA, or Basilico, a fortified town north of Corinth, situated upon the coast of the gulf of Lepanto.

BASILLANS. See B. Gomili.

BASILIC, basilica, is used in Eccl.ical Writers, for a church. In which sense this name frequently occurs in St. Ambrose, St. Aurelia, St. Jerome, Sidonius Apollinaris, and other writers of the fourth and fifth centuries.

M. Perani says, that basilicas differed from temples, in that the columns of temples were without side, and those of basilicas within.

Some will have the ancient churches to have been called basilicas because generally built in the fashion of the Roman halls called by that name; others, because divers churches were formed of these halls. Some have supposed that, on the conversion of Constantinople, many of the ancient basilicas were given to the church, and turned to another use, viz. for Christian assemblies to meet in; and they refer to this usage in Aulicostus, where, speaking to the emperor Gratian, he tells him, the basilica, which he supposed were wont to be filled with men of_bufines, were now throned with votaries praying for his safety; by which it is apprehended he meant, that the Roman halls or courts were turned into Christian churches, and hence it has been conceived, that the name basilica came to be a general name for churches in later ages. See Basilica.

Basilic is chiefly applied, in modern times, to churches of royal foundation, as those of St. John de Lateran, and St. Peter of the Vatican, at Rome, founded by the emperor Constantine.

Basilic appears also to have been given, in later ages, to churchs before consecration.

Basilics were also little chapels built by the ancient Franki over the tombs of their great men; so called, as resembling the figure of the sacred basilica or churches.

Perons of inferior condition had only tumubs, or porticus, erected over them. By an article in the Salic law, he that
that robbed a tumba or piiculcis, was to befixedc using foldi; but he that robbed a basilica, thirty foldi.

BASILICA, or BASILICUS, in Anatomy, the name of a vein, arising from the axillary branch, and running the whole length of the arm. The basilica is one of the veins opened in bleeding in the arm. See Vein.

BASILICA, in Architecture. This word, which has successively received very different acceptations, is derived from Basileus, king, and signifies: it means, therefore, etymologically, royal house. Perhaps the halls of justice acquired this name in early antiquity, when the judging of the people might be regarded as the peculiar royal prerogative; and it was natural that they should retain this appellation, when justice was no longer administered by kings. Among the public edifices composed of a single building, the basilica appears to have been one of the largest. It was, among the Romans, an ample hall adjoining to the Forum, in which the magistrates judged under cover; which distinguished it from the fora, where they held their sittings in the open air. Here the tribunes and centumvirs administered justice, and the juridiconstiti and legalis in the pay of the republic, advised those who came to consult them. Young actors declined in separate apartments, and the porticos were occupied by merchants and traders. Thus these edifices were at the same time applied to the purposes of commerce and judicature.

It is to be lamented that the antique basilicas have to entirely perished, that the construction and disposition of them are involved in great doubt and obscurity. Vitruvius, the only ancient architect whose writings have descended to us, gives the following description of the Roman basilica.

The basilica should be adjoined to the forum on the west side, that the merchants may confer together without being interrupted by the weather. The breadth is not made less than the third, nor more than half the length; unless the nature of the place or those parts of the proportion, and obliges the symmetry to be different. But if the basilica is too much length, chalcis are made at the ends, as they are in the basilicas of Julia Aquianna. The columns of the basilicas are made as high as the portico is broad. The portico is the third part of the space in the middle; the upper columns are a fourth part less than the lower. The plausum, which is between the upper columns, should also be made a fourth part less than the same columns, those who walk in the floor above may not be seen by the merchants below. The epistyle, xiphosorus, and corona, are proportioned to the columns, in the manner explained in the third book.

The basilica, however, which Vitruvius erected at the colony of Julia of Fausum, did not conform to the foregoing precepts. It is thus described: 'A middle tetradoch (aile or nave) is 120 feet long, and 60 feet broad; the surrounding portico between the walls and columns is 20 feet broad. The columns, continued the whole height of the building, are 50 feet, including the capitals, and 5 feet in diameter; having behind them pilasters 20 feet high, which sustain the beams that bear the floor of the upper porticos. Above these pilasters are others 18 feet high, which support the ceiling of the upper porticos, which is laid lower than the roof of the tetradoch, the space between being left open in the intercolumniations for light. The columns in the breadth of the tetradoch are four including those of the angles; and in the length, of the side rest the forum, including the same angles, eight. On the other side there are but five, the two in the middle being omitted; that they may not obstruct the view of the pronaos of the temple of Augustus, which is situated in the middle of the side wall of the basilica.'

The tribunal in this building is in the figure of a hemice, extending in front 40 feet, and receding in the centre of the curvature 15 feet; so that those who attend the magistrate obstruct not the merchants in the basilica.'

From the preceding descriptions it would appear, that the ancient basilicas consisted of a great nave in the middle, surrounded with but one range of porticos; and it is thus that it has been represented in the designs of all who have restored it from the words of Vitruvius. However, the fragments of the plan of Rome taken under Septimius Severus, which still exist, shew a part of the basilica Ambelina; and in this authentic record we find two rows of columns on each side, which, supposing an exterior wall, would give two ranges of porticos. But this valuable relic gives reason to doubt, whether the basilicas were surrounded with walls, or whether their porticoes, open on every side, communicated with the public places. The description of Vitruvius explains nothing in this particular; but it may be inferred from what he recommends relative to the warmth of the exposure, that they were not enclosed.

Supposing the entrance of the basilica to be at one end, the other was terminated by a hemicycle, in which was placed the tribunal; this circular end answers to the abridgment of the Christian basilica. The chalcis mentioned by Vitruvius have given rise to various conjectures, which it would be useless to detail, as we have no data from which any other inference can be drawn, than that they were some kind of apartments, separated by a partition, at the ends of basilicas.

Before the excavations made at Otricoli, and the discoveries which were the result, we had only conjectures on the form and nature of the ancient basilicas; uncertain vestiges were all that remained of those of Rome, and the situation of such the famous basilicas, Ambelina and Fulvia, was sought in vain at Praeneste. The monument of Otricoli, therefore, ought to be very precious if we find in it a true basilica, of which the reader will be enabled to judge from the following description.

To discern the essential character of a basilica, it will be useful previously to consider the difference between it and a temple. The original form of a temple is an oblong cela or body, surrounded with porticos, and even where the lateral porticoes were suppressed, they were never deprived of a pronaos or portico in front. In short, in the basilica the porticoes were internal and external in the temple. Now the edifice of Otricoli has no exterior colonnade, neither pronaos nor peristyle. It is a square building, surrounded with a simple wall. In the middle the entrance is by a rustic opening, without any vellum of decoration. The interior contains a great hall, divided by porticoes into three naves or aisles. The portico immediately opposite the entrance is composed of three arches, eight Corinthian columns form the remaining three porticoes; the further end of the building is occupied by a hemicycle or tribunal, on each side of which is a small apartment. The tribunal is ascended by several steps, and round the interior of the edifice is continued a pedestal, on which were statues which have been transported to the Museo Vaticanum. The ceiling was probably of wood, as there are no remains of a vault. No vellums lead even to suppus that in the middle there might be a base for a statue, or any thing that indicates a temple.

This monument is certainly deficient in many of the characteristics of a basilica; its plan is a exact square instead of an oblong, and the upper galleries are wanting. However, considering to what variations these edifices were subject, according to the riches, the size of towns, and the diversities of situation; and how much Vitruvius, the author
of the precepts which should fix our ideas on this subject, has departed from his own rules in the construction of his basilica. It must perhaps be impossible not to recognize, in the edifices of Ostrogoth, an example of the ancient basilica.

But we cannot quit this division of the subject without mentioning a monument, interceding at any rate from the singularity of its architecture, and still more so if it preserve to us the form of the Grecian basilica. This edifice, one of the antiquities of Paestum, is in length the double of its breadth; it is formed by ranges of Doric columns, to the number of nine in each front and eighteen on each wing, including the angles. On a line with the central column of each front a range of columns is continued through, dividing the building into two parts: at the foot of these columns the pavement is elevated and adorned with mosaic. These interior columns supported the roof, which was probably a terrace. The uneven number of columns in the fronts, and the narrowness of their intercolumniations compared with those of the wings, prove sufficiently that the principal entrances must have been at the sides; and this circumstance, together with the absence of any exterior wall to inclose a cela, shews that this edifice could not have been a pure temple. But to the purposes of a basilica it seems very well adapted; open on every side, it admitted an easy access, while the elevation or bank in the middle, would afford a tribunal suited to the singularity of the age.

The Ecclesiastical Basilica. It is not probable that the ancient basilicas were ever converted into Christian churches; in that case, we should still be in possession of some of these monuments of antiquity. The most ancient basilicas of the Christians, those which date from the first centuries of the public exercise of our religion, were built expressly for their use; and the details of their architecture, announce but too clearly the time of their construction. But these new temples resembled so much the antique basilicas, that they retained their name: and indeed if we examine the buildings of antiquity, we shall find no other so well calculated for the purposes of our religion. These edifices, at once simple in plan and magnificent in decoration, were of a form and disposition the most advantageous that can be imagined for large halls, and their construction combined solidity with economy. Their solidity is proved by the duration of fourteen centuries of some of these buildings; and their economy consists in the lights of the points of support, and in that of the covering which was only of carpentry. In most of the basilicas, the walls and the points of support only occupy one tenth of the total space; which, in buildings vaulted and supported with arcades, like many modern churches, take up at least twice that superfi senses, and require besides materials and modes of construction which quadruple the expense.

It is to Constantine, that the first Christian churches known by the name of basilicas are to be referred. This prince signalized his zeal by the erection of monuments which announced the triumph of the religion which he had embraced. He gave his own palace on the Cecilian mount to construct on its site a church which is recognized for the most ancient Christian basilica. A modern building has so much masked and disfigured the ancient, that only the situation and plan of this monument can be discovered.

Soon after, he erected the basilica of St. Peter of the Vatican. This magnificent edifice was constructed about the year 324 upon the site of the circus of Nero and the temple of Apollo and Mars, which were delineated for that purpose. It was divided internally into five aisles from east to west, which terminated at the end in another aisle from north to south, in the centre of which was a large niche or tribunal, giving the whole the form of a cross. The larger aisle was inclosed by forty-eight columns of precious marble, and the lateral aisles had likewise forty-eight columns of smaller dimensions; two columns were placed in each wing of the terminating aisle. The whole was covered with a flat ceiling, composed of many blocks, which were carved with gilt metal and Corinthian brafs taken from the temples of Romulus and Jupiter Capitolinus. A hundred smaller columns ornamented the fritures and chapels. The walls were covered with paintings of religious subjects, and the tribunal was enriched with elaborate mosaics. An incredible number of lamps illuminated this temple; in the greater solemnities 2,400 were reckoned, of which one enormous candlabrum contained 1,560. The tombs of pontiffs, kings, cardinals, and princes, were reared against the walls or inlaid in the ample porticoes.

This superb temple was respected by Alaric and Totila, and remained unjured in the various fortunes of Rome during the lapse of twelve centuries; but crumbling with age, it was at last pulled down by Julius II. and upon its site was arisen the famous basilica, the pride of modern Rome.

The third great basilica built by Constantine, that of St. Paul on the road to Olbia, still exists. The interior of this building refembles precisely that of St. Peter which has just been described. Of the forty columns including the great aisle, twenty-four are supposed to have been taken from the mausoleum of Hadrian; they are Corinthian, about three feet diameter, fluted their whole length, and cabled to one third; the columns are of blue and white marble, and antiquity presents nothing in this kind more precious for the materials and the workmanship. But these beautiful remains seem only to be placed there to the disgrace of the relic of the construction, which is of the age of Constantine and Theodorus, and which most strikingly exemplifies the rapid decline of the arts.

The churches we have hitherto referred bear a very complete resemblance to the antique basilica in plan and proportion. The only remarkable difference is, that the superior galleries are suppressed, in the place of which a wall is raised upon the columns of the great aisle, which is pierced with windows, and supports the roof.

The church of St. Agnese out of the walls, though not one of the seven churches of Rome which retain the title, is however a perfect imitation of the antique basilica. This resemblance is so complete, that without the testimony of writers who inform us that it was built by Constantine at the request of Constanina his sister or daughter, and without the details of its architecture which forbid us to date it higher, it might be taken rather for an ancient tribunal of justice than a modern church. It forms an oblong internally, three sides of which are surrounded with columns forming the porticoes; the fourth side opposite the entrance is re- ceived in a semicircle; this is the tribunal. The first order of columns carries a second, forming an upper gallery; above which begins the ceiling of the edifice. The shortening of the columns, recommended by Vitruvius, is observed in the upper order.

We have hitherto referred in the Christian basilicas but small variations from the antique construction; they were still simple quadrilateral halls divided into three or five aisles, the numerous columns of which supported the flat ceiling; but the cross form, the emblem of Christianity, which began to be adopted in these buildings, operated the most essential changes in their shape. The interjection of the crossing aisles produced a centre, which it was natural to enlarge and make principal in the composition; and the invention of domes.

6
B A S I L I C A.

domes supported onpendentives enabled the archi tects to give size and dignity to the centre, without interrupting the vista of the aisles. The church of St. Sophia at Constantino ple was the first example of this form.

The fact of the Roman empire being transferred to Con stantinople, it is natural to suppose that the disposition of the ancient St. Peter's of Rome, esteemed at that time the most magnificent church in the world, was imitated in that which Constantine erected for his new capital under the name of St. Sophia. This last did not exist long: Constantius, the son of Constantine, rased a new one which experienced many disasters. Destroyed in part, and rebuilt under the reign of Arcadius, it was burnt under Honorius, and re-established by Theodosius the younger; but a furious fire having arisen in the church, it was reduced to ashes. This emperor having appealed the tumults, and willing to immortalize his name by the edifice he was about to erect, embellished from various parts the most famous architects. Anthemius of Tralles and Isidore of Miletus were chosen; and as they had the boldness to attempt a novel construction, they experienced many difficulties and dissatisfactions; but at last they had the glory of finishing their design.

The plan of this basilica is a square of about 250 feet. The interior forms a Greek cross, that is, a cross with equal arms; the aisles are terminated at two ends by semicircles, and at the other two by square recesses, in which are placed two ranges of tribunals. The aisles are vaulted, and the centre, where they intersect, forms a large square, upon which is raised the dome, of about 110 feet diameter. The dome, therefore, is supported upon the four arches of the naves and the pendentives or spirals which connect the square plan of the centre with the circle of the dome. The general effect of the interior is grand; but whatever praises the bold invention of this immense dome merit, it must be confessed that there are times in which princes, however great and liberal, can only produce imperfect monuments, of which this edifice is a striking example. All the details of its architecture are defective and barbarous.

However, from the communication established between Greece and Italy, at the revival of letters, this basilica, the last as well as the most magnificent of the lower empire, was that which influenced most the form and architecture of the new temples. The Venetians, in the tenth century, copied with success the left parts of the disposition of St. Sophia in the church of St. Mark. This is the first in Italy which was constructed with a dome supported upon pendentives; and it is also this which first gave the idea, which has been imitated in St. Peter's, at Rome, in the Vatican, of accompanying the great dome of a church with smaller and lower domes to give it a pyramidal effect.

From this time to the erection of the basilica of St. Peter's we find the churches approach more or less, to the form of the ancient basilicas or the new construction. The church of Santa Maria del Fiore of Florence, from the magnitude of its dome and the skill which Brunelleschi displayed in its construction, acquired a celebrity which made the system of domes prevail; and this system was finally established in the noble basilicas of the Vatican, which has become the type and example of later ones. The form of the antique basilica was entirely lost, and the name, which has been retained, is the only remain of their ancient resemblance.

In the pontificate of Julius II, the beginning of the 16th century, the basilica of St. Peter's was begun from the design of Bramante. This great man formed the idea of suspending in the centre of the building a circular temple as large as the pantheon, or, as he expressed it, to raise the pantheon on the temple of peace; and, in fact, we find great resemblance in size and disposition between these two edifices and the project of Bramante. He was succeeded in his office by San Gallo, who almost entirely lost sight of the original plan; but Michael Angelo, to whom at his death the undertaking was committed, centered the discordant parts, and contracted the whole into the form of the Greek cross. Michael Angelo died in 1564, while he was engaged in erecting the dome; but he left plans and models which were strictly adhered to by his successors, Vignola, J. de la Porte, and Fontana, who terminated the dome. The building was carried on under many succeeding pontiffs; and at last, by lengthening the longitudinal naves, it acquired the form of the Latin cross; in that particular, approaching to the original design of Bramante.

The general form of this edifice externally is an oblong, with circular projections in three of the sides; the plan of the interior consists of a Latin cross, the intercolumniation of the arms of which is enlarged and formed into an octagon; the head of the long aisles and the ends of the cross aisles are terminated in hemicycles; and the great naves are accompanied with lateral aisles and with several inclosed chapels. The octagon centre supports a circular wall enriched with pilasters and pierced with windows, above which rises the magnificent dome.

Thus we have traced the progress of the basilica from the quadrilateral hall of the ancients, with its single roof and flat ceiling supported on ranges of columns, to the cross-shaped plan, central dome, and vaulted aisles supported on massive piers of the modern cathedral. It only remains to treat of the

Modern Basilicas. We give this name with Palladio to the civil edifices which are found in many Italian cities, and the designation of which is entirely familiar to the antique basilicas.

In imitation of the ancients, says this celebrated architect, the cities of Italy construct public halls which may rightly be called basilicas as they form part of the habitation of the supreme magistrate, and in them the judges administer justice. The basilicas of our time (he continues) differ in this from the ancient; that those were level with the ground, while ours are raised upon arches in which are shops for various arts and the merchandise of the city. There the prisons are also placed, and other buildings belonging to public buffets. Another difference is that the modern basilicas have the porticoes on the outside, while in the ancient they were only in the interior. Of these halls there is a very noble one at Padua; and another at Brescia, remarkable for its size and ornament.

But the most celebrated is that of Vicenza; the exterior part of which was built by Palladio, and the whole so much altered that it may pass for his work. The body of the building is of much greater antiquity, though the date of it is unknown.

Time and various accidents had reduced this edifice to such a state of decay, that it was necessary to think seriously of preserving its total ruin: for this purpose the most eminent architects were consulted, and the design of Palladio was approved. He removed the ancient loggias, and substituted new porticos of a very beautiful invention. These form two galleries in height, the lower order of which is ornamented with Doric engaged columns, at very wide intervals, to answer to the internal pillars of the old building; the space between each column is occupied by an arch resting on two small columns of the same order, and a pilaster at each side against the large columns, which leaves a space between it and the small columns of two diameters. The upper portico of Ionic columns is disposed in the same manner, and a balustrade is placed in the archways. The

embellishment
entablature of the large orders is profiled over each column.

This edifice is about 150 feet long and 60 feet broad: the hall is raised above the ground 20 feet; it is formed by vaults supported on piers, and the whole is covered with a wooden dome. See Plate II. of Architecture, the Roman basilica, from the description of Vitruvius. Plate III, the basilica at Paulus, Plate IV, the plan of the old basilica of St. Peter, founded by Constantine. Plate V, plan of the modern St. Peter's of the Vatican. Vitruvius Arch. de A. Palladio. "*Collagiata Pianta del Vaticano," Excve. Mech.”

**BASILICAS.** Basilica, a collection of the Roman laws, translated into Greek by order of the emperors Basil and Leo, and which were of force in the eastern empire till its disjunction.

The basilica comprehends the institutes, digests, code, and novels, and some edicts of Julian and other emperors. The collection consisted of fifty books, for which reason it was called *Suarum.* It is supposed to have been the work of the emperor Leo the Philosopher, who dedicated it to his father Basilios Mecido, who first began it in 597, and carried the work to forty books. It was published by Leo, with the addition of twenty books more, in 599; and thirty years after, corrected and improved by his son Constantius Porphyrogenitus. Six books of the basilica were translated into Latin in 1557, by Gentianus Heraeus. Of these fifty books, there are now remaining only forty-one; an edition of which, with a Latin version, was published by Charles Ambro Fabrotta, at Paris, in 1647, in seven folios; the other nineteen are in some measure supplied by Fabrotta, from the "Synopsia Basilicorum," &c. Four other books have been since discovered, and are inserted in G. R. M. M. H. M. L. "Novae Theaurae Juris Civ. et Canon." Tom. V. Of the whole work, the sixty books, J. Leunclavius has printed at Basle, in 1575, an edifice or synagoga. On the subject of the basilica, Fabricius (Bib. Græc. t. viii. p. 426—434) Heracleous (Hist. Juris Romani, p. 266—269), and Giovanni (Italia Civi. di Napoli, tom. i. p. 450—453) as historical civilians, may be usefully consulted.

**BASILICATA,** in Geography, a province of the kingdom of Naples, bounded on the north by the Captains, and the Terra di Bar, on the east by the gulf of Tarento, on the south by Principato Citra and Calabria Citra, and on the west by Principato Ultra. Its extent is about 1,600,047 morgges, 5 morgges making 4 English acres; and the number of its inhabitants about 352,632. Its rivers are Brindisi, Bistento, Salandra, Asti, and Sina; its lakes are Lygongro and Olmo; its mountains are the most part branches of the Apennines; and its principal places are Accera, Meli, Monte-Pelato, Tricario, Potenza, Anglona, Venola, and Muro; its ruined cities are Metapontum and Heraclea. This province produces corn, wine, oil, flax, silk, cotton, honey, and wax.

**BASILICI,** in Greek, the Greek Empire, was a denomination given to the prince's mandatories, or those who carried his orders and commands.

**BASILICON,** or **BASILICUM,** in Pharmacy, is the pompous denomination formerly given to an officinal unguent or plaster, much refuging and superadded by the *Seuulturn Refina Flauze.*

**BASILICUS,** or **BASILICA,** in Astronomy, is the name of a fixed star of the first magnitude in the constellation Leo; called also regularus, and cor leonis.

**BASILICA Sinus,** in Ancient Geography, the gulf of Melisso, a gulf of Asia Minor, in Caria, which it separates from Ionia.
Irenæus's account, Jesus appeared as man, but was not so in reality, and wrought many miracles: however, he was not crucified: the Jews, having, through misfortune, crucified Simon the Cyrenian in his stead. Many of the ancients have, upon the authority of Irenæus, accused Basilides of denying the reality of Christ's body, and of maintaining that Simon was crucified in his stead. But this accusation, as far as it refers to Basilides himself, is groundless; for he seems to have considered the divine Saviour, as compounded of the man Jesus, and Christ the Son of God. To this purpose Beanzibore says, that though Basilides did not believe the incarnation, or hypothetical union of the Son of God with flesh, yet he never denied that Jesus was a real person, in whom the Understanding, or Son of God, displayed his power, when he filled with his gifts and illuminations, and invested with extraordinary influence. With regard to the ridiculous story of Simon transformed into Jesus, and crucified in his stead, it represents him as a fable which Irenæus derived from some unknown source. As Basilides believed the death of Jesus, who was a real and most excellent man, in whom the first-begotten of the Father choe to dwell, though not of the Son of God, he probably believed his resurrec tion: that is, that his soul ascended to heaven, and the body was left to lie in the grave, or was disintegrated into the air, and among the elements of which it was composed.

As the ancient Catholic writers do not particularly say that Basilides denied the resurrection of Jesus, though they ascribe him and his followers the denial of the resurrection of the body; it is not unlikely that he admitted the resurrection of the advancement and glorification of the soul of Jesus. Basilides believed the fact of the baptism of Jesus; and his followers, as Clement informs us, celebrated the day of his baptism as a festival, which was the 15th day of the Egyptian month Tybi, corresponding to the 9th or 10th of Janu ary, in the 15th year of Tiberius; and they spent the whole preceding night in reading, and probably in prayers. Some persons have supposed that Basilides denied the necessity or reasonableness of our suffering martyrdom for Jesus; and yet it appears from the testimony of Clement, that he esteemed martyrdom an honourable suffering, though it is the punishment of sins committed either in this life, or in a pre-existent state. Basilides taught that the soul only would be saved; but that the body is in its nature corruptible, and incapable of immortality. As for the spirits of the dead, it is said to have been his opinion, or that of his followers, that they would pass successively into other bodies. Basilides has been falsely accused of believing that actions are indifferent in their own nature, and of allowing and encouraging the practice of wickedness. On the contrary he is represented by those whose testimonies are most credible, as strongly recommending the practice of virtue and piety, and condemning not only the actual commission of sin, but even every inward propensity of the mind to a vicious conduct.

However, some of his practical opinions gave offence to the orthodox Christians; for he allowed men to conceal their religion, and even to deny Christ, when their lives were in danger, and to partake of the feasts of the Gentiles that were instituted in consequence of the fastes offered to idols: not to add, that the irregular lives of some of his disciples seemed to justify the unfavourable opinion that was entertained concerning their master. The Basilidians have been also accused of magical practices; but Tertullian says nothing of this kind; and the passages of Irenæus upon which this charge is founded, is supposed to have been corrupted. Besides, the ancient fathers perpetually confound alchemy and astrology with magic; and hence Lardner is induced to be very doubtful about the truth of this acculation. Irenæus says, that the Basilidians called the prince of the heaven Atraxas that name having in it the number 365: and the greeks, or figures, bearing this name, are supposed to have originated from Atraxas. However, many of these Egyptian titles appear to have an earlier date; and the magic of this sort was probably so much more than the practice of certain superstitions, rather of a foolish than of a malignant nature. See ATRAXAS.


BASILIDIANS, the followers of Basilides, of whom an account has been given in the preceding article.

BASILINEA, in Entomology a species of Pulazon, that inhabits Austria. The wings are grayish brown undulated, with a little black line at the base; crest of the thorax bi-colored. Fabricius.

BASILINOPOLIS, or Basildopolis, in Ancient Geography, an episcopal town of Asia Minor, in Bithynia.

BASILIPOTAMO, in Geography, the ancient Euxine, a river of the Morca in European Turkey, which falls into the gulf of Chioschon.

BASILIPPUM, in Ancient Geography, a town of Briton in Spain, about 20 miles from Hispili or Seville; now Can tilia, a cancer of Andalusia, on the Guadalquivir.

BASILIS, a town of Peloponnes, in Arcadia, founded, according to Panionius, by Cypros, and situated near the Alpheus. In his time it was in ruins, among which was a temple of the Eleanian Ceres.

BASILISCUS, in Ornithology, one of the synonymous names of the golden-crowned ken, among old writers. This name is a diminutive of the word basilus, king; and was given it on account of its golden crown.

BASILISCU, in Zoology, a species of Lacerta, which, according to Linnaeus, has the tail long and round; dorsal fin radiated; and back of the head crest. This is the basilisk of modern naturalists, and seems to unite the two genera of Lacerta and Draco. The remarks of Dr. Shaw (in the Gen. Zool.) on this extraordinary creature are highly interesting, and ought not to escape attention. It is, according to this writer, particularly distinguished by a long and broad wing-like process or expansion continued along the whole length of the back, and to a very considerable distance on the upper part of the tail, and furnished at certain distances with internal radii analogous to those in the fins of fishes, and still more so those in the wings of the draco vols, or flying lizard. This process is of different elevation in different parts, so as to appear strongly muscled and indented, and is capable of being either dilated or contracted at the pleasure of the animal. The occiput, or hind part of the head, is elevated into a very conspicuous pointed hood, or hollow crest.

Notwithstanding its formidable appearance, adds this author, the basilisk is a perfectly harmless animal; and like many others of the lizard tribe, refines principally among trees, where it feeds on insects, &c. It has long ago been admirably figured in the work of Seba; and as it is an extremely rare species, has sometimes been considered, from the strangeness of its form, as a fictitious representation. There is, however, in the British Museum, a very fine speci ment, well preserved in spirits, and which fully confirms the excellence of Seba's figure; from which, in all probability, Linnaeus himself (who never saw the animal) took his specific description. The colour of the basilisk is a pale ci-
BASILISK is also mythically used by the alchemists, to denote the lumbarine mercury of the philosophers.

BASILISK, or BASILISK, in Artillery, also denotes a great piece of ordnance; thus denominated from its resemblance to the supposed serpent of that name. The basilisk throws an iron ball of two hundred pounds weight. It was much talked of in the time of Soliman, emperor of the Turks, in the wars in Hungary; but seems now out of use. Modern writers also give the name basilisk to a much smaller and sizeable piece of ordnance, which the Dutch make fifteen feet long, and the French only ten. It carries forty-eight pounds.

BASILISIUM FLUMEN, in Ancient Geography, a river of Asia, which, according to Strabo, flowed between the Euphrates and Tigris; but Ammanus Marcellinus says, that it was a branch of the Euphrates, directed towards Ctesiphon, and designed for conveying water into the interior part of Babylonia. The emperor Trajan and Severus opened this canal after it had been filled up, and formed by it a communication between the Tigris and Euphrates.

BASILIIUS, in Biography, a physician and monk of Bulgaria, in the 12th century, was the founder of the sect called Bogomil. After teaching his doctrine many years in secrecy, he was seduced to Confianinople by the emperor Alexis Comnenus, who, under pretence of learning his doctrines at a private audience, placed a secretary behind a curtain, who penned down what Basilius delivered. The emperor afterwards convoked a council, which, on the refusal of Basilius to retract, committed him to the flames in 1118. See Bогоmил.

BASILUZZO, in Geography, one of the Lipari islands in the Mediterranean, about two miles in circumference, and raised some poles above the surface of the sea. On the south side is a narrow bay; and on the summit is a plain of no great extent, and the only part capable of cultivation, though it produces only a little corn and pulses. This scanty vegetation is nourished by a thin crust of decomposed lava, under which is soon discovered the solid lava, which, in many situations, is granitious, the quartz, felspar, and micas, being very apparent in it. Two little cottages, which belong to the proprietors of this ungrateful soil, are the only buildings, near which are some ancient ruins. Rabbits are the only animals found in this island; and as they were very mischievous to the corn, the inhabitants introduced cats, which followed them into their subterranean holes. This island, as well as those that are in its vicinity, have been produced by volcanic fires. Spallanzani's Travels in the Two Sicilies, vol. ii. p. 142, &c.

BASIN OF MINAS, a body of water of considerable extent and irregular form, situat in Nova Scotia, at the sail end of the bay of Fundy, and connecting with its north-east branch by a short and narrow strait. The country on its banks is generally a rich soil, and is watered by many small rivers. The foraging-tides rise to 40 feet.

BASINET. BACINET, or BASINET, in Ancient Armour. A species of light helmet, much used, both here and abroad in the thirteenth and fourteenth centuries. Its name was undoubtedly taken from its form, and means a little basin. The helmet of Don Quixote gives the reader an exact idea of it. In the manuscript illuminations of the times it frequently occurs; but as it materially differed from the flate helmet, it is rarely, if ever, found upon sepulchral monuments. Fauchet (Œuvres, f. 524. edit. 1610.) cites Froissart (vol. iii. c. cxix.), to prove that it had a visor like the helmet; and observes, that the French warriors of that era thought the bell lances came from Bourdeaux, and the bell helmets and bas nets from Paris, where, in his time, a "Rue de la Haumeière" existed. The basinet is particularly mentioned in the statutes of Robert king of Scotland; and its frequent use in England may be judged of from an inquisition, 22 Edw.
BASINGSTOKE, or Basing, John, in Biography, a man of distinguished learning in the thirteenth century, was born at Basing-floke in Hampshire, and educated partly in the university of Oxford, and partly in that of Paris. From Paris he travelled to Athens; and on his return to England, brought with him a great number of Greek MSS., and introduced the use of the Greeknumerical figures into this kingdom. He was eminentiy instrumental in promoting the study of the Greek language: and with this view he translated from the Greek, into Latin, a grammar, which he intitled "The Donatus of the Greeks." His works were "A Latin translation of the Harmony of the Gospels," a volume of Sermons; and "A Latin Commentary upon Lombard's sentences." He was preferred first to the archdeaconry of London, and afterwards to that of Leicetster; and died in 1272. Gen. Dict.

Basingstoke, in Geography, a large populous town of Hampshire, in England, 16 miles N.E. of Winchester, and 45 W. from London, whence it is a great thoroughfare to the western counties. It appears that this place was of inferior consideration to Basing, in its neighbourhoud, previous to the conquest; the latter place being the head of the barony of Ports. In 1213, Peter de Rupibus, bishop of Winchester, was possessor of the advowson of both the churches, and gave the presentations to the priory of Selborne in Hampshire. These afterwards were given, among other clareses, by bishop Wainfleet to Magdalen college, Oxford, in which the patronage is now vested. In the church lies buried the mother of Walter de Merton, bishop of Rochester, founder of Merton college. Basing-floke gave birth to John de Basing-floke, a learned Greek scholar, in 1252, and the intimate friend of Matthew Paris, and bishop Grosboul. Henry III., at the desire of bishop Merton, founded an hospital at this place for aged priests from his college at Oxford: of this collegiate church, which was endowed in 1261, there are now no remains. A beautiful ruin overlooks the town on the north side, called Holy Ghost chapel. This was founded by sir William, afterwards lord, Sandes, who, with bishop Fox, obtained a licence from Henry VIII. to found a brotherhood, to continue in perpetual secession, for the maintenance of a priest to perform divine service, and for the instruction of youth in literature. The town is a corporation, governed by a mayor, high-steward, recorder, &c. Its trade consists in the manufacture of druggists and shalloons; and the market, held on Wednesday, is very considerable for corn; the trade of the town is much benefited by a navigable canal. Basing house, in this neighbourhoud, is rendered famous by the bold stand its possessor, Powlet marquis of Winchester, made against the parliament forces, during the civil wars in the reign of Charles I. Population; houses 512, inhabited by 2589 persons.

Basingstoke Canal. This was the first channel of communications with the Thames, by means of canal navigation: and in 1777, an act was obtained for uniting the waters of the river Loddon at a place called Newman springs, near the village of Basing, to the river Wey, near Weybridge in Surrey, where it falls into the Thames. One important object of this canal is the carriage of ship-flimber from the woods in Hampshire, to the public and private docks on the Thames. The length of the course of Basing-floke canal is nearly 44 miles. Warner's History of Hampshire, 4to. See Canal.

BASIOGLOSSUS MUSCLE, in Anatomy, the front part of the Hyoglossus; which see.

BASJOURA, in Geography. See Baghura.

BASIRE, or Basier, Isaac, in Biography, a learned and active divine in the fourteenth century, was born in 1607, according to Wood (Athen. Oxon.), in the Isle of Jersey, but according to others in France, and after an education in some school or university, not ascertained, he became master of the free-school at Guernsey. At length he obtained some preferments in England, the last of which was the archdeaconry of Northumberland, with the annexed rectory of Howick; and in 1640, he received the degree of doctor in divinity at Cambridge by mandate. In the beginning of the civil war, he was plundered and compelled to fly; upon which he repaired to King Charles at Oxford, and in 1641, a licence was granted to him, under the public seal of the university, to preach the word of God throughout England. Upon the surrender of Oxford to the British parliament, he determined to leave the kingdom, and to propagate the doctrine of the English church among the Greeks, Arabsians, &c. Accordingly, he first went to Zante, an island near the Morea, and thence imparted to the Greek inhabitants the doctrine of the established church, in a vulgar Greek translation of our church catechism. From hence he was compelled by the Latins to retreat to the Morea, where, at the desire of the metropolitn of Achaia, he preached twice in Greek, at a meeting of some of the bishops and clergy. He afterwards embarked for Syria, and during his abode at Aleppo, furnished the patriarch of Antioch with an Arabic translation of our church catechism. From Aleppo he travelled, in 1652, to Jerusalem, and through the whole of Palestine. At Jerusalem he was honoured by the Greek patriarch with his bull, or patriarchal seal, and he received many tokens of respect from the Latins. At this departure from Jerusalem, the pope's vicar gave him his diploma in parchment, under his own hand and seal, in which he was styled "a priest of the church of England, and doctor of divinity." On his return to Aleppo, he passed over the Euphrates into Mesoopotamia, intending to convey the church catechism in Turkish to some of their bishops, who were mostly Armenians. In 1653, after wintering at Aleppo, he travelled by land to Constantiopole, where the Greek Prototypes desired him to be their minister, promising to secure to him a competent stipend. Before he quitted the Eastern parts, it was his intention to have passed into Egypt, to visit the Coptic churches, to confer with the patriarch of Alexandria, and to impart to them a competent knowledge of the doctrines and forms of the church of England. But it is not known whether he accomplished this design. In Transylvania, whither he next removed, he was honoured by Ragotski, prince of that country, with the divinity-chair in his new-founded university of Alba Julia or Weissenburg, and endowed with a very ample salary. During his travels, he collated the several confessions of faith of the different sects of Christians, Greeks, Armenians, Jacobites, Maronites, &c. which he kept by him in their own languages; and it was his constant endeavour, as long as he remained in the East, to persuade the several sects of Christians to introduce a canonical reformation of some errors, and to unite with the church of England. But it is said, that his good intentions for this purpose were defeated by the artifices of the court of France. Upon the restoration of king Charles II., Dr. Bafire was recalled by his majesty to England, and restored to his preferments and dignities. Having quietly enjoyed his ample revenues for several years after the restoration,
he died in 1676, in the 6th year of his age, and was buried in the yard belonging to the cathedral of Durham. He appears to have been learned, active, and industrious, zealously attached to the church of England, and eminently distinguished by his loyalty. His publications were not very numerous: the principal of them were his "Deo et Ecclesiae Sacrum," or sermons arranged and condemned by St. Paul, Oxford, 1664, 4to, and London, 1663, 8vo; "The History of the English and Scotch Presbyteries," 1 Lord, 1630, 1631, 1652, 8vo; "The Deed man's real speech," a funeral sermon for Dr. Cullen, bishop of Durham, to which is annexed his life; Lond. 1673, 8vo; and his "Deo et Ecclesiae Sacrum, Ecclesiae Britanniae Libertas," printed at Bregus by a royal licence in 1676, 8vo, and translated into English under the title of "The ancient Liberty of the British Church, &c." Annexed to it is "A Letter, written by Dr. Bafei the Hon. Sir Brown, resident at Paris for his majesty of Great Britain; relating his travels and endeavours to propagate the knowledge of the divine and disciplinary established in the British church, among the Greeks, Arabsians, &c. dated from Paris near Constantinople, 20th July 1653." Of this letter R. Brown oberves, that he could never read it but as a kind of nine-and twentieth of the Acts." This book was printed at London in 1661, small 8vo. Biog. Brit.

BASIS, in the Ancient Mefie and Poetry, denotes the equality of sounds preceding in the same tenor. In which sense, baifs stands contradistinguished from aules, or elevation, as well as from the, or depression. Basis, in Architecture and Chemistry, see BASE.

Basis, in Oratory, denotes the fourth member of a complete exordium, being that which succeeds the apodosis, and prepares the way for the proposition.

BASKERVILLE, Sir Simon, in Biography, son of Thomas Baskerville, an apothecary at Exeter, was, at the age of eighteen years, sent to Exeter college, Oxford, where he soon distinguished himself by his superior ability and industry, which procured him a fellowship in the college before he had taken his degree of bachelor in arts. In 1690, he was chosen senior prebend in the university. He now applied himself solely to the study of anatomy and physiology; and in 1691, was admitted to the degree of bachelor, and doctor in medicine, at the same time. Having acquired considerable reputation for his skill in his profession, he removed to London, and was chosen fellow, and some years after president of the college of physicians there. He had also the honour of being appointed physician to King James, and afterwards to King Charles the first, by whom he was knighted. As his practice extended with his fame, he acquired so much wealth as to be called the rich Sir Simon; which will not be wondered at, if it be true, as was reported of him, that he had 100 patients on his list at a time. He died July 5th 1641, aged sixty-eight years, and was buried in the cathedral of St. Paul's. It does not appear that he left any manuscripts for publication, or any offering to inherit the wealth he had accumulated. Wood's Athenae Oxon. Biog. Dect.

BASKERVILLE, John, an ingenious artist, entitled to commemoration on account of his improvements in printing and type-founding, was born at Woveley, in Worcestershire, in the year 1700, and inherited a small estate. Having acquired in early life a skill and taste for fine writing and cutting in stone, he removed to Birmingham at the age of twenty, where he settled as a writing-makir; but he soon directed his attention to the art of japanning, which he followed with singular ingenuity and success as long as he lived. In 1750 he turned his thoughts to letter-founding, which he pursued with great labour and expense. An edition of Virgil in royal 4to., in 1756, was his first great performance; which has since fetched three times its original price. He afterwards printed many of the Latin classics, and several English ones, in 4to. and smaller sizes. The paper and ink, as well as the type, were prepared by himself; and the beauty of his workmanship was unrivalled. The type was distinguished by a peculiar fineness and sharpness, which gave the printing a strong resemblance to fine pen and handwriting; and the paper had a remarkable gloss, which set off the type, but not without offending the eye. It is observed, however, that Baskerville's editions are not remarkable for their correctness. Driving little encouragement from book-sellers, he set up a type-foundery for fine, which business was for some time carried on by his widow, after his death in 1757. After many ineffectual attempts for the disposal of his types and matrices, they were suffered, not much to the credit of this country, to be removed to Paris, where they were purchased by a literary society for 5700l., and employed in a splendid edition of Voltaire's works. Mr. Baskerville was distinguished by the elegance of his taste in his house, and every thing that belonged to him. The panells of his carriage were elegant pictures, and he was drawn by a beautiful pair of cream-coloured horses. He seems to have been inclined to ostentation and singularity: however, he was polite and hospitable to strangers, and ambitious of cultivating acquaintance with ingenious men. He was not connected with any religious fact, and was buried under a mausoleum in his own grounds. Biog. Brit. Gen. Biog.

BASKET, a kind of vessel made of oiler, wicker, rushes, or the like, of different figures and sizes, according to the purpose which it is intended to serve. Basket have their use not only in the economical, but military affairs; at sieges, they make use of a small basket filled with earth and ranged on the top of the parapet. They are about a foot and half high, as much in diameter at top, and eight or ten inches at bottom; so that being set together, they leave a sort of embrasures at the bottom, through which the soldiers fire, without exposing themselves.

BASKET also imports a kind of measure or quantity of certain commodities.

BASKET, corbel, in Architecture, a kind of vaise, or figured piece of sculpture, in form of a basket, filled with flowers or fruits, serving to terminate some decoration.

BASKET, a kind of vessel, in Natural History, a name given by the English in North America, to a very remarkable fish, sometimes caught in the Fass river near, though not frequently any where.

Mr. Hooke, to whom it was referred by the Royal Society to name it, has called it Ficis celossephallus xaliformis, the body of it refumbling an egg-fish, or ebonius marinus, and the arms a flat fish, and finally, the dividing of the branches being more like that of the branches of a tassel than any other natural production we are acquainted with.

This fish spreads itself from a pentagonal mouth-piece, or root, in the centre of which the mouth is placed, into five main limbs or branches, each of which, at its first issuing out of the body, is divided into two; this makes ten. Each of these ten again divides into two, which makes twenty, and so on, each dividing to the fourteenth time; at which place they make more than four thousand limbs. These are too small to be traced farther by the eye, or preferred to the grass, but it is very probable that even these were again divided, perhaps several times.

The branches between the joints are not all equally of a length, though, for the most part, they are pretty nearly so. The arms or branches are never very strong; but when they are
are dry, they are much more brittle than before; the lead force imaginable destroying them.

The floods of Nantucket, an island on the coast of New England, at times furnish the fishermen with this creature; but it is remarkable, that they are never seen there unless when taken by hooks in fishing for other fish. They clap the back-bait fall, and encircle it with all their arms, coming up, when drawn by it, in form of a wicker basket, whence the name: but when they have been some time out of the water, they become flat.

The use of the numerous arms of this fish is plainly to catch its prey. It probably extends them to their full length while under the water, and then claps hold of any thing fit for food that chances to pass over them. The fishermen have sometimes found the arms containing small encased, or pieces of large r. Phil. Trans., No. 57 and 74. It is evident from the description, that this fish is of the stella arboriformis, or branched-fish-kind; but whether the name with the commonly known kind, called the capitale medusa, is not evident from this description. The body of this fish, by what is reined of its preteronomy, and resemblance to the echinodermata, may probably be the afterpallium in its full state.

See Asterias, and Asteropodium.

Basket fish. This is a brittle fish, made from the water of our salt springs in Cheshire, and elsewhere, differing from the common brine-fish in the finness of the grain, and in its whitish and purity.

In the preparing of this kind of fish, some use thin, and other additions, to break the grain and make it small; other effect this by keeping up a very brisk fire under it, and stirring it all the while: but the most approved method is only to take out of this kind the third draught of every pan that is working for the common brine-fish, and to do this before the granules are yells are perfectly formed. By this means the flake is very fine: and when it has been hard pressed down into small wicker baskets, it is dried at the close in them, and so kept for sale.

Basking Shark, in Ichthyology, the English name of Squallus Maximus.

Baskindridge, in Geography, a town of America, in Somerset county, New Jersey, on the W. side of a N.W. branch of Patassic river, nearly 6 miles N. E. from Pluckemin, and 7. 8. W. from Morristown.

Basnage, Benjamin, in Biography, son of a French minister, was fattened at Norwich, in England, and afterwards at Charenton, in Normandy, was born in 1701, and devoting himself to his father's profession, succeeded him at Charenton, where he spent the remainder of his life. In 1743 he assisted at the synod of Charenton, as deputy from the province of Normandy, and he was chosen, on account of his distinguished talents and prudence, moderator of the national synod of Alcoron, in 1737. He was afterwards associated to the moderator of the synod of Charenton in 1744, and being deputed by this synod to the queen-mother, received from her tokens of esteem. He was also deputed by the Protestant churches in France, to king James VI. of Scotland: and being allowed to visit that country, he was eminently useful in serving the interests of his co-religionists. Bafrage had several disputes with the Catholics, and wrote "A Treatise on the Church," which was much esteemed. He also left an imperfect "Work against the indirect worshippers of the blessed Virgin." He died in 1748, in the fifty-fourth year of his ministry, and left two sons of distinguished merit, Gen. Dict.

Basse, Antony, eldest son of the former, was born in 1702, and became minister of Bayeux. He distinguished himself by his sermons and resolution during the persecution of the protestants; and after having been imprisoned at Havre-de-Grace, at the age of 25 years, he was released by the revocation of the edict of Nantes, and fled to Holland. He died at Zutphen in 1761, Gen. Dict.

Basnage, Henry, younger son of Benjamin, was born at Sainte Mere Elice, in Lower Normandy, in 1675. Educated to the profession of the law, he became one of the most learned and eloquent advocates of the parliament of Normandy, into which he was admitted in 1693; so that he was employed in every cause of importance. In 1727 he was appointed commissioner for the affairs of religion, and discharged the office with great honour. He was highly esteemed as an author, as well as an advocate: and in 1703 he published the "Histoire de Nantes," with ample commentaries, of which a second edition, in 2 vols. 8vo, was published in 1704. At the same time was published a third edition of his "Traicts des Hypothoques," a Treatise on Mortgages. He died at Rouen in 1705, Gen. Dict.

Basnage, Samuel, de Flottemansville, son of Anthony, was first co-pastor with his father at Bayeux, and afterwards at Zutphen. He was eminent for his learning; and published in Latin a continuation of Cafaarau's Critical Examination of Baronius's Annals, entitled "De Rebus Sacris et Ecclesiasticis Exercitationes Historico-criticae." Ultragot. 4to. 1622; and also "Annales Politici Ecclesiasticâ," 3 vols. folio, 1706. He died in 1721, Gen. Dict. Nov. Dict. Hill.

Basnage de Beauval, James, eldest son of Henry, the most illustrious of the name, andifter, says Voltaire, for being minister of state than of a pariah, was born at Rouen in 1673. Having acquired a competent knowledge of Greek and Latin, and several modern languages, he went, at the age of fourteen, to Geneva, where he studied philosophy and divinity. Upon his return to Rouen, he commenced the exercise of his profession as pastor of the church in 1716, and in consequence of the revocation of the edict of Nantes, retired to Holland, and settled as minister at Rotterdam. Such was the reputation he acquired for political sagacity, that when the Abbe de Bevis came to the Hague, in 1706, under the character of ambassador penipotentiaire, to negotiate a defensive alliance between France, England, and the States-General, he was ordered by the duke of Orleans, regent of France, to consult Mr. Baunae, and to be directed by his advice: and as a reward for his assistance on this occasion, he obtained a restitution of his estate in France. His works are very numerous and valuable: the principal are as fall, v. "A History of the Church," in French, 2 vols. Rotterdam, 1699; "The History of the Reformed Churches," part of the above work, printed separately in 2 vols. 1721, "The History of the 4. from Jesus Christ to the present time, being a continuation of the history of Jesus," written in French; of this work, distinguished by erudition and critical skill, the best edition is the second of the Hague, in 15 vols. 12mo. 1716; "The Republic of the Hebrews," 3 vols. 8vo. Amst. 1705; "Jewish Antiquities," 2 vols. 8vo. 1713; "Disputation on Duels and Chivalry," 1720; "Annotations of the United Provinces, since the Peace of Nimy," 2 vols. fol. Hagen, 1719 and 1720; "A Treatise on Confession," 2 vols. 8vo.; "Sermons." "On the Holy Communion," "The Farmer in Anniversary, Ecclesiasticorum et Historiorum, 8e," fol. 4 vols. Amst. 1735. Being a new edition of "The Letters of Antiques" of Henry Castruis, enriched with learned prefaces and remarks. The matter of Basnage is good, but his style, though sufficiently perspicuous, is stiff and inelegant. In the latter part of his life he removed to the Hague, and died there in 1723. He was polite and affable, benevolent and friendly, and more mild in his disposition than most cont.

Bassage de Beaulay, Henry, younger brother of the preceding, was born at Rosay in 1653, and became a counsellor in the parliament of Normandy. Attached to his religious profession, he quitted his prof-ets at the bar, and took refuge in Holland, where he published, in 1684, a small but valuable treatise "On Religious Toleration." He also wrote a sequel to the " Nouvelles de la Republique des Lettres" of Bayle, under the title of "L'Histoire des Ouvrages des Savants," commencing in 1657, and concluding in 1709, and comprising 23 vols. 12mo. This work is reckoned judicious and impartial, but the writer's observations are sometimes so intermixed with those of the authors whose works he reviews, that they cannot be easily distinguished. His new edition of "Fourier's Dictionary," 3 vols. 4to, was printed in 1701.


Bason, Pelvis. See Pelvis.

Bason, or dish, among Glass Grinders. These artificers use various kinds of basons, ofopper, iron, &c. and of various forms, some deeper, others shallower, according to the foot of the glafls that are to be ground. In these basons convex glafls are formed, as concave ones are formed on spheres or bowls.

Glafls are worked in basons two ways. In the first, the basin is fitted to the arbor, or tree of a lathe, and the glafls (fixed with cement to a handle of wood) are fitted and held in the right hand within the basin, while the proper motion is given by the foot of the basin. In the other the basin is fixed to a fland or block, and the glafls with its wooden handle moved. The moveable basons are very small, seldom exceeding five or fix inches in diameter; the others are larger, sometimes above ten feet in diameter. After the glafls have been ground in the basin, it is brought smoother with grease and emery; and polished first with tripoly, and finished with paper cemented to the bottom of the basin. See Grinding.

Bason, among Hatters, is a large round shell, or cafl, ordinarily of iron, placed over a furnace; wherein the matter of the hat is moulded into form. The hatters have also basons for the brims of hats, usually of lead, having an aperture in the middle, of a diameter sufficient for the largest block to go through.

Bason, in Hydraulics, is also used on various occasions for a small receptacle of water: as the basin of a jet-d'eau, or fountain: the basin of a port, of a bath, &c. which lift Vitruvius calls labrum. Basons are made either with clay, cement, or lead; but they are most usually made with clay. In the making of them this way, the diameter must be made four feet longer on each side than the basin is to be. This will be taken up by the walls of cly. For the same reason, it must be dug two feet deeper than the intended depth of the water; because it is to be laid over eighteen inches thick with clay, and fix inches with gravel and paving. The wall is to be made with shards, rubbiff, or flints, with the natural care for mortar; and the clay must be well worked, and tied firmly down with the naked feet.

The way of making them with cement, is, to allow one foot nine inches every way for the work; then cut the banks perpendicularly, and raise a wall of masonry a foot thick, made of pebble dous, or the like, laid in mortar of lime and sand: the bottom is then to be covered to the fame thickness; and then the solid lining of the cement is to be backed up against the walls, and over the bottom. This is to be made of small flints in beds of mortar made of lime and cement. When this is fixed eight inches thick, it must be plastered over the whole surface with cement well fitted, before it be mixed with the lime; and with this it is to be wrought over smooth with a trowel. The proportion of this cement should be two-thirds of the cement, or powdered tile, to one-third of lime; and this cement has the property of hardening under water, that it will become like stone or marble, and it will not be subject to decay for a long time.

After the finishing, the basin should, for four or five days, be annealed over very often with oil, or barrack's blood, to keep it from flawing or cracking in the drying; and after this, the water should be let in as soon as may be.

The leaded basons are made with walls two feet thick, and a bottom of half a foot. These must be of rubble stones, cemented with plaster; for the lime will injure and eat the lead. The sheets of lead are to be spread over these walls and bottom, and strained with folder. These basons, however, are but little in use now, from the expense of making them, and the danger of the lead being stolen.

The wafer pipes of fountains ought always to be made large enough for fear of choking. When the wafer water is to be carried off into common fowers, it may be carried away by drains, or earthen pipes; but when it is to serve for basons that he below it, it is to be conveyed in leaded ones.

Miller.

There are divers sorts of basons; as

Bason figured. that whole plan or circumference makes several turns and returns, either straight, circular, or the like. Such are most of the basons of fountains at Rome.

Bason with a balustrade, that whose cavity is surrounded with a balustrade of stone, marble, brass, or the like. Such is the fountain of the rock of the Belvidere at Rome.

Bason en eysthile, that shaped like a shell.

Bason is likewise used for a Dock.

Bason of the sea. See Sea.

Bason, fall by this, in Commercet, at Amsterdam, is used for the public fakes made under the direction of the van den meffer; thus called, by reason that, before adjusting the irons to commodity of the last bidder, they usually flake a brass basin to give notice of it.

Bason harbour, in Geography, lies on the east side of Lake Champlain, in the township of Ferrisburg, and state of Vermont, 4 ½ miles south-west from the mouth of Otter creek.

Basons of a balance, in Mechanics, two pieces of brass, or other matter, fastened to the extremities of the springs; the one to hold the weight, the other the thing to be weighed.

Basova, in Geography, a town of Siberia, on the river Lena, 20 miles south of Orients.

Basouda, a large town of Hindostan, belonging to the district of Bhilah, in the route from Agra to Oujen.

Basques, Liis, a country of France, before the revolution, situate between the sea, Spain, the river Adour, and Bear towards the Pyrenean mountains, and comprehending Labour, Lower Navarre, and the district of Soule.

BASQUE ROAD lies on the coast of France, south-east from the island of Rhé, north-east from the island of Oleron, north from the island d'Aix, and south from the west point of the entrance into Rochelle, and directly west without the bay of Chateauxillou.

BASKEVILLE, a town of France, in the department of the Lower Seine, and chief place of a canton in the district of Dieppe, 3 leagues S.S.W. of Dieppe, and 73 N.N.W. of Rouen.
BASRAH. See BASSORA.

BASROUCHE, a town of Persia, in the province of Taberlitian, 27 miles west of Farabat.

BASS, among Gardner's, a soft kind of fledge or ruff, used in binding plants, &c.

Bass, in Geography, an island, or infalutated rock, on the coast of Scotland, near the mouth of the Firth of Forth, at a small distance from the town of North Berwick in East Lothian. On the south side it has a conical form, and towards the north it is scarcely overtopped by the sea. The castle, or ancient flat prison, is on the edge of the precipice. It is accessible only on the south-west side, and here only by one person at a time, with the assistance of a rope or ladder. On the top of it is a spring, and a cavern passes through the rock from south-west to north-east. This island is about a mile in circuit, and in summer abounds with birds and their eggs, &c. The island garrison arrived here in March, and retired in October or November. It contains a small warren for rabbits, and affords pasture for a few sheep. At the revolution it was supported by a party of the adherents of King James, and it was the last place in the three kingdoms that submitted to the new government; upon which its fortifications were neglected. This island is the first entrance into the Firth of Forth; and the island of May, seven miles from it, at N. E. callder is the north entrance. N. lat. 56° 3/°, W. long. 2° 33'.

Bass Harbour, a harbour of Mount Desert island, in the district of Maine, North America, seven miles from Seal Cove.

Bass Strait, so called from its discoverer Mr. Baf, a surgeon, is more than 50 leagues wide, containing a chain of small islands that run north and south, and separates Van Diemen's land, hitherto considered as its southern extremity, from New Holland. Mr. Baf, accompanied by Mr. Flinders, a naval gentleman, entered this strait between the latitudes of 39° and 40° south, and actually circumnavigated Van Diemen's land. This discovery serves to expedit the passage from the cape of Good Hope to port Jackson; for although a line drawn from the cape to 44° of south latitude, and to the longitude of the south cape of Van Diemen's land, would not feasibly differ from one drawn to the latitude of 40°, to the same longitude; yet a ship will be four degrees nearer to port Jackson in the latter situation, than in the former. But besides a saving of four degrees of latitude along the coast, the passage through this strait would avoid the north-eaft winds, which have retarded and endangered ships on opening the sea round the south cape and cape Pillar. This strait likewise presents another advantage. From the prevalence of the north-eaft and easterly winds off the south cape, many suppose that a passage may be made thence to the westward, either to the cape of Good Hope or to India; but the fear of the great unknown height between the south cape and the south-west cape of Lewen's land, lying in about 35° south and 130° east, has hitherto prevented the trial from being made. The strait evades a part of this danger, by presenting a certain place of retreat, should the ship be opposed by a gale at the first entrance; and should the wind come at south-east, the need not fear making a good stretch to the W. N. W., which course, if made good, is within a few leagues of going clear of all. There is besides King George the Third's found, discovered by Capt. Vancouver, lat. 35° 3', and E. long. 118° 14'; and it is hoped, that a few years will diffuse many others upon the coast, as well as confirm or otherwise that a strait larger than Baf's strait dismembers New Holland. Collinson's account of New South Wales, p. 197, 198.

BASS, in Music. See BASS.

BASAD, or BASS, an Arabian name for the purple fucus of the Greeks, used by the women to paint their cheeks, and by the dyers of clothes. It has been so far confidered by late authors as to be interpreted by the word coral, but the error of this is evident, since coral has none of these properties. See MARGIAN.

BASSAIL, in Geography. See BASSENE.

BASAMUER Rock lies on the coast of France, in the English channel, and is a head that bears about a league N. by W. from La Carte church, near the point so called, to the south from the seven islands.

BASSAN, Giacomo, in Biography, a celebrated painter, whose real name was Giacomo de' Ponte, was called Bassan from the town of Bassano on the river Brenta, where his father lived and followed the same profession. He was born in 1516, and became a disciple of Bonfiglio; and after having improved himself in his art by studying and copying the works of Titian and Parmigianino at Venice, he returned to his native town. Here he formed a style different from that of his masters, and guided by his own genius, he assumed a manner of colouring and designing peculiar to himself, and copied all his objects from nature. His subjects were generally taken from such parts of Scripture as afforded the rural scenery of animals and landscape connected with some story; such as the jouneyings of the patriarchs, the Israelites in the desert, the flight of Joseph and Mary into Egypt, &c. In all these subjects his figures were well designed; most of them were formed from his wife, children, and servants, and the animals in his court-yard; and they had of course a picturing resemblance of nature. Although his compositions cannot boast of any great degree of elegance or dignity, they are distinguished by force and truth; his colouring was admirably lively and natural; and his chiaro- and carce were correctly displayed. His touch was free and spirited; and in his landscapes his distances were always true. Although he had many excellencies, his drawing was incorrect, and his draperies were delineated of variety. His works are easily distinguished from those of other painters, by the similarity of characters and countenances in the figures and aimals; by his talent in the buildings, utensils, and draperies; and by a violet or purple tint that predominates in every one of his pictures. Bassan painted much, and with ease; so that his pictures were not only produced, but also engraven on copper, and advertised to merchants, who dispersed them over Europe. His real pictures, however, are not common; as many of those that are called originals are copies by his sons, who were inferior to himself, or by some painter of meaner abilities. Bassano practised also in portrait, and painted several excellent likenesses of the doges of Venice, of Ariolito, Taffo, and other persons of eminence. His house at Bassano, to which he was attached, and which the embellishments of the emperor Randolph could not induce him to leave, was the place of resort to many persons of distinction, and the recipient of the arts, particularly of music, of which he was a master. In his private conduct Bassan was regular; and his charity was so profuse, that his wife was under a necessity of restraining his liberality. He lived to the age of 82, and died in 1592. Several of his capital pieces are in the churches of Bassano, Venice, Vicenza, and other towns of Italy. Some of his smaller works may be found in most of the principal collections of Europe; but those that are really originals fetch a high price. Many of them have been engraven.

Giacomo Bassan had four sons, who were painters. Francesco, the eldest, was the most eminent. He was born in 1550. He painted in the style and manner of his father.
and greatly excelled his brothers in designing, drawing, and colouring. He was employed in the church of St. Mark at Venice, in conjunction with Tintoretto and Paolo Veronese. By incessant application he increased the natural melancholy of his disposition, and put an end to his life in 1554, by throwing himself out of a window. *Lambro was born in 1528, fled from Venice, painted in the style of his father and brother, but with inferior mark, and particularly excelled in portraits. The portrait of the dog, Germani procured for him the honour of k. lighthood. His life was irregular, and he delighted himself by a constant suspicion of the intention of his companions to poison him. He died in 1623. The other two brothers, viz. Giovanni Battista and Giovanni, the former born in 1553 and dying in 1611, and the latter born in 1562, and living in 1622, chiefly employed themselves in copying the works of their father and eldest brother. *Pukkonen.

BASSANI, Giammatita, in Musical Biography, was chiefly known in England, at the beginning of the 17th century by his Melos, which were more graceful and pleasing than those of any of his countrymen, except Corelli and Stradella. But he has many titles to honourable place in musical history. He was not only author of thirty—seven different works in favour all over Europe during the limited longevity of musical productions, but the chief composer for the violin in Italy, who seems to have written for it with the spirit and intelligence of a real master of the instrument. He was a native of Bolognae, maestro di capella of the cathedral, Academico Filarmonomico of that city, and violin-maister to Corelli. Baffani, who flourished from about the year 1675 to 1703 (the date of his last work), was a man of extensive knowledge and abilities in his art; having been not only a successful composer for the church, the theatre, and the chamber, but an excellent performer on the violin, as we are assured by Padre Marinii his townsmen, who was old enough to have formed his opinion from those who had often heard him perform. And indeed, his fantasias for the violin, and accompaniments for that instrument to his madrigals, motetas, psalms, and cantatas, manifest a knowledge of the finger-board and bow, which appears in the works of no other composer, anterior to Corelli, which we have been able to find, and the lovers of the pure harmony and simple melody of that admirable master would still receive great pleasure from the performance of Baffani's fantasias for two violins and a bass: in which they would hear, not only the general musical language of the time, but the mild accents and grateful tones of Corelli's own mellifluous voice. *Bassania, in Ancient Geography, a town of Macedonia, on the frontier of Illyria, situate, according to Livy, about 5 miles from Litus, and belonging to the Cevans. *Bassano, in Geography, a town of Italy, belonging to the state of Venice, in the Trevisano, on the Brenta, 12 miles north of Vicenza. *Bassano, a town of Italy, in the state of the church, near which Dolabella defeated the Etrurians and Boils, 3 miles west of Orta. *Bassantin, James, in Biography, a Scots astronomer, in the sixteenth century, was the son of the lord of Bassantin, in the Mers, and born in the reign of King James IV. The rudiments of knowledge, and particularly of that skill in various branches of the mathematics for which he was afterwards so distinguished, he acquired in the university of Glasgow. *For further improvement he travelled through various parts of the continent, and at length settled at Paris, where he taught the mathematics with applause in the university of that city. During his abode in this city, he imbibed that zeal for the delusions of judicial astrology, which was then so prevalent, and which few astronomers had judgment or resolution sufficient to discountenance. *After having acquired great reputation and some fortune in France, he returned to his own country in 1562. At York, in his journey through England, he had an interview with Sir Robert Melvill, brother of Sir James Melvill, who, in his *Memoirs,* relates the conversation that passed between them. *It appears, that Bassantin, after certain predictions relating to his mistress, Mary queen of Scots, who was then treating with Elizabeth after having taken refuge in her dominions. Of these predictions some were true, and others were false; but such was the political sagacity of Bassantin, that we may attribute them to his skill in the occult sciences, from which however he seems to have been ambitious of being thought distinguished. Of his mode of life during the remaining period of it, we have no account; but he appears to have been a zealous protestant, and partisan of the earl of Murray. He died in 1585. To a flight acquaintance with polite literature, Bassantin added a considerable degree of mathematical and astronomical knowledge, conferring the dark period in which he lived. His principal work in astronomy was written in French, and translated into Latin by Turnerius, and published at Genoa in 1599, folio, under the title of *Astronomy.* Jacobii Bassantii Scoti opus absolutissimum, &c. &c. He also published *Paraphrase de l'Afferolab, with an amputation of the ufe of the Afferolab,* or an ample explanation of the afferolab, printed at Lyons in 1553, and at Paris in 1617, 4to; *Super Mathematica Geometrida,* or of the calculation of nativities; *Arithmetica,* *Muficae secundum Platonii,* and *De Mathefi in generere.* *Bog. Brit.*

BASSANUS, in Ornithology, a species of Pelecanus, as large as a common goose, with a wedge-shaped tail; body white; bill and primary quill-feathers black; and face black. *Gmelin. Latham, &c.*

This is the common gannet, or folder gower; a bird found in great plenty along the northern coasts of Brit ain, but rather less common to the southward. The adult birds have the plumage nearly all white; but during the first years it is of a dusky colour, and only speckled with white. The bill is blue-buff colour, about six inches in length, and has the nostrils placed in a row; the mouth is black; the throat is bare; and the skin very dilatable, forming a pouch of suffet at size to contain five or six herrings; the legs are black, marked with a stripe of pea-green before; and the claw of the middle toe is pronounced. The males and female are very much alike in plumage. The gannet is particularly abundant in the isle of Ailsa in the firth of Clyde; the rocks adjacent to St. Kild; the bays of Soundberry, near the Orkneys; the Sk of the coasts of Kerry, Ireland; and the Bass island in the firth of Edinburg. Dr. Harvey gives some account of the latter in these words, *There is a small island, called by the Scotch Boys island, not more than a mile in circumference, the surface is almost wholly covered during the months of May and June with nets, eggs, and young birds; so that it is scarcely possible to walk without treading on them; and the flocks of birds in flight are so prodigious as to darken the air like clouds; and their noise is such that you cannot without difficulty hear your next neighbour's voice. If you look down upon the sea from the top of the precipice, you will see it on every side covered with infinite numbers of birds of different kinds, swimming and hunting for their prey; if in sailing round the island you survey the hanging cliffs, you see in every crag or fissure of the broken rocks innumerable birds of various forts and sizes, more than the

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flars of heaven when viewed in a serene night; if from afar you see the distant flocks either flying to or from the island, you would imagine them to be a vast swarm of bees.

"The gannets," observes Dr. Latham, "inhabit the colder parts of this kingdom, and more especially several of the northern islands, and in particular that of Baffin in Scotland, whence the name. It generally first makes its appearance in March; and after making a circuit of the island, departs in October or November. This race seems to be in pursuit of the herrings and pitchards, whose motions it watches; and the herrings know the coming of these fish by the appearance of the birds. That this is the inducement seems probable, as they are liker fish, in the month of December, as far forth as the coast of Labrador and Gibraltar, plunge for it.

The gannet is also common on the coasts of Norway and those of Iceland, and now and then met with on the southern coast of Greenland. In America, it is found on the coasts of Newfoundland where it breeds, migrating in winter as far as Carolina: said also to have been met with frequently in the southern ocean; but we are not clear whether the fort meant by them is the common gannet, or the lesser one.

"The gannets," Mr. Pennant remarks, "are birds of passage. The first appearance in those islands being in March, and their continuance till August or September, according as the inhabitants take or leave their birds; but in general the time of breeding and that of their departure seems to coincide with the arrival of the herring, and the migration of that fish, which is their principal food, out of those seas."—I have in the month of August," he adds in another place, "observed in Caithness their northern migrations. I have seen them palling the whole day in flocks, from five to fifteen in each. In calm weather they fly high, in forms they fly lowest and near the shore; but never cross over land, even when a bay with promontories intervenes, but follow at an equal distance the course of the bay, and regularly double every cape. I have seen many of the parties make a fort of hails for the sake of fishing; then darting headlong into the sea, make the water fur and spring up with the violence of their descent: after which they pursue their route. I enquired whether they ever observed to return southward in the spring, but was answered in the negative; so that it appears, they annually encircle the whole globe.

They are well known on most of our coasts by different names. In Cornwall and in Ireland they are called gannets, and by the Welsh gen. It comes on the coasts of Cornwall in the latter end of the summer or beginning of autumn, hovering over the heads of pitchards that come up through the St. George's channel from the north sea. The gannet seldom comes near land, but is constant to its prey; and when the pitchards retire, which happens about the end of November, they are seen no more.

The nest of the gannet is composed of various materials, such as grass, and water plants intermixed with anything the bird finds floating on the water. Each bird, if undisturbed, would lay only one egg in the year; but if that be taken away, they will lay another; and if that be taken away also, they will lay a third, but no more. The young gannets, as well as the eggs, are eaten. Martin affirms us, that the inhabitants of St. Kilda confine annually no less than 22,000 young birds of this species, besides an amazing quantity of their eggs; these being their principal support throughout the year; they prefer both eggs and fowls in pyramidal stone-buildings, covering them with turf and ashes to prevent them from moisture. This is a dear-bought food, and eaten at the hazard of their lives, either by climbing the most difficult and narrow paths, where to appearance they barely cling, and that too at an amazing height above the raging sea; or else, being lowered down from above, they collect their annual provision, thus hanging midway in the air, and placing their whole dependence on the uncertain footing of one person who holds the rope by which they are suspended at the top of the precipice. The young birds are a favourite dish with the north Britons in general, during the season they are constantly brought from the Baffin land to Edinburgh, and are roasted and fed up a little before dinner as a whet: the price they are sold for in the markets are twenty-pence a piece.

The following account of the gannets in the isle of St. Kilda is given by Mr. Macan. "The rocks are summer totally covered with the folid geese and other fowls, and appear at a distance like so many mountains covered with snow. The neck of the folid geese, not to mention those of other fowls, are so close, that when one walks between them the hatching fowl's on either side can always take hold of one's clothes; and they will often fit till they are attacked, rather than expose their eggs to the danger of being deforced by the fegulls: at the same time an equal number fly about, and furnish food for their mates that are employed in hatching; and there are, besides, large flocks of barren fowls of the different tribes that frequent the rocks of St. Kilda.

"The folid geese, equal almost the same ones in size. The common amement of the herring-fishers shows the great strength of this fowl. The fishers fix a herring upon a board, which has a small weight under it to sink it a little below the surface of the sea: the folid geese observing the fish, darts upon it perpendicularly; and with so much force, that he runs his bill irrecoverably through the board, and is taken up directly by the fishers.

The folid geese repair to St. Kilda in the month of March and continue there till after the beginning of November. Before the middle of that month they, and all the other sea-fowls that are fond of this coast, retire much about the same time into some other favourite regions, so that not a single fowl belonging to their element is to be seen about St. Kilda from the beginning of winter down to the middle of February. Before the young folid geese fly off, they are larger than their mothers, and the fat on their breast is sometimes three inches deep. Into what quarter of the world these tribes of wild fowl repair, after winter sets in, whether into the northern ocean, the native country and water-quarters of herrings in general, or into some other region near the sun, or whether they be of the flying kind, who play into the mysteries of natural history, or have conversed much with writers of voyages can bell explain. I shall only pretend to say that these different nations of the feathered kind are taught to chuse the properest habitats and feeding places, and to shun their quarters feasonably by the unerring hand of God.

From the account given above of the multitude of sea-fowls that seek their food on this coast, we may justly conclude that there must be inexhaustible stores of fish there. Let us for a moment confine our attention to the consumption made by a single species of fowls. The folid goole is almost infaerbly voracious; he flies with great force and velocity, torrs all the day with little intermission, and digests his food in a very short time; he disdains to eat anything worse than herring or mackerel, unless it be in a very hungry place, which he takes care to avoid or abandon. We shall take it for granted that there are a hundred thousand of that kind around the rocks of St. Kilda; and this calculation is by far too moderate, as no less than twenty thou-
found of this kind are destroyed every year, including the young ones. We shall suppose, at the same time, that the island geese feast in these seas for about seven months in the year; that each of them destroys five herrings in a day, a subsistence infinitely poor for so greedy a creature, unless it were more than half supported at the expense of other fishes. Here we have 100,000,000 of the fine fish in the world devouring annually by a single species of the St. Kilda sea-fowls, &c.

In concluding this account of the gannet, it is proper to observe that le grand fou of Bassin and Buffon, and great bay of Carterby, an inhabitant of the seas-shores of Florida, is supposed to be the young or at least a variety of pelicanus Bifinus; and that observed by navigators so common on Ascension and pelicanus piseator, a different species.

BASSAWS, or Bona Shark, in Geography, lie on the west coasts of Africa, beginning about west, or to the south of west from Sierra Leone, and running out far to sea in rounds and hollows, so that ships cannot clear them without standing off out of sight of land.

BASSE, or Basse, a town of France, in the department of the North, and chief place of a canton in the district of Lille; ceded by the Spaniards to France by the treaty of Aix-la-Chapelle, in 1660; formerly a place of considerable strength, but dismantled by Louis XIV. It is situated on the Deule, 2 leagues east of Bethune, and 3* south-west of Lille. The place contains 2171, and the canton 11,913 inhabitants; the territory includes 75 kilometres and 11 communes. N. lat. 50° 53', E. long. 3° 0'.

Basse, in Ebdology, the English name of a fish found on some of the British coasts, and named porca laboris. Linn. Syst. 482. ed. 12.

Basse-Cour, in Building, a court separated from the principal one, and destined for the stables, coach-houses, and liverieservants.

Basse-Cour of a country-seat, is the yard or place where the cattle, fowls, &c. are kept.

That where strange creatures of divers forts are kept for curiosity, is called by the French menagerie. The Romans gave the name of vivarium to that place, where beasts were kept for the public shows.

Basse-Flute is a term used in Middle Age Writers, denotes a collar for cart-horses, made of flags. Hence also the round matted cushions of flags, used for kneeling in churches, are called bafle; in Kent, a truf.

Basse de Flute trompeuse, Fr. in Mefte, a side-flute, a fifth below the usual compass of the German flute, now out of use in France; and we never remember its use in England.

Basse-Flute. When, at the beginning of the 18th century, the flute à-bec, or common flute, was in general use and favour, there were flutes of every size and pitch. F natural being the best in tune, and the e flat key on the common flute, all fongs and other favourite airs were transposed for the flute into that key, or into G natural, at the bottom of the plate, when printed. The bafe flute was an octave below this F, and the e' octave flute an octave higher. See FLUTE.

Basse Téniqua, the base of the key-note, or Tartini's third found, produced by the concurrence of two treble notes perfectly in tune, and readily sustained with two voices, violin, flutes, hautbois, or by two trios in double fops on one violin, or two keys on the organ. See Terza Suona.

BASSEEN, or Basain, in Geography, a fortified city, situated on the point of the continent on the western coast of the peninsula of India, opposite to the north end of Salsette. It lies in N. lat. 19° 15', and under the same meridian as Bombay. This place fell into the hands of the English, after a smart siege in 1780, but was restored to the Mahattas, together with all the other conquests made on that side of India, at the peace of 1783; Salsette and the small islands excepted.

BASSENO, a river of Italy, in the kingdom of Naples, which runs into the Strait, near Cozenza.

BASERSTORF, a town of Switzerland, in the canton of Zurich, 4 miles N. E. of Zurich.

BASSET, or Bassette, a game with cards, said to have been invented by a noble Venetian; for which he was banished. It was first introduced into France, by Sigismondo Juliiianini, ambassador of Venice in 1674. Severe laws were made against it by Louis XIV.; to elude which they disguised the buffet under the name of poor & contre, that is, for and against, which occasioned new arrests and prohibitions of parliament. The parties concerned in it are, a dealer or banker, his assistant, who supervises the losing cards, and the punter, or any one who plays against the banker.

Besides these, there are other terms used in this game: 1. The joffe, or faire, which is the first card turned up by the tailleur belonging to the pack; by which he gains half the value of the money laid down on every card of that fort by the punters. 2. The couth, or slant money which every punter puts on each card; each person that plays having a book of thirteen several cards before him, on which he may lay his money, more or less, at discretion. 3. The pail always, which is, when a punter having won the first flute, and having a mind to pursue his good fortune, crooks the corner of his card, and lets his prize lie, aiming at a sept et le va. 5. The moa, when having won the first flute, the punter is willing to venture more money on the same card. 5. The pay, when the punter having won the first flute, be it a pliulling, half crown, guinea, or whatever he laid down on his card, and not caring to hazard the paroli, leaves off, or goes the pay; in which case, if the card turn up wrong, he looses nothing, having won the couch before; whereas, if it turn right, he by this adventure wins double the money flaked. 6. The alpico, much the same with paroli, and used when a couch is won by turning up, or crooking the corner of the winning card. 7. Sept et le va, the first great chance or prize, when the punter having won the couch, makes a paroli, and goes on to a second chance; so if his winning card turns up again, it comes to sept et le va, which is seven times as much as he laid down on his card. 8. Quinze et le va, is the next higher prize, when the punter, having won the former, is resolved to push his fortune, and lay his money a second time on the same card, by crooking another corner; in which case, if it come up, he wins fifteen times the money he laid down. 9. Trent et le va, is the next higher prize, when the punter crooking the fourth corner of his winning card, if it turn up, wins thirty-three times the money he first flaked. 10. Soixante et le va, is the highest prize, and entitles the winner to sixty-seven times his money; which, if it were considerable, flanks a chance to break the bank; but the bank flands many chances first of breaking the punter. This cannot be won, but by the tailleur's dealing the cards over again.

The rules of the game of buffet are as follow: The banker holds a pack of fifty-two cards, and having shuffled them, he turns the whole pack at once, so as to discover the last card; after which he lays down all the cards by couples. The punter has his book of thirteen cards in his hand, from the king to the ace; out of these he takes one card or more at pleasure, upon which he lays a flake. The punter may, at his choice, either lay down his flake before the pack is turned, or immediately after it is turned, or after any number of couples are down. Supposing the punter to lay down his flake
BAS

Lake after the pack is turned, and calling 1, 2, 3, 4, 5, &c., the places of those cards which follow the card in view, either immediately after the pack is turned, or after any number of couples are drawn. Then if the card, upon which the punter has laid a lake, comes out in any odd place except the first, he wins his stake. If the card which the punter has laid a lake, comes out in any even place except the second, he losses his stake. If the card of the punter comes out in the third place, he neither wins nor loses, but takes his own stake again. If the card of the punter comes out in the second place, he does not lose his whole stake, but only one half; and this is the case in which the punter is said to be faced. When the punter chooses to come in after any number of couples are drawn, if his card happens to be but once in the pack, and is the last of all, there is an exception from the general rule; for though it comes out in an odd place, which should entitle him to win a stake equal to his own, yet he neither wins nor loses, from that circumstance, but takes back his own stake.

This game has been the subject of mathematical calculations. Mr. De Moivre solves this problem; to estimate at buffet the loss of the punter under any circumstances of cards remaining in the pack; when he lays his stake, and of any number of times that his card is repeated in the pack. From this solution he has formed a table, shewing the several losses of the punter in whatsover circumstances he may happen to be. See Doctrine of Chances, p. 63.

From this table it appears, 1. That the fewer the cards are in the pack, the greater is the loss of the punter. 2. That the least loss of the punter, under the same circumstances of cards remaining in the pack, is when his card is but twice in it; the next greatest when but three times; till greater when four times; and the greatest when but once. The gain of the banker upon all the money adventured at buffet is 15% 3d. per cent. De Moivre, Doct. of Chances, p. 69, edit. 3.

Basset, in Zoology, the name given by Buffon to that kind of dog which is called in England the turnspit, conis vortigens of Gmelin. Of this kind he makes two varieties; le basset à jambe droites, and le basset à jambes tortes; the first having straight legs, and the last crooked ones.

Bassetterre, in Geography, a general name given by the French to the low lands of the West India islands; such are the S.W. part of the two parts of Guadaloupe island, separated by a small arm of the sea, called the Salt river: and also the N.W. part of the island of Martinico.

Bassesterre Town, a sea-port town on the S.W. coast of the island of St. Christopher in the West Indies, and capital of the island, situated at the mouth of a river, opening into a bay, called Basseterre road. The town contains about 800 houses, and is defended by three batteries. N. lat. 17° 24’. W. long. 61° 37’.

Bassesterre Town is also a sea-port town on the S.W. coast of the island of Guadaloupe, regularly built, with some handiwork houses, and defended by a citadel. N. lat. 15° 59’ 30”. W. long. 61° 59’ 15’.

Basetting, in the Coal Mines, denotes the rise of the vein or coal towards the surface of the earth, till it come within two or three feet of the surface itself. This is also called by the workmen creeping, and stands opposed to dipping, which is the descent of the vein to such a depth that it is only, if ever, followed to the coal.

Bass, Angelo, in Biography. See Poliziano.

Bass, Laura, an Italian lady, distinguished by her acquirements, was the wife of Dr. Joseph Verati of Bologna. She understood the Greek, Latin, and French languages, as well as her own, and was eminent for her literatures and science. In 1732, she was honoured with the doctorial dignity, and she kept up a correspondence with many learned persons in Europe, who admired her talents and accomplishments. She commenced a course of lectures in philosophy in 1745, and continued the same till her death. Her morals were pure, and her character amiable; and she was liberal in her charity to the poor and orphans. She died at an advanced age at Bologna in 1758. N. All. Dict. B. 9.


Eff. Ch. Col. four-leaved; Cor. eight-cleft; tube inflated. Stam. 16; drupe five-feathered. (Berry five-celled, with a seed in each cell. G.)

Species, 1. B. longifolia. Thalippe Malabaridas, and Mule Ceylonensis. "Leaves ovate-lanceolate, peduncles axillary." A lofty tree, with the utmost branches recurved, thickish, and covered with a grey down: leaves on them alternate, approximating, petioled, entire, veined, naked, half a foot long, and deciduous; petioles roundish, short; peduncles axillary, from one to five, filiform, one-flowered, upright; after flowering, prolonged and pendulous; berry oblong, slightly compressed, smooth, shining, and yellow, with a white band. A native of Malabar and Ceylon. 2. B. dubia. Seed large, half-moon shaped; flattened like a lens, smooth and shining, of a dark chestnut colour, excepting an oblong, ragged, umbilical area, which is almost white. The shell is thick, lumpy, and very hard. The feeds of basia are not easily distinguished from those of sapota, without attending to the albumen, of which basia is entirely delunate; and the inner integument is also commonly wanting. 3. B. obovata. Forst. Flora. n. 200. "Leaves obovate; peduncles heaped, terminating." A native of the isle of Tana, in the South seas. Martyn’s Miller’s Dict.

Bassiano, Laura, in Biography, born at Placentia, discovering early a propensity to the knowledge of medicine, was sent to Padua, where she studied under Baptifl Moni, and, having performed the usual exercises, in 1544 he was admitted doctor in philosophy and physic. In 1545 he was made professor in those sciences, and acquired considerable reputation as a public teacher. Going to his house, in 1562, he was assassinated by an assassin, who killed him by stabbing him in several parts of his body with a bayonet. He left several publications, of which the principal are, "Intrologia five dialogi duo, in quibus de universae artis medicinae, praeque vero morborum omnium et cognoscendorum et curandorum absolutum libri, in duo volumina divisi," Belliæ 1543, 410; "De origine et causa pellis," Patav. 1555, 8vo; "De prodigiosis parturit" Haller. Bib. Med. Ely. Dict. Hii.

Bassiano’s River, in Geography, is situated on the coast of Labrador, in North America, near opposite to the north point of Newfoundland.

Bassing, a town of France, in the department of the Meurte, and chief place of a canton in the district of Dieuze, 14 league N. E. of Dieuze.

Vol. III.

5 D

Bassius,
BASSO.

BASSIIUS, Henry, in Biography, son of Gerard Bassign, or Balsa, a surgeon of eminence at Bremen, born 1690. In 1713, he went to Halle, where he studied medicine under Frederic H. F. B. (1713 to Strasbourg, and two years after to Balsa; attaching himself particularly to acquiring a knowledge of the improvements that had been lately made in anatomy and surgery. Returning thence to Halle, he was created doctor in medicine: and soon after professor in anatomy and surgery, which office he continued to hold till the time of his death, March 9th 1734. His works are: "Difputatio de filia aut felicitat curanda," 8vo. 1718; "Observations anatomiae chirurgico-medicas," Halle 1731, with figures, representing some instruments invented by the author,—a work much commended by Haller; "Tractatus de morbis venereis," Lipsiæ 1704, 8vo; a polhumous work, to which the editor has added some valuable observations. He also published, in the German language, "Commentaries on Nuck's Art of Surgery," 8vo. 1728. Haller, Bib. Anat. et Chir. Eloy. Diet. Hist.

BASSO Continuo in Music, originally meant the accompaniment to the higher parts of a sonata, concerto, or chorus, in whatever clave it was written, which served as a base, when the real base was silent; as in fugues, and other movements; to let the accompanist on the organ or harpsichord know what was doing by the other instruments, while his part was at rest. This may full be seen in the organ part (organum) to Corelli's Sonatas, Op. 11, which were composed in the seventeenth century, after which the custom was discontinued, there being no influence of it in his other works. Though in the sonatas of Bassign, his master, and in those of Corelli, it is constant. Handel, in his hautbois concertos, and in his twelve grand concertos, calls the ripieno base, basso continuo.

It was to this kind of choral base for the organ or harpsichord, in ecclesiastical music, that the harmony of the whole piece, without a treble part, was first expressed by figures over the base notes. Basso continuo, by an awkward translation, is, in English, synonymous with thorough-bass, which fee.

It was in the beginning of the seventeenth century that Ludovico Viadana (not Viana, as erroneously written by Rouneau, and copied from him in both editions of the Encyclopedia) one of the most distinguished ecclesiastical composers of that time, invented the indication of chords by figures, in what the Italians call the basso continuo, and the English thorough-bass, or accompaniment on keyed instruments, harps, harpsichord, and in recitatives, even vocalcellos; but we have found several instances of the minute beginnings of this expedient before the time of Viadana; though he was doubtless the first who drew up general rules for expressing harmony by figures over the base in 1615. Dravudius, in an ampler list of his ecclesiastical compositions, which were very numerous, tells us of one that authenticates his claim to this invention, which was a collection of all his choral pieces of one, two, three, and four parts; "with a continued and general base, adapted to the organ according to a new invention, and useful for every finger as well as organist; to which are added short rules and explanations for accompanying a general base, according to the new method." Viadana was therefore the first who composed an organ-base different from the voice part, in the execution of which the new-invented figures enabled the performer to give the fingers the whole harmony of the several parts of a full composition, without seeing the score.

In 1731, Mattheyon, in his "Grundlage der gesetzlichen organischen Schule," a treatise on thorough-bass, has given a list of twenty-two writers on accompaniment from the time of its invention in 1606. The invention has been indisputably ascribed to Viadana in Draudius's Catal. ii. (Draudius Bibliotheca Classica, 2 vols. 4to. Frankforti 1625), where there is a list of all his works, and among the rest, "Dr. Ludovico Viadana Itali opera omnia faciemur concertationum, 1, 2, 3, 4. voc. cum basso continuo & generali, organo applicato novaque inventione pro omni genere et forte cantorum et organorum accommodata. Adjuncta infusor in basso generali hujus novae inventionis instructio et succincta explicatione, Latine, Ital. et German. op. Steunum 4. 104."

In the list which Mattheyon has given of twenty-two authors on accompaniment before 1731, it is observable that only one treat is in English; and that written by Kelller a German, who lived in Queen Anne's time, and dedicated to her majesty six sonatas for two flutes and a basset horn.

In Rameau's system, and still left in that of the abbe Feyton, as the fundamental base can have no melody, but what arises from its own harmony or single common chord, la balle continue may be regarded as a kind of low treble under the violins and tenor, or as a variation of the fundamental base.

BASSO Stretto, Ital. a base confined to a few bars or notes, repeated to different and varied treble parts. The English call this kind of monotonous movement a ground. During the seventeenth century, the Italians and their imitators were very fond of writing upon a ground-bass; Stradella and Purcell frequently manifested their ingenuity under such restrictions; nor had the fashion quite finished in Handel's time, as may be seen in the last chorus of his Dettingen Te Deum, and elsewhere in his numerous and admirable works.

BASSO Cantus, Ital. Basso. Fr. the vocal base-part, or the vocal base in an oratorio, opera, or concert.

BASSO RELIEVO, Italian, Bas-relief. French, in Sculpture, is the representation of figures on a back ground, in such a manner that no part of them is detached from it; alto-relief, high relief, has the greater parts attached to the back ground, whilst the smaller parts are free from it; some diffusing a third kind, or mezzo relievo, middle relief, between both; although it must be acknowledged that all three kinds are implied, in a general mode of speaking, by the common term of basso-relievo, or bas-relief, because almost all figures in relievo, even alto-relievo, are more compressed or flattened than their insulated archetypes in nature. This, like many other terms in the art of design, is of modern date, and was most likely invented, or at least compounded and applied, in the eleventh or twelfth centuries, when sculpture and architecture began to revive in Italy, and these kinds of works became a very considerable decoration to the new cathedrals. The Greeks, to whom we must look for the first definitions in this art, as well as the most excellent works, called this species simply anaglypta, carved (Pliny, lib. 33. c. 11.) that which we call alto-relievo was disfigured by them from the low-relievo, by the word, tortucienes, rounded. Pliny, l. 34. c. 8.

Basso-relievo, although a considerable province of sculpture, is in a particular manner allied to architecture and under its dominion; as any considerable work of this kind must be made for the pediment, frieze, or pannel of a building, or architectural form, such as a facadophagus or pedestal: and therefore the general shape of the ground, the distribution and projection of the figures, must be subervient to the surrounding and containing parts, in order that they may produce a beautiful whole.

It is well remarked by the authors of the French Encyclopedie, that "the origin of basse-relievo is confounded with that of the hieroglyphic; that is to say, it owes its birth
birth to figured writing. Under this point of view, it is common to all people, and is found among the most savage. It was invented by necessity, appropriated by religion. The progres alone of the arts of imitation could perfect their primitive signs and give them life. This honour was reserved for the Greeks. In Greece the arts were in some furt the miniatures of religion; in Egypt and Assy they were the figures. A religious respect for their primitive characters, which worship had sanctified, feared perhaps to change the ideas in changing the forms to which they were attached: all contributed, among the Egyptians, to retain the arts in a kind of infancy, from which religion prevented them from emerging.

All the larger hieroglyphics engraved in the surface of Egyptian architecture, or on the figures of men and inferior animals, may be considered as baffle-reliefs; and of the most simple, it may be consequent of the most ancient kind; because the figure was sunk in such a manner, that the surface of the ground was left, forming an outline or outline whose greatest depth was equal to the greatest projection of the figure, which was productive of these advantages. As many of the hieroglyphics were cut in granite, a very brittle marble, it prevented the danger of spoiling the outline in sinking the back-ground, one third of the labour was saved, and a strong shadow all round the figure, particularly when the sun shone on it, defined its form to the first. All the temples and palaces enumerated by Rippaud, and described by Denon in the late expedition of the French into Egypt, showed that the greater part of those edifices, as well as interior works, were covered with hieroglyphics, or sacred figure-writing in the kind of bas-relief above described: the largest of these formed regular ornaments to the friezes, centres over the doors, corresponding tablets, or pannels where the symmetry of the architecture required. The principal of these figures, according to a comparison of what we find in Orus Apollo, submitted on Hieroglyphics, and other authors, with the hieroglyphics themselves, seem to be the representation of some characteristic or attribute of the divinity, and the operations of his providence in nature, accompanied by acts of adoration; the inferior figures and characters are ranged in lines like writing.

Besides the hieroglyphics, the Egyptians employed bas-relief, with the ground levelled to the I well part of the figure, to describe the political or military prowess of their heroes, and for other historical purposes. Of this kind are those in the palace of Karnac, engraved by Denon, and those described in the Bird's Well, of which there is a description in the hall of the British Museum. It is in a soft calcareous stone in very low relief: the subject, men laying oxen. The human figures are in violent action, which they seem to have attempted in historical more than in sacred subjects. Nor is it surprising that such actions are extravagant, and not well rendered; when we see by the works themselves, that the stock of knowledge which the sculptors possessed, was insufficient to account for the parts of the body by a fine proportion, beautiful outline, and the anatomical changes of appearance in the different circumstances of motion. But the prodigious quantity of this kind of labour still remaining must have occupied the diligence of so many hands for a series of ages, that they could have had little leisure to make advances, either in the sentiment or scientific perfection of the figures. This may account, in part at least, for the execution of the quadruped being better than that of the human figure, which is so much more difficult.

It is necessary to give a general account of the character and style of design in the Egyptian figures, because what is said on this subject will be in a great measure applicable to the early progress of the arts among the Hindoos, Persians, and Greeks, allowing for some peculiarities in each nation. The arts of design are chiefly imitative in the early attempts; and we find in the Egyptian figures, compounded of different animals, that each part is a copy of nature. In the human figure, the body and limbs were represented in general forms. The face, as being the most interesting part of the person, was more minutly expressed. The hair was composed of the pointed egg, lines of the eye-brows and lips, simple curves inclining upwards from the nose, the bottom of the nose, and the line of the mouth inclined upwards in the same direction with the eyes. The eyes were full, nearly on a level with the forehead and cheeks, and the lines of the eye-brows, lids, and borders of the lips, marked with precision. The cheek appeared small and bony, the neck round the shoulders high and broad, except the marking of the breast. Little distinction of the muscular forms in many parts of the body and limbs, the loins narrow, the limbs round, rather straight and slender, their joints slightly indicated, the hands and feet rather flat, the fingers and toes rounded, without the appearance of joints, and nearly of the same length. According to a figure Denon found, measured by 22 figures in length, the half of the figure each way was from the division of the thighs, the head was rather less than a seventh part of the figure's height. See Denon's Voyage, plate 124, fig. 1.

The quadrupeds on Egyptian monuments, are represented in profile, and in the simplest attitudes. The parts of which those are composed, are fewer and more general than those in the human figure. This is one reason why the Egyptians excelled in their animals; the mechanical manner in which the shoulder is drawn of the lion and sphinx (where they have displayed more anatomy than in any other part) presents a simple, but just, account of the structure of that member of the body: these evolutions apply to the rate of sculpture before the time of Alexander the Great: after which period, it partook of the improvements introduced by its Greek conquerors.

Baffle-reliefs are found in India, which decorate the excavations of Ellora and Elephants in an astonishing perfection. The subject is faceted, suitable to the temples in which they are carved; the drawing of the figures and their parts bears a strong resemblance to the Egyptian style; but inferior in this, that many of the figures have very large heads, the limbs and bodies disproportions. It seems likely that the Egyptian hieroglyphics are more ancient, because more simple than the Hindoo baffle-relief; the former having the ground left even with the highest relief, the latter having the ground cut level with the lowest outline of the figure. For the most extant, accurate, and valuable publications of these subjects we are indebted to the abilities and unceasing labour of our countryman Thomas Daniel, Esq. R. A. The Persians employed baffle-relief like the other ancient nations as a figured writing, at once to record and represent the symbols of Almighty power and operation, their religious ceremonies, and the prowess of their heroes. The bas-reliefs on the palace of Persepolis and the royal tombs are arranged in lines, horizontal and perpendicular, to answer the double purpose of description and architectural decoration: the style of drawing resembles that of the figures in the later hieroglyphics, although the dreffes are extremely different. The Egyptians are particularly distinguished by the headdress, the mitre, the full hair artificially curled, the close tunic, the apron of papyrus; the Hindoos by the necklace, bracelets, and anklets; the Persians have long beards and hair ending in small curls, caps, full tunics with regular folds and large sleeves; the Medes in the same ruins of Persepolis have close tunics. The drapery in these bas-reliefs is rather...
more like nature than that in the Egyptian hieroglyphics and other bas-reliefs, but this may be the consequence of what the artists had more frequently to imitate. Indeed of a proof that the Minoans were more advanced in Peru than in Egypt, which seems still less probable when we consider, the different portions of the human figure, the variety and extent of the historical compositions in the palace of Karnak, the Theban tombs, &c. and the exquisitely neat and perfect execution of the hieroglyphics on the obelisk of Sebennix, lately erected on Monte Citario by Pius the Vth. far exceeding the workmanship of any figure at Persepolis. See Donen's Egypt. Le Brun's Travels, vol. 2.

The earliest Greek sculpture is still more like the Egyptian in the principles of design, rather than that of any other nation. The face of the human figure has the same oval, the features defined by the same simple curves, the eye kept full as the caifull to execute, being more distinguished by the lines of which it is formed, than by its appearance in profile; and nearly the same general parts represented the body and limbs. That there should be this similarity in different nations in the imitative arts, is strictly agreeable to reason; because conformably to their limited progress in science, they will represent in a simple and grofs manner those objects, the detail of which their minds have neither comprehended nor understood, and which in that stage of progress the hand would be as little likely to perform with the requisite accuracy. It is equally reafonsable to expeach imitations should reemblé each other; being made from examples of general likeness, and done without the influence of manner, which is the consequence of imitating art instead of nature.

It is most likely that some imitations in sculpture of the human figure were made in Greece, previous to the introduction of letters by Cadmus, because modern travellers have found such imitations among many barbarous people unacquainted with letter-writing, and because the Greeks appear to have used figure-writing before they were acquainted with letters: see Wolff's Prolongemena to Homer, page 81; who believes that figure writing only was known in the time of Homer. But it is equally certain that small bronze figures exist with inscriptions of Cadmean letters on them, which are very poor and barbarous imitations of the human form; so that we may fairly infer, that the sculpture previous to this period could not have been very superior to the productions of Mexico, Othoehie, or the Sandwich Islands. In the popular story of the Maid of Corinth, related by Pliny, lib. 35. cap. 12. he says, Dibutades the Sicilian potter, her father, first invented a method of taking likenesses, the procefs of which is described as follows: "His daughter being in love with a young man who was going to a foreign country, the circumfered the shadow of his face with lines upon the wall by lamplght; her father took the impression in clay and baked it in the fire with his vaves." It seems, therefore, that as this was the first invention of portraits in clay, and as this portrait was only the relief impressed from a line scratched on the wall, that it must have been the very first image of baflo-relief. Pliny proceeding fays, that Dibutades made another addition to baflo-relief, by ornamenting the lowest row of rounded tiles, used to terminate roofs, with male faces. These may be considered as two inventions, which distinguished the Sicilian school. Pliny does not say at what time Dibutadés lived, but he mentions him before Demaratus the father of Tarquinius Priscus, who must have been 600 years before Christ.

Independently of what may be deduced from these quotations, concerning the progress of baflo-relief in Greece, examples in this branch of sculpture exist in marble and bronze, which, with the aid of coinz and gems, if properly arranged, would form a complete chronological series from the introduction of letters in Greece. As the most ancient subjects to be chiefly depicted are those which bear inscriptions, this arrangement would necessarily follow: the inscriptions of Cadmean letters first, the Bouleuthedon manner of writing next, and the more modern as circumstances point out their propriety. This method would be found perfectly agreeable to the progress of science discernible in the works themselves, as well as the perfection of execution; and thus the antiquarian, or the artist having incurred an accumulation of testimony, would be in little danger of mistake. A passage in Paulinus, the first Epict, or 6th book, shews the propriety of this method: he says, the cedar chief in which Cyphalus was preferred by his mother (about 690 years before Christ), was denoted by his politerity in Olympus. This chief is described as being covered with baflo-relief of allegorical and heroical subjects, explained by Bouleuthedon writing, which the author describes as very old and difficult to read.

The earliest Greek sculpture which has come down to us is equal in the proportion of the figure to the Egyptian, and superior in the drawing of the body and limbs. Vitruvius informs us, that as the height of the human figure was six times the length of the foot, that was made the rule for the Doric column. (Book iv.) Thus we see the Greeks had been in the habit of measuring the human figure by its own parts, previous to the establishment of architectural proportions; and we find very tolerable general forms of the muscles and bones most commonly seen in the living body, which those early Greeks copied by close attention to the naked figures they constantly saw before them, without the aid of anatomical fylens: for Pliny (lib. xxix. c. 1.) says, the art of medicine remained in the darkest night from the siege of Troy to the time of Hippocrates. A few examples from the many existing will shew the progress of sculpture in baflo-relief, from the introduction of letters in Greece to the time of Phidias: these shall be set down according to their apparent antiquity, and followed by general observations.

In Winkelman's "Monumenti inediti," plate 3. 1s a print from a fcarabæus of Jupiter in his car, holding the thunder with one hand, and trident with the other. This has the appearance of great antiquity in design and character, and perhaps is the oldest work cited in this article. The next is a patera of bronze in the British Museum, on which is vividly carved Minerva, subduing Hercules, or wisdom prevailing over strength. The next is an engraving of live of the seven chiefs who besieged Thebes. The left is Hercules bearing away the tripod from Apollo, which, by the improved vyle of drawing, seems to approach the time of Phidias. The first observation that occurs in this part of the subject is, that antiquarians have fallen into a considerable mistake in pronouncing many early works to be Etruscan, which later discoveries have almost certified to be Greek. The Etruscan subjéts cut on gems, the backs of which were formed into scarabæi like the Egyptian seals, have been positively called Etruscan by Winkelman; notwithstanding that the style of the figures is early Greek, the subjécts are Greek, and the letters upon them are Greek; besides which, Mr. Hawkins, a late accurate and highly qualified traveller, has brought a Cornelian fcarabæus found in that country to England, which has a Mercury engraved on it in that early style called Etruscan. How many more of these might travellers, if they sought for them, find in that country? And is it not likely that the Roman lords of the world would bring into their own country as many curious Greek gems as statues, when a dozen of the former may be conveyed in the palm
palm of a man's hand, whereas vest operations are necessary to transport only one mable or bronze statue? These arguments are sufficient to account for the gems of this description which have been found in Italy; besides some which may have been wrought in that country by Greek colonists, or the scholars of Greeks. A crowd of evidences might be produced, which would show the Greeks, that the vase, falsely called Etruscan, have been found in great abundance in Greece. Mr. Stuart and Mr. Parris brought fragments of them from Athens, which are lodged in the British Museum; Mr. Greenes brought several entire and beautiful painted vases from Greece, some of which were afterwards in the possession of Sir William Hamilton; and to these might be added many other testimonies and collections on this part of the subject.

One error more should be related before we proceed: Winkelmann (vol. i. pp. 5, 6, c. 4.), in his history of the art, affirms, that the Etrusans gave their Fauns horsetails; whereas the Greeks represented Fauns and Satyrs with short tails like goats. The head-piece, (p. 23, chap. 7, vol. i.) of "Stuart's Athens," is a sufficient answer: it is a bas-relief of a Bacchanalian dance, in which two Satyrs have horsetails. It was found in the ruins of the theatre of Baccus, is of the style commonly called Etruscan; but in fact, according to the time when this theatre was built (nearly 500 years before Christ), it is of the style of sculpture which prevailed in Greece immediately prior to the time of Phidias.

The general remarks on these works, during the period of about 500 years from the time of Cæmus to the time of Phidias, shall be confined to the three following: the manner of representing the gods; the manner of drawing the human figure and its actions; and, lastly, some observations on the draperies and utensils.

From the two proofs adduced that Grecian sculpture has been called Etruscan from the want of sufficient knowledge of the subject, and to which other proofs equally certain might be added (for instance that all the early Greek coins are of the same style with that called Etruscan), it will seem to be a safe conclusion, that all ancient sculpture representing Greek subjects, should be considered as the work of Greeks, their colonists, or scholars, excepting in such cases as there is sufficient reason to believe the contrary.—Conformably to this regulation, the following observations may be offered on Greek sculpture preceding the time of Phidias. As the ancients represented their divinities in human forms, in the early times those forms were gross and imperfect, their aim being only to copy human nature; thus, in the gem above cited, of Jupiter with the thunder and trident, in Winkelmann's "Monumenti inediti," pl. 3, his body and limbs are formed of few parts, gross and elegant, his face is beardless, and his hair is thick and matted. Nearly the same may be said of the Hercules on the bronze patera in the British Museum above mentioned; a figure of Neptune on the oldest coins of Paestum; and the other monuments of the same ages, which represent Jupiter, Neptune, Mercury, and Hercules, by such figures as they employed to represent common men, equally devoid of beauty and character. The face of Minerva is not more delicate than that of Hercules, nor do his hands appear more robust than those of Apollo. The gem in only known by their round heads; Jupiter by his thunder, Neptune by his trident, Mercury by his caduceus, Minerva by her helmet andegis, &c. The gem of Jupiter with the thunder and trident above mentioned, which has also a four-footed animal under his car, perhaps a horse, agrees with Orpheus's hymn to that god, in which earth and sea are said to be his; in this respect agreeable to the most ancient religion, and an argument of the high antiquity of the workmanship.

Concerning the manner of drawing the figure, it has been judiciously observed by the authors of the French Encyclopaedia, that the Greeks began where the Egyptians left off, and some of the best works of the Egyptians, the vase (the bod) of the Egyptian figures, are nearly the dimenisions of the beginnings of Grecian art. However, improvements were soon made; they began to distinguish between muscles and bone, and the surface of the body; and limbs were carefully marked with their greater sinewations; the abundant muscles and gullet marked the neck, the collar bones were marked by nearly straight ridges, the edges of the ribs by an high arch, the abdomen by a double row of three nearly-square muscles on each side of the linea alba, and the division of the trunk from the limbs is strongly indicated by the edge of the pelvis; the forehead is rounded, the biceps of the arm defined, the elbow expressed; a gentle indentation down the back of the lower arm showed the situation of the ulna, the arm tapered downwards with a graceful swell for the muscles, and blankets for the part composed of bones and tendons; the inbides of the thighs were flattened in the progress of the factorius muscles, the lower tubercle of the thigh bone was drawn immediately above the knee, which was expressed by the form of the patella; the inbide of the shin was strongly expressed, as were the calves of the legs; the ankles were near and small, rounded at the bottom; the feet and hands partake more of the forms of nature than the Egyptian, and the fingers and toes were made more neat, distinct and various in the outline; on the back, the blade-bones were marked as being little disfigured by flesh, and the glutea as small and firm. Upon the whole, there are men in an early state of society, whole hard and constant exercise in leaping, running, feats of dexterity in war and hunting, has made the covering of their bones tenuious and elastic, tapered their limbs, and these quick and strong digestion has kept the loins narrow and the abdomen flat, whilst a free and powerful respiration expanded and raised the chest. The first essay of sculpture in the round figure, required that the arms should be attached to the body, and the legs joined together, for support, and to prevent the insipid artist from breaking his work: but this restraint did not extend to bas-relief, in the same early compositions of this kind, in which you see such simple positions as approach to formality. There are also figures in violent actions; as dancing fauns, groups contending, and such exertions as shew the figures with sprawling, angular, and extravagant appearances; for hitherto the indications of grace were as small as those of beauty.

The draperies in the early bas-reliefs are thin, shoewing the forms of the body and limbs; the folds regular, small, and distinct, confiding chiefly of perpendiculars and zigzags. Some of the head-dresses consist of small curls, very like the fashions of barbarous nations described and drawn by modern travelers; and in the bronze patera in the British Museum above mentioned, the club of Hercules is ornamented with spiral flutes, like one brought by Captain Cook from the Sandwich islands.

The bas-relief of Hercules bearing the tripod from Apollo, mentioned above, forms a nearer time of Phidias than any of the other above examples; not only from the superior elegance of the design, but likewise from its being in style very similar to the Bacchusian dance found in the theatre of Baccus at Athens. This subject of Hercules bearing the tripod from Apollo, is described by Pausanias in...
in the temple of Apollo at Delphi. It has been frequently repeated by the ancients in bas-reliefs and gems. A bas-relief of this subject, brought from Greece, was preferred in the Museum Nani at Venice; besides two others in the Alban collection. Thus we ascertain this to be a Cretan work, although in a style which has been supposed Etruscan; and by the likeness of its manner to the Bacchanalian dance above mentioned, its age may be nearly ascertained.

Our subject now presents the most important and perfect period in the art of sculpture, beginning with the great works executed by Phidias and under his direction. During the administration of Pericles, Greece enjoyed physical advantages, as well as moral and political institutions, peculiarly adapted to give the arts of design that perfection which could not be looked for in other countries. The climate was temperate, warm, and genial, which, to penetrating and elevated genius, added beauteous perfections in its inhabitants; their games and exercises gave vigour and perfection to their forms; which initiated and familiarized the spectator with all the appearance of beauty in the human figure, in the different states of exertion or repose, whether naked or clothed. The practice of the arts of design was the peculiar privilege of those who possed the greatest natural advantages, and were the belit instructed; and in the person of the artist, as well as the subject represented, were frequently united the philosopher, the lawyer, and the heroic defender of his country. Such were the studies for the artists, and such were the men who practiced the art. The fiores of theological and metaphysical knowledge had been laid in from Egypt and the East; science had accumulated; and commerce cultivation, and patriotism, supplied the means of raising those monuments which were to be the admiration and study of all future ages.

There were the times and circumstances in which Phidias was employed by Pericles to adorn Athens with architecture and sculpture, with the assistance of the architects Callistrates and Ictinus, who worked under his direction. Under these illustrious men, the Propylæum, the Temple of Minerva or the Parthenon, in the citadel, and the Temple of Theseus in Athens, were erected. The decorations of sculpture in these buildings are the most perfect specimens of art; which we must apply ourselves to, with the utmost diligence to understand, if we would entertain hopes of producing any thing excellent in the same kind. The baso-reliefs which fill the friezes which go round the pronaoe, cell, and portico, of the Parthenon, represent the panathenæum procession in honour of Minerva; which consists of a numerous company on horseback, victors in chariots, men leading oxen to sacrifice, tray-bearers, choruses of virgins, some bearing candletsicks and some baskets, with their attendants and attendants. The sacred veil is produced and examined, the hierophantes explain the mysteries, and the gods themselves are seated, holding, directing, and approving the whole. The alto-relievo in the metopes are the contelli of the Lapiths and the Centaurs. The alto-relievo in the tympanums of the cell and cell ends, are, alas! no more; war has deprived us of them. That of the cell end was a miracle of art, from the remaining fragments (see Stuart's Athens, vol. ii.); and such it appeared to Sir G. Wheeler, who had the happiness to see it entire. However, we know by Sir George's description and drawings, that the subject of the cell end was the birth of Minerva, or rather Minerva introduced by Juno to the gods; that on the cell end, the contelli of Minerva and Neptune for the patronage of Athens. As these subjects are of the highest kind the mind can conceive, so they are the noblest the hand can execute: they are theological and moral, as they represent the gods, their operations in the government of the universe, and providence in the disposition of human affairs; the heroes are exerted in the cause of justice, and the destruction of monsters.

Mr. Fuseli, the able and learned professor of painting in the Royal Academy of London, has judiciously applied Aristotle's division of poetry to the arts of design; and he considers the great productions, as either epic, dramatic, or historic. According to these claffes, the sculpture in each tympanum was entirely epic, as the gods only were represented in them engaged in single acts; the groups in the metopes are dramatic, because they represent a series of actions; and the frieze which goes round the temple is epic, as much as the gods are predomine; and are perhaps also historic, as particular persons and events may be represented in the procession. In the temple of Theseus, the alto-relieves formerly in the pediments are gone entirely; nor do we know even what the subjects were. In the frieze round the pronaoe is the battle of Marathon, in which the appearance of Theseus casts great honours on the Periæus; Jupiter, Juno, and Minerva, Neptune, Apollo, and Diana, sit, behold, and determine the victory, the trophy of which is raised by the Athenians. The battle of the Lapiths and Centaurs is in the frieze of the porticoes: the metopes are filled with the labours of Theseus and Hercules.

The execution of these works is equal to the conception; the sentiment is elevated and fit, the composition is noble, full, and various; the gods are sublime and beautiful, their poëtions present dignity and repose; the heroes are vigorous and active, and an admirable simplicity reigns through the whole; whether you are roused by the terrific engagement of a Centaur and a Lapith, or captivated by the modesty of the virgin choruses. In the battles, the figure is shown in those elastic curves and varied movements, those uncommon but advantageous situations, which equally excite surprise and admiration; every part is intelligible; they occupy such spaces of the ground as leave sufficient blank to render the outline distinct; and their quantities are so distributed, that one part is not bare while another is crowded: the lines themselves also become an ornament. The ifories are told by one plan or ground of figures; and, like the principal characters in the tragedies of Æschylus, Euripides, and Sophocles, their effect is weakened by no underplot of inferior heroes. The drawing of the figures is of the finest style, the outlines and forms are chosen, the greater parts boldly expressed, the lesser parts delicately indicated, but not more than necessary. The heads fine, the drapery rich in folds, but perfectly natural; some of the remaining hands and feet of the most perfect beauty; and the horses may be described in the words Sir George Wheeler used to express his opinion of those he saw in the eastern tympanum of the Parthenon: "The horses are made with such great art that the sculptor seems to have outdone himself, by giving them a more than seeming life; such a vigour is expressed in their prancing and stamping, natural to generous horses." The edges of the figures have been kept square in the working, to give the colder effect to the relief; which was not high in the procession round the frieze under the portico of the Parthenon, in order that the sculpture might not overpower the architectural member. The sculpture in the two pediments of the Parthenon, the metopes in that temple and the temple of Theseus, as well as that round the frieze of the last temple under the portico, are in alto-relievo. This Phidias discovered; it is called tereatien, rounded, by Pliney (lib. 34. cap. 8.); and he says, Polyclitus "so taught tereatien, alto-relieve, rounded work,
work, as Phidias had invented it:—et toreuticae sic crudii,
ut Phidas aperuit.

Belides the basso-relievs above mentioned, several others in Athens are of the highest beauty; the figures on the Temple of the Winds; the story of Bacchus and the Tyrrhenian mariners transformed into dolphins, on the Choragic Monument of Lycurges (Stuart's Athens, vol. i.), raised in the time of Alexander the Great; and two alto relievs of the battle of the Athenians and Amazons, with another battle, subject unknown. (See the last two plates, vol. ii. of Stuart's Athens.)

Before we quit the subject of basso-reliev among the Greeks, it is proper to observe, that foliage ornaments in basso-relievo seem to have been introduced in Ionia about the same time with the Ionic capital; in the reign of Alexander the Great. (See the capital of an Ionic pillar enriched with foliage, in the ruins of the temple of Apollo Didymeus, sub-piece, p. 55. Rivet's Ionia.) These inventions are the two characteristics of the Ionian school.

Soon after this period, the most eminent Grecian sculptors and architects were almost entirely engaged in decorating the capital of their Roman conquerors. Most of their public works at home were inferior in beauty and spirit, in proportion as the intention was debased, which was chiefly that of paying verbose compliments to their masters; and the buildings raised, with a very few exceptions, were distinguished by a colonial inferiority from those of Rome, which the genius of Greece, and the spoils of the world, rendered the most magnificent of the times.

We may begin the observations on the basso-relievos executed or existing in Italy, by some notice of those cut in the rock. In the garden of the Capuchin's convent at Palazzuolo, on the lake of Albano, is a tomb; and in the tufo beneath, on the side of the rock, are carved the faces, the curlu foot, the diadem, and the sceptre. M. D'Hancleville believes this to have been the tomb of Tarquin the Elder; because he received these regalia from the Etruscan flates, and because the tomb stands on the estate which belonged to him. There are other basso-relieves cut in the tufo, representing the combats of lions and gladiators, with other apparently domestic subjects, on the sides of a tomb at Corinto, the ancient Tarquinium: and although these works may be considered as Etruscan, yet there are reasons for thinking they are of Grecian origin; for Pliny (lib. 55. c. 12.) says, "that Demaratus, the father of Tarquin the Elder, in Hetruria, who was afterwards king of Rome, flying from Corinth, was accompanied by the modellers (scultores) Eucira and Engrammus, by whom modelling was brought into Italy." There are, indeed, works known to be Etruscan, in the gallery of Florence; among which are several square cimeral urns of terra cotta: some of them bear basso-relievos of Grecian subjects, and these are much the best; the rest are of an execution and manufactures equally ordinary. A terra cotta frieze of small figures, seven different subjects, was found some years since at Velletri, and preferred in the Borgian Museum. This seemed to be of the oldf Etruscan style: but illi, as antiquarians have believed the figures to be Grecian, and the frieze itself to be copied from a Grecian original. So far this likewise must be considered as a production of the Grecian school. There is a print from one of these subjects, representing two women in a car drawn by two winged horses; the first head-piece, vol. iii. of Winkelmann's History of the Arts of Design, Fea's edition.

The taste for carved or chased plate of gold and silver was introduced at Rome, by the immense quantity which Lucius Scipio brought in triumph from the spoils of Aisa, consisting of 1,400 pounds weight of chased silver, and 100,000 pounds of gold valus, about 150 years before Christ. Pliny describes the finickyness of the Romans afterwards in works of this kind. "The value of silver varies, by the wonderful inconstancy of the human disposition, not approving long the production of any workshop: now we seek the Etrurian, now the Cidian, now the Gratin, now basso-relievo sharply cut; and now pictures expressed in lines."

Modelling in Luca, called poflicien by Pliny, was practiced under the full emperors, with extraordinary beauty, freedom, and flight of execution; and may be seen in the ornaments of the bath of purification at the temple of Isis at Pompeia, and the baths of Livia in the palace of the Caesar at Rome.

It may be proper to enumerate some of the finest detached basso-relieves in the Roman collections, previous to those existing in the ancient buildings. In the Villa Borghese is one of young women in fine drapery, holding each other by the hand, and dancing. The figures are almost round; it is distinguished by beauty and simplicity. The sleeping Endymion of the Capitol; the sentiment of which is perfect, the figure elegant, and the execution bold: the Perseus delivering Andromeda from the rock; likewise in the Capitol: the large fragment of Antinous, in the Villa A. bani: to which may be added, a most beautiful frieze on one side of the cortile of the palace Santa Croce, of Neptune and Amphitrite, sea-nymphs, tritons, and marine animals; and another beautiful frieze in the palace Della Valie, of victors laicening bulls to Mithras. Some others will be noticed under particular heads.

The alto-relievo of Augus and Telephus, mentioned with so much rapture by Winkelmann and some of his followers (see the Monumenti inediti, plate 72.), will only be noticed here to expose an hypercriticism. It is highly extolled for having three plans of objects in proportionate gradations of relief: it is self-evident that objects placed one beyond the other on a ground, must have different gradations of projection; but as this work has nothing else to recommend it particularly, either in character, sentiment, or composition, what has been said is sufficient to shew, that an indifferent work may become the object of admiration, by the magic of technical jargon, where sentiment, expression, a beautiful design, composition, harmony of parts, and all those particulars which can alone constitute excellence, are wanting.

Of the basso-relievos executed whilist the arts full retained some perfection under the Roman emperors, no specimens are remaining of those compositions of figures which adorned the pediments of buildings. A fragment of the frieze on the Temple of Minerva in Rome, near the Capitol, is still in tolerable condition; there are several prints of it in the "Admiranda Romanorum." There are likewise in the different collections, detached specimens and fragments of friezes, panels, and dies of pedestals. But the greatest number of basso-relievos in their original places, is on the triumphal arches and columns; and the greatest profusion of subjects is to be found on the sarcopliagi. We shall pass the more readily over these, because we have already noticed whatever is most excellent in this department of sculpture, in the ruins of Athens. The following triumphal arches are enriched with basso-relievo: those of Augustus, at Sibza and Rimini; that of Trajan, at Beneventum; and at Rome, those of Titus, Marcus Aurelius (the basso-relievos of which are preserved in the Capitol, although the arch is detached) that of Severus; the gold's arch; and that of Constantine. The noblest composition, perhaps, among them is the apotheosis of Faustina, from the arch of Aurelius. (See Bartoli's Triumphal Arches.) The arch of Constantine is remarkable
able for its sculpture, part of which was done in the reign of Trajan, and the rest under Constantine; some of the former as remarkable for its grandeur, beauty, and boldness, as the latter for its barbarity; shewing the miserable decay of the arts in the course of 240 years. The two battles, the figures in which are as large as life, forming friezes under the cornices of the imposts in the middle opening of the arch, are grand and animated compositions, in a noble style of sculpture (see plate 42. and the following, in the Veteres Arcus Augustarium). Two obelisks on the arch of Severus will show, that sculpture had declined considerably from the best ages. The principal baso-relieves occupy very large figures, containing figures, animals, cities, forts, and great warlike machines, on different plans, irregularly distributed, with regard to perspective; and thus, when viewed at such a distance that the detail becomes indistinct, they present the appearance of rude work irregularly rough, and disagreeable as mixed with regular and magnificent architecture: unlike the friezes in the temples of Athens, which, as they have only one plan of figures, each simply and beautifully conceived, when viewed at a distance in which the detail disappears, they present to the eye a composition of lines distinct and harmonious, forming an ornament. It is also to be observed, that the small figures in these great figures are bold boldly relieved, that they interweave with and destroy the effect of the smaller architectural members near them.

The triumphal columns demand our particular attention, not only for their magnificent design, structure, and materials, but also for the immensity of baso-relieve which covers them. But here we may observe, that imperial grandeur, by the endeavour to outstrip, falls short of real greatness; and that where too much is expected or intended, too little is the result. With respect to the very conception of the Trajan column, a doubt has been entertained, whether a tower might not have allowed of a more grand and simple design for the purpose of a stupendous structure, than a Tuscian column mounted on a Corinthian pedestal. But notwithstanding the doubts of some judicious and unprejudiced persons on this point, the column has been the wonder and delight of all beholders for 1600 years. The spiral baso-relieve, reaching from the bottom to the top of the shaft, represents Trajan's first and second expedition against the Dacians, and his victory over their king Decebalus. Viol (in his Itinerary of Rome) says, "they count upon it upwards of 2,500 figures, without reckoning horses, elephants, arms, machines of war, and an infinity of other objects," to which may be added the four eagles on the corners of the pedestal, bearing fasces of laurel, and the arms on the side of the pedestal, all of matter, and the last mentioned of the most delicate and laborious execution. But here a defect must be noted, in justification of the first observation on this noble monument, that although the figures increase somewhat, both in size and projection, as they approach the top of the column, yet it is certainly true, that any person standing on the ground cannot see the objects distinctly above one-third of the height of the shaft, beyond which all is confusion. Does it not follow, that if figures of that size were intended to be seen, they should not have been raised above one-third of the column; and if they were intended to be seen at a greater distance, their size should have been proportionally increased? That this is an optical defect cannot be denied; yet critics have taken pains to make their readers believe, that every thing relating to perspective in this column was beyond the reach of most modern comprehension for excellence; when any person acquainted only with the very first principles of perspective, must perceive no attention whatever has been given to linear perspective from the top to the bottom of the column: such injudicious praiseful praise only the absurdity and ignorance of the eulogists. Certainly the ancient sculpture contains whatever is truly excellent and admirable in the art; but let us choose the objects which are really polished of these qualities; always distinguishing between beauty and the want of it; and then we cannot bellow our praises too liberally, nor study with too much diligence those perfections we would imitate, or be thoroughly acquainted with. The Antonine column is covered with baso-relieve, representing the victories of Marcus Aurelius over the Marcomanni. The sculpture is inferior to that on the Trajan column; and figures, having more projection, deform the outline of the shaft at a near view. The Theodobian column at Constantinople, drawn by Gentil Bellini (see Monfacon), induce us to believe that sculpture did not decline so hastily in the East as in Italy.

Marble sarcophagi do not seem to have been used in Rome much before the time of Caius, whose wife Cecilia Metella was buried in one. The fronts and ends of these collins, from that time for many ages afterwards, were decorated with figures. Some of the finest compositions of the ancients are to be found upon them, most probably copied from Greek originals, by Roman manufacturers at first; or copied from the Ancients, and occupied an extent of two miles in his work, as has been supposed from the quantity of sculpture finished and unfinished found on the foot, as well as an inscription which confirms the fact. The sublimity of the subjects leads us to think, that some have derived their origin from Poictes, Polycletus, and other of the greatest masters; as it is fearedly possible such groups and such expression as we see in these bad copies, could at first have been produced by inferior artists. Among them are the stories of Prometheus, Medea, Phaeton, Orestes, Ajax, the anger of Achilles, Bacchus and Ariadne, the fall of the giants, the judgment of Paris, &c. &c. These continued to be repeated till after the time of Constantine, when subjects from the Old and New Testament succeeded, but these were so barbarous that they merit no farther notice at present; and indeed the removal of the first of empire to Constantinople had so depopulated Rome of riches and ability, that little effort could be expected in the West, and the little that was left became the successful prey to the Northern invaders, and the unavoidable distraction of time, for the following six centuries. Bas-reliefs of the eighth century, round the capitals of columns, representing Charlemagne and other figures, are in the Museum of French Monuments at Paris. There is also a bas-relief of Samson killing the lion, on a capital in the crypt of St. Peter's church, Oxford, done in the time of Alfred. Like all the works of thefe ages, they are barbarous and unmeaning. In 1605 the Pisans began to build their cathedral, the old bronze gate of which contains a series of subjects from scripture in bas-relief; but so rude and grost, that they must be considered as the very beginnings of art. There is a baso-relieve of the acts of Abraham forming capitals to a group of columns, in the well door of the cathedral of Carrara, carved between 1100 and 1200, which is rather more detailed, though the figures are gross and disproportioned, not being above five heads high. Similar speculations may be seen of this age in different countries of Europe. From the first feeble efforts to revive sculpture. In such attempts as have been just mentioned, little improvement was made till towards the year 1550, when Nicolo Pisano having diligently studied some antique baso-relieves on sarcophagi at Pisa, was employed in carving similar ornaments of sacred subjects, in several
several cathedrals building at that time in different parts of Italy. He was assisted by his son John, and among other pupils, by two who seem to have been particularly favored, Annipoli and Lapo. Besides being architect to several cathedrals in Italy, Nicolo, with the aid of his pupils, carved some baso-relievo in marble; which were works of wonderful merit in that age, and would certainly deserve considerable admiration and respect in any other time or country, for beauty, sentiment, truth, and beauty of execution. The following descriptive notice is a Story from the Life of one of our savours; on the pulpit and baptistery of Pisa; similar figures on the pulpit of the Duomo of Siena and Pistoia. But the greatest and most admirable of these works is on the front of the cathedral of Orvieto. This front is one of the most splendid, both for materials and art, that the mind can conceive, or the resources of nature furnish. It is built of Statuary marble, wrought with the nicest care, and ornamented with the most delicate labour; the builder mouldings and smaller pillars are relieved by Mosaic tiles of the most splendid colors and gold; and magnificent Mosaic paintings of sacred subjects finish the decoration immediately under the cornice. The battlements between the great and two side doors, from the height of six feet to that of twenty feet, is covered with subjects from the Bible in a great number of divisions representing all the principal facts, and concluding with the Resurrection, Judgment, and final definition of the good and wicked; the subjects are divided by rows of columns, of uncommon delicacy and fancy. There is also a relief by Nicolo, on the church of St. Martin at Lucca, of the Defeat of the Crofs, which is extremely pathetic and simple. The baso-relievo on the oldest bronze gate of the baptistery of Florence, by Andrea Ugolino of Pisa, after designs by Giotto, of the Life of St. John the Baptist, are simple and grand. Donatello, born in Florence 1483, executed bronze baso-relievo on the two pulpit of St. Lorenzo in that city; the principal subjects are the Crucifixion and Interment of our Saviour, in which the expression is admirable. Vellano of Padua, his fellow, made some fine baso-relievo of bronze in the church of St. Anthony in that city. But the work of this description which obtained the highest reputation in that age, was the second bronze gate, executed by Lorenzo Ghiberti, his father, and other assistants, for the before-mentioned baptistery of St. John in Florence. On it, ten compartments are filled with subjects from the Old Testament, beginning with the Creation and ending with the meeting of Solomon and the Queen of Siciba; the spaces between the panels are adorned with foliage, heads, and beautiful figures of prophets and fylpis; the architrave is ornamented with treloons of flowers and birds; of so perfect an execution that they seem to be cast from nature: the whole is of gilt bronze. Vafari relates that Michael Angelo said, "It desired to be the gate of Paradise." Certainly an admirable fancy, delicacy, exprefion, grace, and execution, are to be found in every part of it; but its general character is rendered trivial by the introduction of so many plans, so much landscape and architecture in perspective, with the affectation of picturesque effect in the chiaro-foreo. But this fault might be palliated by the remembrance, that perspective was a new discovery to the moderns, wonderfully admired at the time: it had turned the brains of Paolo Uccello, a painter of great merit; and it is not to be wondered at, if Lorenzo Ghiberti, who had practiced painting, should have fallen into the delusive hope of adding a new charm to sculpture, which in fact belongs to painting exclusively.—From this time little can be said in commendation of the practice of baso-relievo. Memory was substituted for imitation, fancy for nature; and the consequence was, that various species of affectation which are called manners. The schools of John of Bologna, Algardi, Remini, wear out this remark; and whoever takes the trouble to examine their productions in this department of sculpture will see, that art more than nature has been their object. Within the last century a number of circumstances have combined to develop the principles of sculpture, and a considerable emulation has been excited to attain its real perfections. A prodigious number of ancient statues, groups, busts, and baso-relievo in marble and bronze, as well as pictures, have been discovered; there have been magnificently and judiciously arranged, not only in the public museums of Italy, but in private collections of the different countries of Europe. Such admirable works have excited universal curiosity and interest, the number of books on the subject have increased by learned men and elegant critics: students have repaired in greater numbers than formerly from all parts to copy those works with great diligence; the number of competitors has produced emulation, each one endeavoring to distinguish himself above his competitors; thus they have laid up a large stock of ability for employment in their own countries, where taste for the arts of design has been gradually increasing; so that now there are sculptors in Italy, France, England, Germany, &c. who have produced baso-relievo of great merit, as well as other works of sculpture.

Williamson has said, "that Sculpture, like an elder sister, has introduced and led her younger sister, Painting, into the world. This is elegantly said, and on that account is likely to obtain currency more than for the certainty of its truth. What additional value does one art acquire over the other by being older? Both arts are noble and virtuous pursuits, the fine productions of both afford intellectual and rational delight; and there is difficulty enough in the way to excellence in both, to execute the utmost stretch of the most powerful genius who have engaged, or may engage, in the study of them. It should seem from Pinty's account, lib. 35, c. 3. and c. 12. that the beginning of painting and baso-relievo were alike; for the first advances towards it were made by Dibutades taking the inspiration of an outline. Aricles the Corinthian, and Telephanes the Syracusan, made the first efforts towards painting before colour was used, by outline alone. But take this quittance of a moment, let us go to those considerations which are of real importance to the subject, and to the subject of baso-relievo. It has already been shown, that baso-relievo, from the earliest ages, was used as representative writing; and the right and only good purposes to which writing as well as speaking can be applied is to honour God, and to recommend and distinguish whatever is virtuous in public or private, and useful among men. Thus was baso-relievo employed in the bold ages by the ancients, according to their several systems of theology, philosophy, and ethics: and thus only it should be employed; for when it is applied to other purposes, it is a deviation from the original intention, ceases to be useful, and must engage the art in the representation of persons and things below that standard at which he should constantly aim. Phidias gave a perfection to his Jupiter which all admired all men, and induced them to believe he had been favoured with a revelation of the god, by the human representation of power, majesty, beauty, and wisdom. And we shall find that whatever appears admirable, perfect, or lovely, in the representations of the ancient deities or heroes, is some mental or bodily perfection. The Christian religion presents performances and subjects no less favourable to painting and sculpture than the ancient classics: angels and archangels should be as perfect in youth and beauty as the youthful divinities of Greece. The heroes of the Old Testament bear so striking a resemblance to those of Greece, that eminent moderns have mistaken them.
then for the same persons. Nothing can be found in the fages of Greece, more august or sublime than in the patriarchs or prophets: they were equally inhabitants of warm climates, favourable to the display of the human figure; and their clothing and arms were nearly similar. Indeed it may be falsely alleged, that the b& relievo of the Laid Judgment by Nicolo Pianati, the Crucifixion and Entombing of our Lord by Donatello, and some of the panels in Ghiberti's gate, prove that the Bible presents subjed, and those almost innumerable, of greater interest, and as abundant in all the excellence of composition, as any to be found in the classical authors: such subjed are the proper decorations for churches and other public edifices of most importance to society, which should be perpetual schools of instruction. After the choice of subjed, the economy and manner of treating are next to be considered. And here several hints may be found in Aristotle's poetics, and in the conduct of the Greek tragedies, as useful for the composition of a bas-relievo as a poem; with this difference, a poem embraces a succession of times, but a bas-relievo one moment only: and where this rule has been trespassed, the same perfon has been introduced twice over. That one moment must represent an action, and so many figures should be admitted than are necessary: because the increase of number is the distraction and loss of expresion. The sentiment, the expression, and every part should be as elevated and advantageous as the nature of the subjed will admit.—Concerning the execution, the bas-relievo of the Parthenon temple of Theseus, the others in the mines of Athens, and a few more which are truly Greek, must be set up as the perfection of what has hitherto been done: the compositions are intelligible, because the figures are distinctly seen on the back-ground and not crowded one behind another; the drawing of the figures is from chosen examples, feelingly, forcibly, and faithfully copied; the pathos of the subjed is not weakened by the introduction of building in perspective, or the affectation of chiaro-fouro, which attempts to introduce the dimness of painting in bas-relievo. Agatharchus employed perspective in painting scenes, but Pheidias and Polycleus knew that the form and expression of the human figure was the object of their sculpture.

Some very fine and extraordinary antique bas-relievo enrich the collections of England:

The tomb-stone of Xanthippus, and a man curving a borse, both about the time of Pheidias, are in the collection of Charles Townley, esq.

The marquis of Lansdown has a Greek bas-relief of Chalcas, as large as life.

At Wilton House there is a fine example of the death of Meleager, and a small but curious Hercules and B&gle, a bas-relievo composed of Mosaic, in natural colours, which is supposed to be the only one of the kind.

The celebrated B&firiini, in the possession of the duke of Portland, is of dark blue glass, bearing figures in bas-relievo of white enamel or glass of admirable workmanship. (See Belfort Sepolcuri Articha, Plate 84.) Fragments of bas-relievo in similar materials have been found in the ruins of the Caesars' palace in Rome, where they had been fixed in the wall.

John Hawkins, esq. the Grecian traveller, possesses a beautiful small bronze bas-relievo of Paris, Helen, and two Gennii, which he brought with him from Greece.

Plate I. 1. Contains an Egyptian hieroglyphical pithnry. 2. An Hindoo b&-relief. 3. A Persian bas-relief. 4. Jupiter with the thunder and trident, a Greek gem of the oldst style.

Plate II. 1. Minerva fubduing Hercules, from a very ancient Greek patara of bronze in the British museum. 2. Apollo and Hercules contending for the tripod.

Plate III. The tomb-stone of Xanthippus, father of Pudicvs.

Plate IV. 1. A capital of a column in the west door of the cathedral of Carrara, representing part of the history of Abraham; a work of the twelfth century. 2. A beautiful Greek bas-relievo, near the tino of Pudicvs, of Zeltona, comforting their mother Ariope, from the Villa Albani.

BASSOMPCRiER, Francis De, Bas-relief, in Biography, was a defendant of a distinguished family in Lorraine, and born in 1579. Engaging himself in military service, he rose to the office of colonel-general of the Swiss, and in 1622, to that of marshal of France. He was also employed in a diplomatic capacity to Spain, England, and Switzerland. In these employments he was distinguished by his talents and conduct, and particularly by his sagacity, politeness, and generosity. He secured all the European languages, was an adept in gastronomy, and much addicted to play. By his bons mots, which were sharp and droll, he offended cardinal Richelieu; who caused him to be confined in the Bastile in 1651, where he continued for twelve years till the death of this minister. In this retreat he passed his time in reading and writing; and the historical works which he composed were the productions of his imprisonment. These are "Memoirs, containing the history of his life, and of the most remarkable occurrences at the court of France from 1739 to 1761," 3 vols. 12mo.; "An account of his Embassies," 2-vols. 12mo.; and "Remarks on the History of Louis XV. by Duplessis," 12mo. These works abound with curious particulars and interludes of satire. After his liberation he was reduced to his rank of colonel of the Swiss, and was fixed upon as governor to the young king Louis XVI., but excused himself if on account of his age and infirmities. Towards the close of his life he became very corpulent, and died of an apoplexy in 1746. Gen. Biog.

BASSOON, in Mefic, from bas-pan, Fr. low sound, in opposition to hautbois, to which it is the natural bafe. Like the hautbois, it is played with a reed, and is a continuation of the scale downwards. It is composed of four different pieces or tubes, which when separated are bound together like a fugotte, but the Italians call it a fugotto. It has three keys of communication to open and shut the ventages, which from the length of the instrument are out of the reach of the fingers. It has a crook, or mouth-piece, to which the reed is fixed. (See RESD.) The whole length of the instrument is eight feet; but reduced to four, by being doubled up like a trumpet, is convenient in performance and carriage. Its compass is three octaves, from double AA in the bafe to A in the second space of the treble; of which the tones and semitones are as complete as on an organ, or any other keyed instrument. Every performer is not able to produce a lower sound than double BBB in the bafe, or a higher than G in the second space in the treble.

In the latt age, Milker was the favourite performer on the bafion in England at all public places; but we have at present Mr. Holmes, a superior performer, at least in point of tone, to any that we have ever heard elsewhere. A scale for this instrument will be found in the musical plates.

The two Bazzozzi of Turin rendered these kindred instruments, the hautbois and bafion, famous in Italy, during the middle of the last century. See BAZZOLI.
BASSORA, BASSORA, or BASSA, in Geography, a famous city of Asia, in the Arabian Sea, situated on the western banks of the Shat al Arab, which is a navigable canal, formed by the junction of the Euphrates and Tigris. This canal is navigable for vessels of fifty tons to the Euphrates, and thence to the gulf of Persia, from which it is distant about 15 leagues north-west. This city was founded in the year 656 by order of Omar, the second caliph, to hinder the commerce that subsisted between the Indians and Persians, and to secure the command of the two rivers by which goods imported from India were conveyed into all parts of Asia. The first colony was composed of 800 families, but the situation was so wisely chosen that it soon became a flourishing and populous capital, and a place of trade, frequently inferior to Alexandria. The air, though excellently hot, is pure and healthy; the meadows are covered with palm-trees and cattle; and one of the adjacent valleys has been celebrated among the four paradises of gardens of Asia. Under the first caliphs, the jurisdiction of this Arabian colony extended over the southern provinces of Persia. The city has been fortified by the tombs of the companions and martyrs; and the wells of Europe still frequent the port of Bassora as a convenient station and passage for the Indian trade. Merchants of Arabia, Turkey, Armenia, Greece, Jews, and Indians reside here; the English and Dutch have their consuls, and their ships come from India laden with various kinds of merchandise. Thence from Bengal, which arrive from the month of March to June, bring white ivory, silk, muslin, ballad, fision, fan- dal, and other woody things, vauntich, rice, lead, European tin and iron. From the coast of Coromandel they bring thicker cloths, white or blue; which are sold by the Abians for their garments. From the coast of Malabar they bring cardamom seeds, pepper, &c. From Surat they receive all kinds of gold and silver fillets, turbanis, blue cloths, indigo, and silk; of which the Persians are the chief purchasers for the manufacture of their fabrics. The principal merchandise of the Dutch are spices and coffee from Java. Some Abians bring flax, and others bring pearls from Bahrein, and coral from Mocha. The neighbouring countries also furnish merchandise for exchange; of which the most valuable are the ancient copper of Persia in small cakes, drugs of various kinds, grain when it is allowed to be exported, and dried fruits. The merchandise is sold for ready money, and passes through the hands of the Greeks, Jews, and Armenians. The Banians are employed in changing the coin current at Bassora for that which is of higher value in India. The abbe Raynal values the merchandise annually brought to India at 32,000,000; of which the English furnish 17,000,000. The Dutch 85,000, and the Moors, Banians, Armenians, and Arabs furnish the remainder.

Bassora has been subject to the Turks ever since the year 1668; and, like other cities, tributary to that dominion, is governed by a cadi appointed by the prince of Bassora. But it may now be regarded as belonging to an independent Arabian prince, who pays dubious homage to the Ottoman Porte. The prince allows full liberty to all nations to come and trade to his capital; and the police of the city is so well maintained, that a person may pass freely through the streets at any time of the night. The prince derives his chief revenue from the exchange of money for the horsera and camels that are sold here, and also from his plantation of palm-trees, which is said to be 96 miles in length. The horsera that are bred in its vicinity are in great repute, and are sold at a high price. The income of the prince from the several articles of money, horsera, camels, and dates, is so great, that he has a considerable surplus after discharging all the expenses of his tribute and government. The opulence of Bassora is owing partly to the extensive commerce which is carried on by the intervention of this town between Asia and Europe, partly to its being a place whence letters may be dispatched into all parts of Europe, particularly England and Holland, by way of Damascen and Aleppo, for which purpose Arabs, who are very swift-footed, are employed; and partly to the resort of Perian caravans in their pilgrimages to Mecca, where they pay considerable duties to the government, and exchange many valuable commodities. The number of inhabitants is computed to be about 52,000; the majority being Arabs: Persians are principally Turks and Armenians. The latter are the merchants, and some of them are very respectable. As to the religion of Bassora, besides Mohametans, there are Syrian Jacobites and Niflians, and monks from Europe; and afo some modern Scandalians, whom they call disciples of St. John. The town is of great extent, and surrounded by a wall of clay, said to be twelve miles in circumference. The Bazar, or marketplace, is about two miles long and well supplied. The buildings of this city are mostly constructed after the Turfih manner. The whole country about it is so low, that it is prevented from being inundated by a dyke or bank extending between three and four miles along the coast, and built of large square stones so well cemented together that the sea cannot effect it, though the sea runs strongly against it at the extremity of the Persian gulf. Bassora is 210 miles S.W. of Ispanig, and 100 S.E. of Aleppo. N. lat. 34° 24'. E. long. 42° 39'.

BASSOS, or BASSOS, Cape, lies in the Indian sea, on the eais coast of Asia in Africa, in N. lat. 45° 12'. E. long. 47° 37'.

Bassos de Banyas, shohals in the Indian ocean, lying off the eais coast of Zonguebar in Africa, in S. lat. 5° E. long. 48° 5'.

Bassos de Chaga, or shohals of Chaga, are situated in the Indian ocean, in S. lat. 6° 43'. E. long. 68° 20'.

Bassos de India, shohals of India, are situated N. E. cally from the cape of Good Hope, and are called in some charts Jews Rocks, between Madagascar island on the east and the coast of Africa on the west, about Sofala. S. lat. 23° 30'. E. long. 40° 41'.

BASSUES, a town of France, in the department of the Oers, and chief place of a canton in the district of Mirande, 5 leagues W.S.W. of Auch.


Species. B. jaceata. Abl. Guin. 217. 105. Stems herbaceous, three or four feet high, branched; leaves alternate, ovate, acute, smooth, entire, on a petiole about an inch long; the largest 10 inches long and 4½ broad; flowers in axillar corymb, green, and very full. A native of Guiana. In wet woods, flowering and fruiting in June. Martin's Miller's Dist.

BASSUEL, in Geography, a town of France, in the department of the Morin, and chief place of a canton in the district of Vitry la France, 6 miles N.N.E. of Vitry.
BASSUEL, Peter, in Biography, born in Paris in 1706, was early initiated in the knowledge of surgery, by attending the hospitals and the lectures of the principal teachers there. In 1728 he was admitted to practice; and the academy of surgery being instituted the following year, he was nominated by the king one of the first members. In 1744, he was chosen demonstrator royal in therapeutics. He took part in the dispute on a question then much agitated, Whether the heart was shortened in its fyllole, or contraction, to expel the blood from the ventricles? But his opinion was formed, Haller says, from theory only. His dissertation on the subject was published in one of the medical journals of the time. He died June 4th 1757. Haller. Bib. Chr. Elw. Dict. H.8.

BASSUL, in History. See BASUL.

BASUM, in Geography, a town of Germany, in the circle of Weitbahn, in the county of Hoya, with a noble abbey; 16 miles west of Hoya.

BASSURE, Sand, begins at Amblètreuf, a little to the south of St. John's, on the coasts of France, close to the shore, and stretches out S.W. by S. and S.W. by B.

BASTA ISLAND, is situated on the coast of Norway, 5 leagues N.W. by W. from the Sizers' island, which lies 4 leagues at W. by N. from Acker found.

BASTA, Giros. Cant. in Biography, an Epirote by descent, was born at La Rocca, a village near Tarcentum; and devoting himself to the military professions, he was commander of an Epirote or Albanian regiment of horse, when the prince of Parma assumed the government of the Low Countries in 1577. Under this great general he perfected himself in the military art, and was preferred by him to the post of commissary-general of cavalry, and also employed in many important enterprises. The principal theatre on which his talents were exhibited, was the war in Transylvania and Hungary, where, in 1601, he gained a signal victory over Siegmund Battori, and took the town of Claufenburg. Having completed the ruin of Battori, he granted him peace on condition of his renouncing all rights over Transylvania. However, the severities exercised by Balta against the protestants of that country did great injury to the cause of the emperor, and the Imperialists, under the count Belgioj, were defeated. Although Balta, in 1605, could not prevent the Turks from taking Strigium or Gran, he made a judicious arrangement before Comorra, which hindered their further advances. Having made a peace, he soon after died in 1607. Balta was the author or two professional works that are much esteemed; the “Maestro di campo generale” (Quarter-master general), printed at Venice, in 1665; and the “Gioven della cavalleria liggiosa” (Discipline of the Light Horse), Frankl. 1612. Gen. Dict.

BASTA, in Ancient Geography, a town of Italy, in Luporia, on the east coast, at a small distance N.E. of the Salentine promontory.

BASTA, in Geography, a town of Egypt, 42 miles N.E. of Cairo, and 51 S.E. of Manfara.

BASTA, or Bokiar, a place of trade on the coast of Africa, before which is a road with 20 to 25 fathoms of water, and tolerably good ground.

BASTA, in Natural History, a species of Spongia, found in the Indian sea, and called by Rumphius bokia maris, Bokla laut. It is somewhat rigid, blackish, with undulated divisions; itc round. Pallas. Found adhering to stones, and is about the thickness of a finger. Gmelin, &c.

BASTAHRAGH, in Antiquity, a city or company at Rome, who carried the ficial species out of the provinces to Rome or Constantinople. The directors of these were called poepitati kthagaram. The word is derived from kthaga, which properly imports the office of carriage or conveyance; from kthaga, portare, to carry. The denomination ballagarii has also been given to those who carry the images of saints at processions. Du-Cange.

BASTAL, in Geography, the name of a romantic and fertile vale of Switzerland, lying in the direct road from Bielle to Soleure, through the midst of the Jura mountains.

BASTAN, a town of Albian Turkey, in the province of Natafia, 30 miles S.W. of Amatia.

BASTARD, Thomas, in Biography, a clergyman and poet of the sixteenth century, was born at Blansfird in Dorsetshire, and educated at Winchester school; whence he was removed to New College, Oxford, and chose perpetual fellow in 1585: but indulging too much his talent for literature, he was expelled the college for a libel. He afterwards became chaplain to Thomas earl of Sutfield, lord-treasurer of England, and, by his interest, vicar of Bere-Regis, and rector of Hamer in his native county. He was a person of great natural endowments, and skilled in the learned languages, a celebrated poet, and, in his later years, an excellent preacher. Towards the close of his life, he was deranged and involved in debt; and being confined in prison at Dorchester, he died in an obscure and mean condition in 1618. He was thrice married: first, as inform us in one of his epigrams, in his youth for love; again, in materer age, for money; and a third time, in his old age, for a nurse. His poetical performances, which were admirably versed, were “Epigrams,” and a Latin poem, entitled, “Magnae Britanniae,” London 1605.


BASTARD, in Law, a natural child, or one that is not only begotten, but born, out of lawful wedlock.

The word is of Saxon etymology, and is compounded of bagan, vile or ignoble, and flæt, or flært, original.

According to the civil and canon laws, a child doth not remain bastard, if the parents afterwards marry; but it is an indispensable condition of legitimacy, according to our law, that it shall be born after lawful wedlock. In this respect our law is far inferior to the Roman; because marriage being principally defined for ascertaining some person to whom the protection, maintenance, and education of the children should belong, this end is better answered by legitimating all children born after wedlock than by legitimating all issue of the same parents, even born before wedlock, so as wedlock afterwards enforces a proof of which, Blackstone alleges the following arguments. 1. Because great uncertainty will generally attend the evidence, that the issue was really begotten by the same man; whereas, by confining it to the birth, and not to the begetting, our law has rendered it perfectly certain, what child is legitimate, and who is to take care of the child. 2. Because the Roman law, by which a child may be continued a bastard, or made legitimate, at the option of the father and mother, by a marriage “ex partibus,” opens a door to many frauds and partialities which our law prevents. 3. Because by these laws a man may remain a bastard till forty years of age, and then become legitimate by the subsequent marriage of his parents; and thus the main end of marriage, or the protection of infants, is totally frustrated. 4. Because this rule of the Roman law admits of no limitations as to the time or number of bastards so to be legitimated; but a dozen of them may, 20 years after their birth, by the subsequent marriage of their parents, be admitted to all the privileges of legitimate children. This is plainly a great discouragement to the matrimonial state; to which one principal inducement is usually not only the desire of having children, but also the desire of procuring lawful heirs. Whereas our constitution guard against this indecency, and at the same time afford sufficient allowance to the frailties of human
human nature. For if a child be begotten while the parents are single, and they will endeavour to make an early separation for the offence by marrying within a few months after, our law is so indulgent as not to bar-furit the child, if it be born, though not begotten by lawful wedlock, in lawful wedlock. But there is an incident that can happen but once, since all future children will be begotten, as well as born, within the rules of honour and of civil society. Upon reasons like these, Blackstone supposes the peers to have acted at the parliament of Merton, when they refused to make that children born before marriage should be deemed legitimate. Stat. 20 Hen. III. c. 9. See the introduction to the great charter, ed. Oxon. 1759, sub anno 1253.

Hence it appears, that all children born before marriage are bastards by our law. But if a man marries a woman grossly big with child by another, and within three days after, she is delivered, the child is no bastard. 1 Dan. Abrig'd. 729. If a child is born within a day after marriage between parties of full age, if there be no apparent impossibility that the husband should be the father of it, the child is no bastard, but supposed to be the child of the husband. 1 Roll. Abr. 358. Moreover, all children born so long after the death of the husband, that by the usual course of gestation they could not be begotten by him, are bastards. But this being a matter of some uncertainty, the law is not exact as to a few days. It appears, upon the whole, that what is commonly considered as the usual period is 40 weeks or 280 days; but if the child be born some time after, it only affords presumption, not proof of illegitimacy. This uncertainty of the period of gestation has given occasion to a proceeding at common law where a widow is suspected to feign herself with child, in order to produce a supposed issue to the estate; an attempt which the rigour of the Grecian confittutions esteemed equivalent to the most atrocious theft, and therefore punished with death. In this case, with us, the husband presumptive may have a writ "de ventre inspicendo," to examine whether she be with child or not; and if she be, to keep her under proper restraint till delivered; which is entirely conformable to the practice of the civil law: but if the widow be, upon due examination, found not pregnant, the presumptive heir shall be admitted to the inheritance, though liable to lose it again on the birth of a child within forty weeks from the death of her husband. But if a man dies, and his widow soon after marries again, and a child is born within such a time as that by the course of nature it might have been the child of either husband; in this case, he is laid to be more than ordinary legitimate; for he may, when he arrives to years of discretion, choose which of the fathers he pleases. (Co. Litt. 8.) To prevent this among other inconveniences, the civil law ordained that no widow should marry "infra annum lustum," a rule which obtained to early as the reign of Augustus, if not of Romulus: and the same constitution was probably transmitted to our early ancestors from the Romans, during their stay in this island; for we find it established under the Saxon and Danish governments. L. L. Ethelr. A. D. 1008. L. L. Canut. c. 71.

As bastards may be born before the coverture or marriage, beget, or after it is determined, so also children born during wedlock may in some circumstances be bastards. As if the husband be out of the kingdom of England, or as, the law somewhael-loosely phrases it, "extra quatuor maria," for above nine months, so that no access to his wife can be presumed, her issue during that period shall be bastards. (Co. Litt. 244.) But generally, during the coverture access of the husband shall be presumed, unless the contrary be shown; (Sulk. 123. 3 P. Wms. 276. Stra. 295;) which is such a negative as can only be proved by the king himself to be elsewhere: for the general rule is, "presumptio pro legi-

1. Tim. iv. 24. 2 Pet. 2. 1. 3. 1 Pet. i. 37. 2. 1. 5. 3. 1. 5. 4. 1. 5. 5. 1. 5. 6. 1. 5. 7. 1. 5. 8. 1. 5.
BASTARD.

Bastards might be legitimized by subsequent marriage, or by the emperor’s letters. The emperor Anastasius allowed fathers to legitimize their bastards by adoption alone; but this was abolished by Julian and Julianus, lest by this indulgence they should authorize concubinage. The pope has sometimes legitimized bastards. Nay, the holy see has on some occasions dispensed not only with illegitimates, but with the offspring of adultery, as to spiritual considerations, in allowing of their promotion to episcopacy.

Accordingly the civil law differs from ours in this point, and allows a bastard to succeed to an inheritance, if after its birth, the mother was married to the father (Nov. 89, c. 8); and also, if the father has no lawful wife or child, then, even if the concubine was never married to the father, the heir and her bastard son were admitted each to one twelfth of the inheritance (Ibid. c. 12); and a bastard was likewise capable of succeeding to the whole of the mother’s estate, although she was never married; the mother being sufficiently certain, though the father is not. But our law, in favour of marriage, is much less indulgent to bastards.

An attempt was once made to introduce the civil law here in this respect, by declaring children legitimated by a subsequent marriage; but it was rejected; and it was upon this occasion that the barons of England assembled in the parliament of Merton, A. D. 1572, made that famous answer, "Nonnumquam Anglie natura." 1 Hen. III. c. 9.

But though bastards are not looked upon as children to any civil purposes, yet the ties of nature hold as to maintenance, and many other intentions; as, particularly, that a man shall not marry his bastard son or daughter. L. Raun. 63. Comb. 536.

A bastard was, in strictness of law, incapable of holy orders; but though that were dispensed with, yet he was utterly disqualified from holding any dignity in the church. Fortesc. c. 40. 5 Rep. 58. But this doctrine seems now obsolete; and there is a very ancient decision, that a felon should have benefit of clergy, though he were a bastard. Bro. Clergy 20. In all other respects, there is no distinction between a bastard and another man: whereas the civil law, which has been exulted for its equitable decisions, made bastards in some cases incapable even of a gift from their parents, Cod. 6. 57. 5. A bastard may even be made legitimate, and capable of inheriting, by the transcendent power of an act of parliament, and not otherwise (4 Inst. 36); as was done in the case of John of Grant’s bastard children, by a statute of Richard II.

Bastard, with regard to the several modes of its trial, is distinguished into general and special bastardy. Tih the statute of Merton already recited, the question whether born before or after marriage, was examined before the ecclesiastical judge, and his judgment was certified to the king or his judges, and the king’s court either received or rejected it at pleasure. But after the solemn protest of the barons at Merton against the introduction of the civil and canon law in this respect, special bastardy has been always tried at common law; and general bastardy has alone been left to the judgment of the ecclesiastical judges, who in this case agrees with the temporal. (2 Inst. 29. Rewis’s H. A. Eng. Law. 85. 201.) General bastardy, tried by the bishop, compels two things. 1. It should not be a bastardy made legitimate by a subsequent marriage. 2. That it should be a point collateral to the original cause of action. If the ordinary certify or try bastardy without a writ from the king’s temporal courts, it is void; and the certificate must be under the seal of the ordinary. 1 Rol. Abr. 301, 352.

Special bastardy is two-fold: 1st, Where the bastard is the gift of the action, and the material part of the issue; 2dly, Where those are bastards by the common law that a e “mulieres” by the spiritual law. (Co. Litt. 134. 1 New Abr. 314. 1 Rol.)
BASTARD Scarlet is a name given to r.d dyed with whole madder, as coming nearest to the bow-dye, or new scarlet. Bastards are also an appellation given to a kind of faction or troop of banditti, who rove in Guiana about the beginning of the fourteenth century, and joining with some English parties, ravaged the country, and set fire to the city of Xantin. 

But I may suppose them to have consisted of the natural sons of the nobility of Guiana, who being excluded the right of inheriting from their fathers, put themselves at the head of robbers and plunderers, to maintain themselves.

**BASTARDY** is a defect of birth objected to one born out of wedlock.

Enfuita there remains, against the course of antiquity, that bastards among the Greeks were in equal favour with legitimate children as low as the Trojan war: others, however, have shown that there never was a time when bastardy was not in disgrace. (See Homer. II 6, v. 261. S. pl. ocel. Ajas, v. 1370. Emp. Ion. v. 589.) In the time of William the conqueror, bastardy seems not to have implied any disgrace; for that monarch does not scruple to assume the appellation of bastard. His epistle to Alan, count of Brecy, begins, " Ego Wilhelmus, cognomen bastardus." 

BASTARDS, Arms of, in Heraldry, should be crossed with a bar, fillet, or traverse, from the left to the right. Bastards were not formerly allowed to carry the arms of their father, and therefore they invented arms for themselves: and this is full borne by the natural use of a king.

BASTARDY, Right of, Droit de Bastardise, in the French Law, is a right, in virtue of which the effects of bastards dying intestate devolve to the king or the lord.

BASTARDY, Trial of, See BASTARD.

BAPTISTAE, in ancient Geography, a people who as first inhabited that part of European Sarmatia that corresponded to a part of Poland and Praufia, towards the Vistula, and who afterwards approached the more southern parts, and established themselves to the left and right of the Tyas or Danneker. The era of their war with the Goths, and of their conquest of these territories, is not precisely ascertained. M. Frerer refers it to the interval between the years 282 and 285. B.C. Tacitus says, they had houset; and hence it has been inferred that they were not Sarmatians, because they dwelt in huts. Livy considers them as Gauls, and Strabo presumes that they were a nation of Germans. They feem, however, to have inhabited the region that lay north of the Carpathian mountains, and to have gradually extended themselves towards Poland and the Borylthen. Many learned persons have represented them as a colony left by the Gauls on the other side of the Carpathian mountains, when they made their proffes, under the conduct of Brennus, from the east towards the west. M. de Peytton says, that they may be regarded as the founders of the Rumanians and Selonians.

BASTATA, in Geography, a small island on the easter coasts of the island of Sumatra. S. lat. 1°. E. long. 103° 30'.

BASTAVOE, a bay on the easter side of Yell, one of the Shetland islands.

BASTELICA, a town of the island of Corfica, 5 leagues E.N.E. of Ajaccio.

BASTERIA, in Bastia, See CALYCASTHA.

BASTERNA, in Antiquity, a kind of vehicle or chariot used by ancient Roman ladies.

Pappas thinks, that basterna was first written for *vasterna.* Rosweild says, it should be *via flerna,* which he concludes from Iphidore, who says, *Laflerna,* *via flerna.* But the word seems better derived from the Greek *φαρα,' ports, to carry.*

Salamis
Salmamus observes, that the bastlerna succeeded the 
letras, or litter; from which it differed very little, except that the 
litter was borne by the shoulders of slaves, and the bastlerna 
borne by donkeys. Cafaunfo says it was borne by 
males. F. Daniell, Mobilion, &c. affirms it was drawn by 
oxen, to go the more gently; and Gregory de Tours gives 
an instance of its being drawn by wild bulls. The mode 
they called the coves, or cage: it had soft cushions or beds, 
besides glases on each side like our chariots. The mode of 
building bastlerna passed from Italy into Gaul, and thence into other 
countries: and to this we owe our chariots, which, though 
we call them currus, yet have they no conformity to the 
ancient currus, but are in effect bastlerna improved. The 
bastlerna appears also to have been used in war, for the car-
rying of baggage.

BASTI, now Bazza, in Ancient Geography, a town of 
Spain, in Betics, north-east of Acri, and near the moun-
tains which separate Beticia from Tarraconensium.

BASTIA, in Geography, a sea port town of Albazia, in 
Turkey in Europe, over against the island of Corsi, at the 
mouth of the river Caffoni. N. lat. 39° 40'. E. long. 
20° 35'.

BASTIA, a city and sea port of Corsi, the capital of the 
island, or of the department of Golo, is situated on its north-
west side, and commanded by a lofty mountain, in the centre 
of which the sea forms a small bay, defended by a mole. It 
is divided into two parts, called "Terra Nuova" and "Terra Vecchia," in the former of which is a citadel, surrounded 
with fortifications. Its harbour, though good, is not large, 
and affords convenient anchorage for vessels of a small size, 
but is unfit for the reception of ships of war: and its com-
erce is insignificant. In 1799, Corsica revolted from 
Genoa: and in 1794, it was attacked by lord Hood, and 
captured by the British fleet and army. The number of in-
habitants in its cantons is supposed to be about 10,000. N. 
lat. 42° 35'. E. long. 6° 30'.

BASTIA Minore (Rumifius), in Natural History, a kind of 
sponge, supposed to be the Specia, or ventubra, of Gemin.

BASTIDE, in Topography, an appellation given in the 
southern departments of France, to small country-houses, 
built by individuals of easy circumstances, in the vicinity of 
the towns.

Bastide de Montfort, La, in Geography, a town of France, 
in the department of the Tar, and chief place of a canton in 
the district of Gaillar, 5 miles N. E. of Gaillar.

Bastide de Saron, La, a town of France, in the department 
of the Arro, and chief place of a canton in the district of 
Poix: 24 leagues N. W. of Tarascon. The place contains 
1764 and the canton 5712 inhabitants: the territory 
includes 13724 kilometres and 12 communes.

Bastide, La, a town of France, in the department of the 
Lot, and chief place of a canton in the district of Goudon. 
The place contains 1161 and the canton 5914 inhabitants: 
the territory includes 2124 kilometres and 11 communes.

Bastide de Jourdan, La, a town of France, in the depart-
ment of the moons of the Rhone, and chief place of a 
canton in the district of Apt, 4 leagues S. E. of Apt.

Bastide d'Armagnac, La, a town of France, in the de-
partment of the Gers, and chief place of a canton in the 
district of Nogaro, 44 leagues N. N. W. of Nogaro.

Bastide Clerc, La, a town of France, in the depart-
ment of the Lower Pyrenees, and chief place of a canton in 
the district of Basone. The place contains 2000 and 
the canton 6934 inhabitants: the territory includes 1500 kilome-
tres and 7 communes; 4 leagues W. of Orthez.

BASTILE denotes a small antique castle, fortified with 
turrets.

Such was the battle of Paris, which seems to have 
been the only castle that retained the name: it was begun to 
be built in 1360, by order of Charles V. and finished in 1583, 
under the reign of his successor. Its chief use was for the 
custody of state prisons.

Of the plan and structure of this edifice, which was for 
several ages appropriated to the edifice purposes of un-
feeling despotism, and which might be justly considered as 
the abode of human misery, and of the regulations by which 
it was governed, it is now needless to record any particular: 
for it was assailed and totally destroyed at an early period of 
the revolution in France, viz. on the 14th of July, in the 
year 1793. Those who are curious in acquainting them-
se1ves with its history, will find their curiosity gratified in 
a volume entitled "The History of the Bastile, &c." pub-
lished in 1790, 8vo. The most satisfactory information re-
ting to the prisoner in the iron mask, who was confined in 
this wretched dungeon for many years, and concerning 
whom many conjectures have been made, is communicated 
to the public in a work entitled "Memoirs of the Marechal 
8vo. The secret is said to have been extorted from the 
regent by his daughter, who delivered it to the duke de 
Richelieu. From the account given in this work it appears, 
that this unfortunate prince was the twin-brother of Louis 
XIV. born eight hours after this monarch, and who was 
the unhappy victim of superstition and cruelty. His father, 
Louis XIII., being weak enough to give credit to a pre-
cident of some impostor, that if the queen should be deli-
ered of twins, the kingdom would be involved in civil war, 
ordered the birth of this prince to be kept a profound se-
cret; and had him privately educated in the country as the 
illegitimate son of a robanian: but on the accesion of 
Louis XIV. the young man gave indications of having dis-
covered his parentage, of which his brother being informed, 
order him to be imprisoned for life, and to wear a mask, 
in order to prevent his being recognized.

BASTIMENTOS, in Geography, small islands near the 
shores of Darian, at the mouth of the bay of Nombre de 
Dios. They form a good harbour; and one of them has an 
 excellent spring. N. lat. 6° 30'. W. long. 79° 45'.

BASTINADO. See Bastonado.

BASTION, in the Modern Fortifications, a large mass of 
earth usually faced with stones, sometimes with brick, rarely 
with stone, standing out from a rampart, whereof it is a 
principal part; and answering to what in the ancient fortifi-
cation was called proxisorium, or a bulwark.

Bastions, some false, were first introduced by Zicco the 
Bohemian; others attribute the invention of them to Achmet 
Bahlou, in the year 1480, mentioning the fortification of 
Otranto as the first instance in which they were used. How-
ever, they were well known soon after the year 1500; for 
Tartalea gives a plan of Turin, which had been completely 
fortified for some time with four bastions, in his Quaesiti 
Inventioni diversae, published in 1546. The first bastions, 
such as those of Turin, and of Antwerp, which was fortified 
about the year 1540, were small, and removed at a great 
distance from each other: but they were made much larger, 
and brought nearer to each other in the citadel of Antwerp, 
crested under the direction of the duke d'Alva, about the 
year 1566.

A bastion consists of two faces and two flanks, and an 
opening towards the centre of the place called the gorge. 
The faces are the lines BC and CS (Plate 1. Fortification, 
fig. 1.) including the angle of the bastion. See Face. 
The flanks are the lines BA, SD. The union of the two 
faces makes the obtuse or falant angle, called also the an-
gle of the bastion, BCS.

The union of the two faces to the two flanks makes the 
five-angles called the shoulders, or epaules of the bastion. 

And
And the union of the two other sets of the flanks to the two curtains, the angle of the flanks of the balion.

The foundation of the balion, &c. of a work consisting of flanks and faces, is that part only in fortification, viz. that every part of a work must be seen and defended from some other part; mere angles, therefore, are not sufficient, but flanks and faces are indispensably requisite. Thus, if the balion consisted of four flanks, &c. as A. B. C. D. &c., all the points may be defended from the flanks; these being none, viz. in the face B. C, but what may be defended from the opposite flank E. F., nor any in the curtin A. B., but may be defended from the adjacent flanks B. A, and E. F. nor in any one flank B. A, but may be defended from the other E. F.

For the proportions of the faces, they are not to be less than 50 toises, nor more than 60; or differing little from 100 yards.

The flanks of balions are better as they are longer, provided they stand at the same angle under the line of defence; hence the flank must stand at right angles to the line of defence. Indeed, in the ancient fortification, the flank was made at right angles to the curtin, so as to have the angle out of the enemy's eye; but this is now provided for, by withdrawing the lower part of the flank two or three paces farther towards the capital line; which part, thus withdrawn, is better, if made concave, than rectilinear; and if double, with a ditch between, than if flanke.

The business of disposing the flanks of balions makes the principal part of the art of fortification; it is that on which the defence principally depends, and which has introduced the various forms and modes of fortifying.

If the angle of the balion be less than sixty degrees, it will be too small to give room for guns; and beside, so acute as to be easily broken down by the enemies' guns; to which may be added, that it will either render the line of defence too long, or the flanks too short: it must therefore be more than sixty degrees; but whether or not it should be a right angle, some intermediate angle between sixty and ninety, or even whether or not it should exceed a right angle, is still disputed; though those are generally preferred, which are not much less than 90°, and not exceeding 120° or 130°. Hence it follows, that a triangle can never be formed, because either one or all of the angles will be either sixty degrees, or less than sixty.

Balions are of divers kinds, solid, void, flat, cut &c.

Balions, solid, are those that are filled up entirely, and have the earth equal to the height of the rampart, without any void space towards the centre.

Balions, void, or hollow, are those surrounded with a rampart and parapet, only ranging round their flanks and faces, so as to leave a void space towards the centre; where the ground is so low, that if the rampart be taken, no re-trenchment can be made in the centre, but what will lie under the fire of the besieged.

Balions, flat, is a balion built on a right line in the middle of the curtip, when it is too long to be defended by the balion at its extremes.

Balions, cut, is that whose point is cut off, and in lieu thereof has a receding angle, or an angle inward with two points outward: this is sometimes also called balion cut with a tenaille; and is used either when, without such a contrivance, the angle would be too acute, or when water, or some other impediment, hinders the carrying on of the balion to its full extent.

Balions, composed, is when the two sides of the interior polygon are very unequal, which makes the gorges also unequal.

Balions, regular, is that which has its due proportion.

Vol. III.
The bastinado is a punishment used among the ancient Greeks, Romans, and Jews, and still obtains among the Turks. The Romans called it *flagellation*, *fistula admodo*, or *fistula exit*, which differed from the *flagellation*, as the former was done with a stick, the latter with a rod or scourge. The *flagellation* was a lighter punishment, and inflicted on freemen; the *flagellation* a severer, and referred for slaves. It was also called *typanum*, because the patient here was beaten with sticks, like a drum.

The penalty is much in use in the East to this day. The method thereto practised is thus: the criminal being laid on his belly, his feet are raised, and tied to a stake, held fast by officers for the purpose; in which posture he is beaten by a cudgel on the soles of his feet, back, chin, &c. to the number of one or more hundred blows. Calmet. Dict. Bib. tom. i. p. 263.

For the method of inflicting this punishment at Algiers, see ALGIERS. Dr. Shaw (Trav. p. 252.) suggests that it was in this manner, that St. Paul was "three beaten with rods." 2 Cor. xi. 25. The Chouiers, whose office it is to inflict this punishment at Algiers, appear to be no other than so many Roman lietors armed with their fasces. The frightful ad ad the Chinsce punishments is the *batihilation*, which is only used for chastising those who have been guilty of very trivial faults. The criminality of the offender determines the number of blows which he must receive; but the lowest number is twenty. The punishment in this case is considered merely as a simple paternal correction, without any infamy attached to it; and it is ordered by the captain to be inflicted on his cottiers, who are afterwards received into favour and treated with respect. The *bat*, or "pau-tée," used for this punishment, is a piece of bamboo, a little flatted, broad at the bottom, and polished at the upper extremity for the convenience of being more easily handled. Every mandarin may use it at pleasure in certain cases, either when any one forgets to salute him, or when he admitters public justice. On such occasions he fits gravely behind a table, upon which is placed a bag filled with small sticks, while a number of petty officers stand around him, each furnished with some of these "pau-tées," and waiting only for his signal to make use of them. The mandarin takes from the bag one of the little sticks which it contains, and throws it into the hall of audience. The culprit is then seized, and stretched out with his belly towards the ground; his breeches are pulled down to his heels, and an athletic domicel applies five smart blows of his "pau-tée," another succeeds, and belows five more, if the mandarin draws another small baton from the bag, and thus, by gradation, until the judge is pleased to make no more signals. The criminal, who has undergone this chastisement, will then throw himself upon his knees before the judge, incline his body three times to the earth, and thank him for the care which he takes of his education.

Croft's China, vol. ii. p. 52. &c.

BASTONIER, or Batonier, in the French Law, an ancient advocate, erected yearly according to seniority, to be the head or master of the community of advocates and attorneys. He is president of the board held for maintenance of the order, and discipline of the fallos. To him also belongs the commision of the inferior judges, when put under interdict, so long as the interdict lasts.

Bastonier is also used for him who keeps the staff of a community, and carries or follows it in processions.

BASTOVA, in Geography, a town of European Turkey, in Albania, 18 miles south of Durazzo.

BASTWICK, John, in Biography, M. D. born at

Writtle in Essex, in 1593, after passing through the usual school education, was sent to Emmanuel college in Cambridge, where, however, he did not continue a sufficient time to take his degree; but with the view of qualifying himself for the practice of physic, he quitted England to visit the principal universities on the continent, where, at that time, the different branches of medicine were better taught than in his own country. At Padua he was admitted to the degree of doctor in medicine; but engaging early in theological disputes, and thence exciting the resentment of the clergy, he soon found himself involved in troubles, from which, at a late period, he speedily escaped with his life. In 1624, and before he returned to England, he published at Leyden, " Elnechus Religionis Papillicis, in quo probatur, neque Apostolicam, neque Catholicam, in quo Romanam silet," 1624; and soon after his return, "Flagellum Pontificis et Episcoporum Latinorum." Though he declared, in the preface to this work, that nothing in it was intended to affect such bishops as acknowledged their authority from kings and emperors, yet our English prelates, either suspecting that some things in his book were levelled at them, or perhaps not enduring that the conduct of ecclesiastics should be exposed with such freedom by a lay writer, and fearing if he was suffered to go on the same weapon might be turned against them, he was cited by them before the high-cummission court, fined 1000l. and sentenced to be excommunicated, to be debarred the practice of physic, to have his books burnt, and to remain in prison until he made a reparation. After being confined two years in the Gatehouse, he published " Apologia ad Praetores Anglicos;" but that procuring no remission of his sentence, it was soon followed by "The New Litany," in which he taxed the bishops with having an inclination to popery, and exclaimed against the severity and injustice of the high-cummission's proceedings against him. For publishing this work, he was sentenced, by the same court, to pay a fine of 5000l., to stand in the pillory in Palace-yard Westminster, and there lose his cars, and to suffer perpetual imprisonment in a remote part of the kingdom. The same sentence was, about the same time, in 1637, passed and executed upon Prynne and Burton. Balfwick was conveyed to Launceston castle in Cornwall, and thence removed to St. Mary's castle in the isle of Scilly, where no one was permitted to visit him. The house of commons, however, in 1640, ordered him, as well as the others, to be brought to London, whither they were attended by vast multitudes of people, with loud acclamations of joy. The proceedings against them were voted illegal, and they were ordered to be remunerated out of the revenue and effects of the archbishop of Canterbury, and the other lords of the commision who had condemned them. Balfwick was alive in 1648. The time of his death is not known.

G-a Dic. D-i.

BASVILLE, in Geography, a sea-port town in the island of Martinico.

BASZEU, a river of European Turkey, which runs into the Pruth, near St. Plirovoz, in Moldavia.

BAT, in Zoology. See VESPERTILIO.

BAT, in Commerce, a small base silver coin, current in divers parts of Germany and Switzerland, at different prices.

The bat or flademouse at Nuremberg, is equal to four croizters; at Zurich, to ½ of the French crown; at Basel, Schilhauen, &c. to ½; and at Berne and Friburg to ½ of the crown. These last are called short bats.

BATA, in Botany. See MUSA.

BATA, in Geography. See BATTA.

BATAANO, a town on the fourth side of the island of Cuba in the West Indies, seated near a large bay, opposite Pinas.
BAT

Pinus isca, and about 50 miles south-west from the Han- 
vannah.

BATABLE LAND. See Bataable.

BATAICOLO, or Batacoalo Bay, in Geography, lies on the 
coast of the island of Ceylon, in N. lat. 7° 57', E. long. 8° 3'. It extends to the south between the main 
island and a narrow track of land on the east side of it, and is well sheltered from molf winds. The Port town, fo-called, is on the west side of this bay, or gulf, 5; leagues N. E. of 
Colombo. The bay is about 30 leagues to the S.S.W. of 
Trincomalee. Batacoalo is a place of comparatively few 
importance; but the surrounding country, and the bold gro-
tefque rocks which skirt its shores, have deservedly attracted 
particular attention.

BATAICARANG POINT, lies on the coast of the 
island of Sumatra.

BATALHA, a monastery in Portugal, near Lisbon, 
about 62 miles to the north of Lisbon, founded by John 1, 
at the close of the fourteenth century, in accordance of 
the great victory over the king of Calde, and reckoned one 
of the most noble monuments of what is called the Gothic 
style of architecture. It has been particularly described by 
Mr. James Murphy.

BATAI, a town of Asia Minor, in the provence of 
Natal, and south of Kastoria.

BATAIARDIERE, a place in a garden, prepared for the 
painting of fruit trees, which being transplanted thither 
from the nursery, are to be placed in espaliers, or elsewhere, 
to supply the place of dead trees.

BATAAS, in Botany. See Convolvulus.

Bataas. See Potato.

Bataas, in Entomology, a species of Acarus, found on the 
potatoes in Surinam and some other parts of South 
America. It is rather rough and fangueous; anterior legs as 
long as the body. Fabulous.

BATAVI, in Ancient Geography, are supposed to have 
been originally the same people with the Catti or Cattans, 
who dwelt beyond the Rhine; and being driven from their 
country by a domestic insurrection, they settled at the ex-
treme borders of Gaul, in an island called "Island Bata-
vorum," formed by the mouths of the Rhine and the ocean. 
According to this description, the Batavians policed South 
Holland, part of the country of Utrecht, and the island of 
Batav in the dukedom of Guelderland. The early history 
of the Batavi is involved in considerabe obscurity. It is 
certain, however, that about 54 years before the Christian 
aera they were distinguished by their valour, and attracted 
the attention of Caesar, who formed an alliance with them.
He encouraged them to serve in the Roman army; and they 
appeared to have fought with him against Pompey at 
Pharsalas, and to have assisted Augustus in the battle of 
Aegium. They assisted Caesar in his attacks upon the 
Gauls, and they everywhere meet and dispersed that fer-
ocious and warlike people. The Batavian cavalry bore the 
highest reputation, and the infantry fought with the same 
order, discipline, and intrepidity in the marshes and waters 
as upon the firm land; and even the Romans dreaded their 
resentment. They became the body-guard of the emperors, 
who repaid equal confidence in their fidelity and courage; 
and they retained this honourable trust till they were dis-
missed by Galba, though with tokens of favour and clemence. 
In all important expeditions, in every dangerous enterprise, 
and where obstinate obstacles was required, the Batavians 
were selected. They generally composed the forlorn hope of 
the Roman army, furnished the first shock of the enemy, and 
made the first attack with an impetuosity peculiar to them-
selves. They were not only honoured by the title of allies 
to the empire, but distinguished by the appellation of the 
friends and brothers of the Romans; which denomination 
was particularly applicable to the inhabitants of Betaw, an 
Island formed by the Rhine and Vistul or Wash. Their 
government seems to have been monarchical, and it is un-
fettered that Claudius Civilis was descended from their 
kings. But, though the Romans indulged them in an ex-
tension from tributes and taxes, it was not consistent with 
the views they had adopted of universal dominion to allow 
them the enjoyment of their liberty. They built towns, 
and made establishments in their territories; and this rude 
people, flattered by the luxury and the amusements which 
they introduced among them, did not immediately perceive 
the dangers which directed them. They were 
formed, however, informed of the treachery of their allies, by 
the oppression and injustice which they began to exercise. 
When Vitellius and Otho disputed the empire, and the 
German nations attempted to recover their liberty, the 
Batavians followed their example. Alarmed for the interest 
and the rights of their nation, Julius Paulus and Clavius 
Civilis set themselves to oppose the practices of the Romans, 
and to emancipate themselves from their dominion. But 
when Otho was put to death at Caesar, the Roman commander, considering them 
as rebels, made himself master of their persons; and having 
brought the former, he loaded the latter with chains, and 
sent him to Rome. The death of Nero, however, which 
happened about this time, delivered Civilis from the danger 
which threatened him; and the weak and impotent Galba 
suffered him to return to his country, without inquiring into 
his crime, or into his merit. This illustrious chief then 
prepared to gratify his resentment, and to recover and 
vindicating the liberty and honour of his nation. He called an 
assembly of his community, and representing the evils of 
tyranny, incited a dissolution of submission and servitude. 
His countrymen submitted themselves without reference to his 
council; and writing with the Friuli and the Cornutes, he 
declared war against the Romans. Gaining an accession of 
strength from the Tongrians, who deserted the Romans, 
and from some natives of Batavia, who served as rowers in the 
Roman fleet, he was enabled to defeat the Romans and put them to 
flight. He was afterwards joined by eight Batavian cohorts, 
who abandoned Vitellius, by whose orders they were march-
ing to Rome, and also by some other German tribes; and thus 
aided and encouraged, he obtained some further suc-
cess. But upon the arrival of Cerialis, the Roman general, 
he received a total overthrow, and was at length obliged to 
abandon his own island, whether he had retreated, to retire 
beyond the Rhine, and to submit to the Romans. A con-
ference taking place between Cerialis and Civilis, the ilinc 
of it was an entire submission on one side, and an unfavoured 
pardon on the other. The Batavians remained in the same 
condition in which they were before the war broke out; 
that is, exempt from all tributes, and only obliged to supply 
the Romans with troops when required. We know little 
more of the ancient history of the Batavians than that the fierce 
and warlike spirit of the people obliged the Romans 
to maintain strong garrisons on the banks of the Rhine; 
that they revolted against Constantine; that they performed 
signal services to Thoedius in Britain; and that, with the 
rest of the empire, they fell under the power of the Franks; 
and were governed by Charlemagne, and his descendants, 
until, upon the decline of that house, the great lords and 
oficers of the crown, taking advantage of the weakness of 
the reigning princes, rendered their governments hereditary 
in their families. From the Batavi, the seven united pro-
vinces derived the name of Batavia, which since the French 
revolution has been recognized in the appellation of the 
Batavian

BATA
Batavia, a citadel of Vindelicia, so called from the coasts Batavia, in Geography, the celebrated capital of the Dutch polt-summer in the East Indies, and demonstrated the beauty of its situation, but the beauty of its building, and its immense trade, is a sea-port town on the north coast of the island of Java, situated very near the sea, on a fertile plain, bearing evident marks of having been left or thrown up by the sea, in the kingdom of Jaccata, upon the river of that name, which, running through the middle of the town, divides it into two parts. To the north of the city is the fea-shore; behind it to the south, the land rises with a gentle, and scarcely perceptible, acclivity towards the mountains, which lie 15 or 16 Dutch miles, or leagues, inland; one of which, as being very high, bears the name of the Blue mountain. This city was founded in 1619 by the governor-general, John Peterzen Koen, who captured and destroyed the town of Jaccata, near the spot where the former town was situated; and he gave it the name of Batavia, though it is said he wished to have called it "New Horn," from the place of his nativity, "Horn," in North Holland. Although it was then an insignificant place, with regard both to strength and beauty, he declared it the capital of the Dutch settlements in India; and his choice of the situation was judicious, and his plan well carried out; that it rose with unparalleled rapidity to that degree of magnificence and importance which it has reached, must be attributed to the admiration and terror of all the more eastern nations of India. It still retains a very considerable rank and influence; although, for the last 50 years, it has much declined both as to opulence and population. The form of the city is an oblong square, 3 miles long, and 4 miles broad, intersected by the river already mentioned, which runs from north to south, and is crossed by three bridges. The breadth of the river, within the city, is about 300 or 310 feet; and passing the castle and admiralty wharf, it bifurcates itself into the sea. On both sides of its mouth are long piers of wood and brickwork, about 3,600 feet long, taken from the mouth of the city; between which, on the west side, the vessels belonging to the city are laid up and repaired; but along the east side, the passage is open for the lighter ships, which go into and out of the city with the cargoes of the ships. Opposite to the outer point of the eastern pier is a thoroughfare, commonly called the "Water-fort," constructed of a kind of coral rock and having, mounted or dismounted, fourteen guns, and two howitzers. It consists of a parapet, retained by a wall; but the parapet has been much neglected, and the wall is nearly destroyed by the constant working of the sea. This fort is protected on the land side by a moat, and to the sea, on the north-west, by extensive flats, over which even boats cannot pass. The only good approach is that by the channel, which it is and defends. On the west shore, about a quarter of a mile from the water fort, is a battery, mounting seven guns, bringing down the river; and opposite to this is a battery of six guns, facing the river, and two to the eastward. Each division of the city on either side of the river has two canals, running parallel with the longest sides, and intersected at right angles by cross-canales. These canals join the great canal, or river, at the distance of half a mile from the entrance; and below their junction is laid a boom of wood, armed with iron spikes. The city is encompassed by a wall of coral rock, serving as a facing to the rampart behind it; and also by a moat, having several sluices, into which water is conveyed from the river. Sir George Staunton says, that a part of the town wall is built of lava, which is of a dark blue colour, and of a very hard dense texture, emitting a metallic sound, and very much resembling some of the lava of Vulcano. It is brought from the mountains in the centre of Java, where a crater is still smoking. The rampart is defended by twenty or twenty-one battlements, which, as well as the wall, are in a various state. Small projections, of various forms, are constructed at intervals of about 500 feet, each of which generally mounted three guns. At short distances from the town, three or four small flag-stands on earth are erected in particular places, probably for defence against the inhabitants of the island. The castle or citadel of Batavia, which was formerly on the sea side, is now, by the continual increase of the mud banks before it, distant from the sea more than 100 rods, and is seated on the east bank of the river. It covers about 200 rods of ground, and is a regular square fortres, built or coral rock brought from some of the adjacent islands, composed of that material. It has neither ravines nor outworks. Two guns are mounted on each flank, and two, or sometimes three, on each face, neither "en barbette," nor "en embrasure," but in a situation between both, having the disadvantages of both, without the advantages of either. The wall is of masonry, about 24 feet high. It has no ditch, but a canal encompasses it at some distance. It has no cordon; and the height of the exterior side of the work is about 500 feet. Between the moat and the buildings within the fort, on the south side, is a large area or esplanade. In the centre of the buildings that look towards the city, is a great gate, and then a broad passage, with warehouses on each side, leading to another esplanade, on the north side, enclosed between the ramparts and the buildings, which are appropriated to the use of the company. The government house, which forms the left wing of the buildings looking to the south, is provided with numerous and convenient apartments, but uninhabited. In it is a large hall, in which the council of India generally assemble twice a week. Near this is a little church or chapel, called the castle church; and at a small distance is a corps-de-garde, where a party of dragoons always maintains guard. Over the castle bridge is a spacious plain or square, planted with tropical trees, which afford an agreeable shade; and the entrance into it from the city is over a bridge and through a large fluted gate, mounted with a lofty cupola, from which rises an octagonal turret with a large clock, the only public one at Batavia. On the left side of the gate is a large building, serving as a corps-de-garde, having in front a long gallery, relining upon a row of piliers; where is usually posted a captain's guard of grenadiers. On the west side of the square stand the company's artillery-house, and the diocesan or provision magazine, both of which extend to the side of the river, so that the goods are taken in and out of the lighters with the greatest ease. On the opposite side is the iron-magazine, and the grafs-plate or place of execution, which is an artificial square eminence, upon which are several piers and some poles; and behind it is a small building, with windows, opening towards the place of execution, where the crucifical of justice may behold the completion of their sentences. Upon the plain are arranged pieces of iron and brass artillery, and other warlike implements.

Batavia has five gates; and near to this on the north side, to the west of the river, is the admiralty wharf; and near this, the warehouses for naval stores, and the workshops of the carpenters, coopers, sail makers, and smiths, with other offices and houses that relate to the shipping. In the south-east corner of the city, close to the ramparts, lies the workmen's quarters.
quarter, called "Ambigtse varter," in which all the workmen and laborers employed by the company relieved. Besides a great number of Europeans, there are more than a thousand natives who belong to this quarter.

Besides the public buildins already mentioned, Batavia has a town hall, which is well situate: two large and convenient hospitals, and several churches; three of which, within the city, are appropriated to the returned religion, in which service is performed in the Dutch, Portuguese, and Malay languages: and one without the gates, called the outer Portuguese church. There is also a Lutheran church not far from the castle, provided with a tower, and a very handsome pulpit. These churches are supplied every Sunday by twelve clergymen of the reformed religion, and three Lutheran ministers. One of these clergymen is deputed, once every year, or sometimes only once in two years, upon a visitation to the company's possessions on the west coast of Sumatra; and to the individuals thus employed, the visitation is rendered more desirable by the merchandise which they take with them for sale. The Chinese have also several temples, which are tolerated by government; but the exception of the Roman Catholic religion is obliterated by prohibited.

In the districts round Batavia, immediately subject to the Dutch, it is calculated, says Sir George Staunton, that near 30,000 Javanese families are fished, containing upon an average 5 per cent. of the population in the whole; the city of Batavia, including the suburbs, contains nearly 8,000 houses. Valentyn (cited in the Mod. Un. Hist.) states the number of houses in the city and suburbs at 4,770. Havens, a more recent Dutch writer, who was long resident at Batavia, and who published his account in 1778, estimates the number of houses in Batavia at 3,700; but he does not say whether he included the suburbs. The number and description of inhabitants in 1778, according to this writer, were as follows: viz. 468 European barbers, 5,572 native Christians, 4,573 Malays, or men without flannel of all nations, 23,099 Chinese, 289 Amboynese, 278 Bandamese, 950 Moors, 254 Gentoo, 1,852 Malays, 324 Doutaminers, 1,963 Macalleers, 5,707 Boogineers, 104 Tumoreers, 189 Men-hoarets, 85 Sambuarems, 13,673 Balis, 33,428 Javanars, and 23,072 slaves; making in all 112,566, exclusively of wives and children, and of the company's servants. The company's establishment consisted, in 1776-1777, of 610 persons in civil, and 55 in ecclesiastical employments, 69 gunners and sailors, 125 belonging to the artillery, 875 seamen and mariners, 1,571 soldiers, and 923 mechanics; in all, 4,221 Europeans, besides 707 natives in their service.

The houses at Batavia, belonging to the Dutch, are well built, chiefly of brick, clean and spacious, and their construction is, for the most part, well adapted to the climate. The doors and windows are wide and lofty; the ground-flours are covered with flags of marble, which being sprinkled frequently with water, gives a pleasant coolness to the apartment, but when Sir George Staunton visited the place, he could not help expressing his regret at the prospect of the houses being untended, a circumstance which indicated a declining settlement. The houses of the Chinese are low, and crammed with people. Most of them dwell in the Lautneren and western suburbs, which are called the Chinese "Campus." Before the revolt of the year 1748, they had the half quarter of the city allotted them, to the west of the great river; but when in that connection all their houses were burnt to the ground, the whole quarter was converted into a "pallis," or market, where at present all kinds of provisions are daily exposed to sale. Before the perpetuation of this massacre, several thou-

and Chinese adventurers returned to Batavia, allured by the prosperity of their countrymen already settled there. The number of these colonists, together with the robberies and murders committed by them, excited a considerable degree of apprehension; which induced Van Imhoff, who was at that time a member of the council, to propose, that those who could not prove that they were gaining an honest livelihood should be seized and transported to Ceylon, and there employed in mining and other labour for the service of the company. The execution of this order produced a tumult and an insurrection; and thousands of the Chinese retired from the city, and collecting a strong force, ravaged the country and assailed the capital. The civil and military inhabitants united in repelling them. But a fire taking place soon after among the Chinese buildings in the city, several of the owners were accused of opposing with arms the extinguishment of it, with a view, as it was said, of allowing the confederacy to spread through the whole town, and in the moment of confusion they might affiliate the Europeans, and become masters of the place. The alarm was such, that the Dutch government gave instant orders to put all the Chinese heads of families to death; and the sailors from the vessels in the road were brought ashore, and induced, for the sake of plunder, to share in executing the bloody edict. All the Chinese, without distinction, men, women, and children, were put to the sword; and the innocent and guilty were indiscriminately exterminated. Whence this barbarous order inflicted has been a subject of unsatisfactory investigation. The governor-general, Valkenier, and his brother in-law Helvetius, were accused by the public voice, of directing the massacre; but their guilt was never proved. The deed itself was condemned by the directors of the company of Holland; and much apprehension being entertained that the fact would excite the indignation of the emperor of China, deputies were sent to him in the following year, to apologize for the massacre on account of the necessity of the case. These deputies were agreeably surprised to find that the emperor calmly answered, that "he was little solicitous for the fate of unworthy subjects, who, in the pursuit of lucre, had quitted the country, and abandoned the tombs of their ancestors." The Chinese, however, are said to have been as numerous as ever in and about Batavia; and it is acknowledged by the Dutch that the settlement could scarcely exist without their industry and ingenuity. The quarter of the suburbs which they occupy is crowded with shops containing all kinds of goods: those of their own manufacture, and such as they receive annually from China, or purchase from the European importations. The number of Chinese, who live both within and without the walls of the city, cannot be precisely determined; but it must be very considerable, as the company receives a poll-tax from them of more than 40,000 rix dollars. Every Chinese who has a profession is obliged to pay a monthly poll-tax of half a ducatoon, or 3s. per annum; but women, children, and those who have no trade, are exempted from this tax. They are under a chief of their own nation, called the Chinacecaptain, who lives within the walls, and has under him ten lieutenants in different districts. A flag is hoisted at his door on the first or second day in every month, and the Chinese that are liable to the tax are then obliged to repair to him for the payment of it. Each house in Batavia pays annually an allument of half a month's rent, which is expended in digging and clearing the canals, and in repairing the town-hall and other buildings belonging to the city. The churches are repaired out of the duties levied upon funerals. At Batavia a bank of circulation has been established for some
some years, which bank is united with the Lombard or bank for lending money on pledges. This bank is under the administration of a director (who is generally a counsellor of India), two commissaries, a cashier, and a book-keeper. Its capital is computed to amount to between two and three millions of rix-dollars, or between 435,000l. and 650,000l. Sterling.

The suburbs of Batavia are remarkable on account of their considerable extent, uncommon pleasantness, and great population. They are inhabited by Indians of various nations, and by some Europeans; but the quarter of the Chinefe is the most populous, and seems of itself a city. None of the streets of Batavia are paved; but along the sides of them near the houses are stone foot-paths, about three or four feet broad. The streets and canals are planted on each side with large trees, generally the "onophyllum cato-phyllon," and "calaba," the "canarium commune," and others of a nearer foot. The Dutch, who are fond of gardens in Holland, have indulged that taste to a great extent at their houses in the environs of Batavia, which are every where intermixed with rivulets, by which the circum- junction rice plantations are inundated and fertilized in the proper season. The country, though it be a fenny district, of which a gentleman upon the spot used the strong expression, "that the air was pestilential, and the water putridous," is nevertheless every where so verdant, gay, and fertile, interspersed with such magnificent houses, gardens, avenues, canals, and drawbridges, and so formed in every respect to please, if health could be preferred in it, that a youth just coming from sea, and enraptured with the beauty of every object he saw around him, but mindful of the danger to which life was exposed, could not help exclaiming, "What an excellent habitation would it be for immortals!" There are five principal roads which lead from the city towards the country, and they are all planted with high and shady trees, and adorned with basidome houses and pleasant gardens.

As to the habits and mode of living of the inhabitants of Batavia, they very much depend on the views and dispositions with which they resort hither, on the situation which they occupy, and on the qualities of the climate. The natives are generally in general too remote from civilization to have any wants that are not easily satisfied, in a warm and fertile climate. No attempt is made to enslave their persons; and they find the government of the Dutch left vexatious than that of others who divide some share of the sovereignty of the island with them. As for the Chinefe, who are constantly resorting hither from China in the vessels called "junks," their views are similar to those which influence the natives of Holland, and they are alike actuated by the desire of accumulating wealth in a foreign land; both the one and the other were trained in their own country to habits of industry; but upon their arrival in Batavia, they are placed in different circumstances, and acquire different manners. The Chinefe, having no prospect of advancement by favour or interest, apply with diligence to the occupation that is allotted them, and by exertion and economy meliorate their condition, without being able to gratify their ambition by the attainment of any public offices. In the city, they become retailers, clerks, and agents; and in the country, they are farmers, and the principal cultivators of the sugar-cane. Thus they at length acquire fortunes, which they value by the time and labour required to earn them; and this gradual acquisition makes no change in their disposition or mode of life; their industry is not diminished, nor is their health impaired. The Dutch, on the contrary, who are sent out by the company to administer their affairs in Asia, become soon sensible that they have the power, wealth, and possessions of the country at their disposal. Those who survive the depredations of the climate, mount by a quick gradation to offices, lucrative but not laborious. Their influence likewise enables them to speculate in trade with great advantage. The drudgery of buiness is readily undertaken by the Chinefe, who, like the native Batavians and Deodasies in Calcutt and Madras, are employed as subordinate instruments; while their principals find it difficult, under such new circumstances, to retain their former habits, or to refit a propensity to indolence and voluptuousness, though often attended with the sacrifice of health, if not of life. Convivial pleasures, among others, are frequently pursued to excess. "The Chinefe," says Stivornius, "are like the Jews in Europe, very cunning in trade, both in the largest dealings, and in the most trifling pedlary. They are so dexterous at money, that a Chinefe will run three times from one end of the city to the other, if he has the prospect of gaining a single penny." He adds; "in doing business with them, the greatest care must be taken to avoid being cheated." In stature they are rather short than tall, and in colour not so brown as the Javans. Their heads are shaved all round, except a bunch of hair on the middle of the crown, which is twisted with a ribbon that hangs down the back. Their dress consists of a long robe of nankeen or thin silk, with wide sleeves, and under it they wear drawers of the same, which cover the legs. In their houses they hang up in certain niches, images of their "jooftjes" or idols, painted on Chinese paper, before which they burn lamps and incence. This jooftje they consider as an evil spirit, and therefore they continually supplicate him not to do them any harm. In their adorations, they prostrate themselves before him, and express their reverence by striking their heads continually against the ground. They likewise consult their idol by a peculiar mode of divination, when they engage in any important undertaking. Notwithstanding this superstition, the Chinefe are accused of gratifying their bulls, by the most detestable violations of the law of nature. Their tombs are magnificent and costly; and great numbers of them are to be seen about half an hour's walk from Batavia, on the road to Jacatra. When a Chinefe of any note dies, his death is formally announced to all the branches of the family. The body is washed, perfumed, and dressed in the best apparel of the deceased. The corpse is then feated in a chair; and his wives, children, and relations, fall down before it and weep. On the third day it is put into a coffin, and placed in one of the bell apartments, hung with white linen, the colour appropriated by them to mourning. In the middle of the apartment is erected an altar, on which is placed the portrait of the deceased, with incense burning near it. On one side of the coffin stand the fons, druzzled in white coarse linen exhibiting every sign of sorrow; while the mother and female relations are heard lamenting behind a curtain. On the day of burial, the whole family assemble, and the corpse is carried to the grave with much solemn pomp. Images of men and women, relations of the family (in the manner of the ancient Romans), and even of animals, together with wax tapers and incensories, are carried to the procession. Then follow the priests with musical instruments; and after them the corpse upon a bier, attended by the fons of the deceased, clothed in white, and leaning upon crutches, as if disabled by grief from supporting themselves. The female relations are carried in chairs, hung with curtains of white silk, that conceal them from view; but their lamentations are distinctly heard; and other women are hired, who are trained to utter shrieks still louder and more piercing. Previously to the funeral, a table with fruits and other estables
A.

They kill round profession wine any of like well and their trusted little dance. arc holding ihape ankles, tea, bright when from a made pieces fuch faces by dinner ladies. are black and jewels feeds, the j, rice of practifed the misfortune, fame addicted, of acquiring artificial courage, an extraordinary dose of opium, and food becoming frantic as well as desperate, they not only lib the objects of their hatred, but sadly doth to attaick in like manner every perfon they meet. till self-preservation renders it necessary to defroy them. They are laid in that flate to be "running a muck;" so called because, during their frenzy, they continually cry out, "amok! amok!" which signifies "kill! kill!" and their fury has been erroneously ascribed to opium, whereas in reality it is the effect of unruly passion. Influences of it are not more common among slaves than among free natives of the country, who in the anguish for losing their money, effects, and sometimes their families, at gaming, to which they are violently addicted, or under the urgency of some other passion or misfortune, have recourse to the fame remedy, with the fame fatal effects. A fondness for play, and also for opium, is not uncommon among the Chinese also at Batavia; but by habits of restraint and moderation they are prevented from falling into the fame frantic exceffes. The Chinese at Batavia are accustomed to keep gaming-houfe, which are the means of seduction and ruin to the greatest part of the slaves in the city; and these pelfs of society are under the protection of the municipal government, the officers of which pay to the company, as a consideration for the profits accruing from them, a monthly contribution.

The mode of living practifed by the Europeans, either from Holland or any other nation, that reside at Batavia, is very nearly the fame. In the morning at five o'clock, or when the day breaks, they rise; and the tables are spread at an early hour. Besides tea, coffee, and chocolate, fish and flesh are ferved for breakfast; and when this is finifhed, Madeira, claret, gin, Dutch small beer, and English porter, are laid out in the portico before the door of the great hall, and pipes and tobacco are prefented to every guest, with a bright brafs jar for a fipping-dish. Trofe who have bufinefs appear at their proper fiations at eight o'clock, and remain employed till between the hours of eleven and twelve. Their dinner hour is one o'clock; but immediately before dinner, two men flaves go round with Madeira wine, of which each takes a large glafs. Then follow three female flaves, one with a fliver jar, containing plain or rofe water for washing; a second with a fliver basin and low cover of the fame metal, piecèd with holes, to receive the water after it has been used; and the third with towels for wiping the hands. During dinner, a band of mufic plays at a little distance. The musicians are all flaves who have been inducted for this purpofe. A confiderable number of female flaves attend at table, which is covered with many dishes. Dinner is immediately fucceeded by coffee. After drinking coffee, each perfon retires to a bed, confiding of a mattrafs, bolster, pillow, and chinett counterpane, but no sheets; and puts on his night-drefs, a muffin cap, and loose long cotton gown. A bachelor is attended by a female flave, who fans him while he ftrets. About fix rife, drefs, ftrep, drink tea, take an airing in their carriages, and form parties for the evening. The morning meetings are compofed generally of men, as the ladies feldom choose to appear till evening. "Married men," says Stavorinus, "feldom give themselves much concern about their wives, nor fhow them much regard. They feldom converse with them, except in ferviceful fubjects, and fuch as concern fociety, with which of course they are little acquainted. Few of these ladies are natives of Europe; but many are defcended from Dutch fettlers here; and they are educated with fome care. The features and outlines of their faces are European; but the complexion, character, and mode of life, approach more to thofe of the native inhabitants of Java. A pale laugh overthrows the countenance. In their own houses, they drefs like their flaves, with a long red chequered cotton gown defcending to the ankles, with large wide fweaps. They wear no head-dress, but plait their hair, and fatten it with a fliver boufkin on the top of the head. The colour of their hair is almost universally black; they anoint it with the oil of the cocoa-nut, and adorn it with chaplets of flowers. When they go abroad, and particularly to their evening parties, they drefs magnificently in gold and silver flangled muffin robes, with a profuion of jewels in their hair, which is worn without powder. They never attempt to mould or regulate their shape by any foreign idea of elegance, or any fandard of fashion; and, therefore, exhibit a striking contrast to the Dutch ladies. Evcry native lady is constantly attended by a female flave, who fits at the feet of her miftrefs on the floor, holding her gold or silver box, the compartments of which contain arocoa-nut, cardamon seeds, pepper, tobacco, and flaked lime; all which mixed together in due proportions, and rolled within a leaf of helot, constitute a maiftery of a pungent tafte, that is in general use. In public affembles, when the ladies are accommodated with heat, they retire to change their draps, and return, without ceremony, in a more light and lofe attire. Their example is followed by the gentlemen, who appear in white jackets, sometimes adorned with diamond buttons. The elderly gentlemen lay aside their wigs, and put on night-caps. The members of the government, except on thefe occasions, appear abroad in crimson velvet; their carriages are distinguished by peculiar ornaments; and they receive homage from others not of their rank. One of the gates of the city is opened only to let them pafs. The Indian women marry young, generally at twelve or thirteen years of age; they have feldom many children, and they are old women at thirty. They are remarkably fond of bathing and ablutions; and use for this purpofe a large tub containing three hogsheads of water, in which they immerfe the whole body at laft twice a week; and some do this in the morning, in fome of the running dreams out of the city. They manifest a moft exceffive jealoufy both of their husbands and of their female flaves; and when they difcover the lighteft fimilarity, punifh the latter with a variety of tortures; and of the former they avenge themselves in kind. The coches used at Batavia are fmall and light, and for keeping thefe a yearly tax is paid to the company. Services of a domestic or mental kind are chiefly performed at Batavia by flaves. Three thoufand of both fexes are annually brought thither from the coast of Malabar, Bengal, Sumatra, and other parts; but in the greatest number from Celebes. Their treatment is in general mild and gentle, though fome infinuates of barbarity and inhumanity occur. They are not forced to exceffive labour, and they are allowed fufficient fufTenance. However, many of the males, who had formerly, perhaps, led an independent life before they were made captives in war, have taken offence against their masters upon flight occasions, and wrecked their vengeance by affiflation. To the apprehenfion of such an event is ascribed the preference given at Batavia to female flaves, for every fervice to which they can be applied; and therefore the number of thofe that is purfued far exceeds that of the other fex. The flaves that are determined on revenge, often fwear, for the purpose of acquiring artificial courage, an extraordinary dose of opium, and forth, becoming frantic as well as desperate, they not only lib the objects of their hatred, but sadly doth to attaick in like manner every perfon they meet. till self-preservation renders it necessary to defroy them. 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The chief government of Batavia, and of all the chief offices of the Dutch East India Company in Asia, is vested in the council of India, at the head of which is the governor-general, who resides at a large mansion near Batavia, possessing unbounded power, affording a state, and exacting tokens of respect, much greater than any European monarch claims. The next in rank is the director-general, who is the eldest councillor of India; and to him are entrusted the direction and control of the trade of the company throughout all India, and to Europe. Next in order follow the five ordinary and nine extraordinary councillors of India.

To the servants of the company justice is administered by an all-mighty council of judges, independent of the council of India, and consisting of a president, eight ordinary members, and two adjutants, taken from the company's servants. The citizens and free merchants of India, who are not in the company's service, are amenable to a separate municipal court of justice, called the board of scheepers or aldermen, eight in number, with a president who is a member of the council of India.

The punishments inflicted at Batavia are exceedingly severe, especially such as are inflicted upon the Indians; of these the chief, and the most terrible, is IMPALMENT. For taking alive these slaves who are guilty of the acts of murder called "mucks," the officers of justice are provided with a pole ten or twelve feet in length, at the end of which is a kind of fork, made of two pieces of wood three feet long, which are furnished with sharp iron spikes; this he determination the object whom they wish to apprehend, and in his frenzy he runs into it, and is thus taken. If he happen to be mortally wounded, he is immediately broken alive upon the wheel, without any form of trial, in the presence of two or three of the councillors of justice.

The orphan-chamber at Batavia serves for the whole of the Dutch possessions in India; and the board consists of a president, who is a councillor of India, and five regents, who are appointed by the council of India, with subordinate clerks. There are several other courts or boards; as the commissioners of dykes and sluices, those of bankruptcies, a court of common pleas, a board of control over marriages, and several others.

The establishment of regular troops at Batavia, according to the report of captain Parish, cited by Sir George Staunton, consists of 1,200 Europeans, of whom 500 are artillery, and the rest infantry. But as this number cannot be maintained complete in this unhealthy climate, 300 natives were employed, and thus the establishment of European regulars was reduced to 700. Three hundred volunteers of the town are also formed into two companies, but not disciplined. The irregulars are very numerous, consisting of enrolled natives of Java, who have never been emboldened, and of Chinese, whom the jealousy of the Dutch allows to be armed only with lances. This establishment appears too small for any efficient resistance. Although every man who settles at Batavia must take up arms in its defense, it is acknowledged by one of the councilors of the Indies, that their chief dependence was on the havoc which the climate was likely to make amongst the enemy's forces. The chief protection to their ill-armed велелки lying in this port, is afforded by the fortified island of Sachust, which is well situated to command the channel that forms the principal passage into the road.

The climate of Batavia is regularly unhealthy, and has proved the occasion of disease and of death to many of the Dutch settlers, and other Europeans who have tranquilly visited this place. The city is situated in the midst of swamps and devastated ponds, where proceeds every morning a collection of pestilential vapors, whenever the sea-breeze sets and blows over this marshes. The meridian sun rises from the shadowy and muddy canals which intersect the town, deludious mist rises into the air; and the trees, with which the quays and streets are crowded, impede the course of the air, by which the putrid effluvia would in some degree be diluted. Besides the motions circumflam of a bad kind peculiar to this place, the sudden transition from a cold northern region to the middle of the torrid zone, without the adoption of those habits that are requisite in the latter, will render the human frame more liable to be affected by any causes of disease. Hence it happens that preventive medicines are taken almost as regularly as food, and every body expects the returns of sickness, as we do the seashell of the year. There are few examples of druggists who remain long in Batavia without being attacked by fever, which is the general denomination in that place for every kind of illness. The disorder at first is commonly a tertian ague, which after two or three paroxysms becomes a double tertian, and then a continued remittent that frequently carries off the patient in a short time. The Peruvian bark is seldom prescribed in any stage of the disease, or it is given in such small quantities as to be productive of little benefit. The chief, or rather the sole medicine administered, is a solution of opium in spirit of wine. It is supposèd, that of the Europeans of all classes who come to settle in Batavia, not always half the number survives the year. The place resembles in that respect a field of battle, or a town iniegel. The frequency of deaths renders familiar the mention of them; and little signs of emotion or surplise are manifested, on hearing that the companion of yesterday is today no more. When an acquaintance is said to be dead, the common reflection is, "Well, I owed me nothing;" or, I must get my money of his executors." It appears by a calculation, that the company loses, in general, every year, full one-fifth of its servants. It is observed, however, that this climate is not so fatal to the female Europeans as to the other sex. They seldom expose themselves to the heat of the sun, make frequent use of the cold bath, and live more temperately than the men; and, for these reasons, they suffer less from the insalubrity of the climate. In the lower town, on the north side, the mortality is greater, where uninhabited hovels contract a fatal infectious air, than in the other parts of the city that are more fully inhabited. On this account, people not only leave the lower town, but abandon the city altogether, and reside in gardens without the walls, and at a remote distance as their employment will allow. This kind of migration increases from year to year, and will probably, in the lapse of time, produce the total abandonment and ruin of Batavia. The most tolerable season here is from March or April to November, when the rains begin, which last the first of the year. The sea-breeze sets in about ten o'clock in the morning, and continues till four or five in the afternoon; it becomes then calm till seven or eight, when the land breeze commences, and continues at intervals till day break, followed by a calm for the remaining hours of twenty-four. The heat of the weather at Batavia is not so excessive in some other parts of the east. From July to November, Stavinson observed, that his thermometer, which hung in the shade in the open air, floated generally between 84 and 90 degrees of Fahrenheit's scale, in the hottest part of the day; once indeed the thermometer rose to 92°; in the morning, it seldom fell lower than 70°. The barometer scarcely ever varies from the mean height. Sir George Staunton, who
The following table shews the value, in sterling money, of the above coins, at the silver value, of 11 francs per pound.

<table>
<thead>
<tr>
<th>Coin Type</th>
<th>Price</th>
<th>Notes</th>
</tr>
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<tbody>
<tr>
<td>The old Japan gold company</td>
<td>f. 24</td>
<td>—</td>
</tr>
<tr>
<td>The new dutch</td>
<td>14</td>
<td>—</td>
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<tr>
<td>The milled Dutch ducat</td>
<td>6.12</td>
<td>—</td>
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<tr>
<td>The silver milled ducatoon</td>
<td>4.2</td>
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</tr>
<tr>
<td>The unmilled ducatoon</td>
<td>3.13</td>
<td>—</td>
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<tr>
<td>The Spanish dollar</td>
<td>3.3</td>
<td>—</td>
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<tr>
<td>The six-dollar</td>
<td>2.8</td>
<td>—</td>
</tr>
<tr>
<td>The Batavia rupee</td>
<td>1.10</td>
<td>—</td>
</tr>
<tr>
<td>Other rupees, about</td>
<td>1.7</td>
<td>—</td>
</tr>
</tbody>
</table>

Most merchants' goods are estimated at Batavia by "pieces" of 1/25 pounds; or according to Riccoud, 1385 pounds Amsterdam weight; and their pieces are divided into 100 "carats," each weighing 1 pound. Rice and other grain are measured by "coy Yang," which differ in weight; but when received by the company at Java, they must weigh 3,500 pounds. They are shipped to Batavia for 3,250 pounds, and landed there for 3,500 pounds; at the out-factories, they are dispatched for 3,200 pounds, unladen for 3,150 pounds, and delivered for consumption at the out-factories for 3,000 pounds; so that every coy Yang of 500 pounds in weight. This deficiency is an allowance made to the company's tenants who have the management of the rice. Sugar is taken by "cassiers" of 3 pieces, or 375 pounds net, the goods being about 420 or 430 pounds. The "ginting" is a small rice measure of 133 pounds. Every bag of coffee shipped from Batavia to Holland weighs 251, and a hale of cinnamon 80 pounds.

The bay and harbour of Batavia are excellently adapted to the commercial navigation that is carried on at this place. A circular range of fifteen islands protects the road from any heavy swell, and renders it a safe place of anchorage for ships; and it is large enough to contain all those that double the cape of Good Hope, as well as the Chinese junks and other trading vessels of the country. The names of the islands are, Onrust, de Kuiper, which are the innermost, and within flight of the city; Purmerend, Engels Onrust, Rotterdam, Schiedam, Middelburg, Amsterdam, Horn, Harlem, Edam, Enkhuizen, Aikmaer, Leyden, and Vader Smit. The company make use of only four of these lands, viz., Onrust, de Kuiper, or Cooper's side, Purmerend, and Edam; which lie at the boom, which crosses the bay below the town, all vessels pay toll. The sea-breeze, which rises every morning at ten, serves to bring vessels within the bar, and a land-breeze at night carries them out. The observatory formerly erected at Batavia is now neglected; but the Society of Arts and Sciences, founded under the administration of the governor-general De Klerk, still subsists. The 1st volume of its Memoirs was printed at Batavia in 1779. S. lat. 6° 10', E. long. 106° 51' 15".


Batavia, a settlement of America, in New York, at the head of Schoharie creek, about 35 miles from its mouth, and 28 miles west from Albany, and as far north-west of Eltopus.

Batavia, a river of Asia, so called by the Dutch, situated in Carpentaria, on the coast of New Holland.

BATAVIAN REPUBLIC, an appellation given to the United Provinces, after the conquest of them by the French, the exclusion of the stadtholder, and the change of their form of government.

Vol. III.
Toward the close of the year 1794, and the commencement of the following year, the French forces, favoured by the frost of winter, by the discontents that prevailed in the provinces, and the inefficient support afforded to the Dutch by the British troops, took possession of their principal towns; and on the 27th of January 1795, the provincial representatives of the people of Holland assembled, and chose Pierre Paulus for their president. On this occasion, several decrees were immediately passed for the future regulation of the government, and for the deposition of the stadtholder from all his offices. Among these decrees were the following: viz. the sovereignty of the Dutch people, and the declaration of the rights of man—the abolition of the stadtholdership; as all of the offices of admiral and commander-in-chief of the United Provinces, with all their appendages—the release of the citizens and inhabitants of Holland from their oaths to the old constitution—the suppression of the college of the deputy council, and that of the chamber of accounts; and the establishment in their room of a committee of public safety, a committee of military affairs, and a committee of finance—and the recall of the commission of the deputies to the assembly calling itself the States-general. It was also decreed, that the commissioners of the assembly of the provisional representation of Holland should immediately begin their fittings in the hall of the ci-devant States-general, in order to advance the general interests of the people. A treaty of peace and alliance was concluded between the French and Batavian republics, at the Hague, May 16, 1795, in which the French stipulated to restore immediately all the conquered places and countries that belonged to the seven United Provinces; the frontier towns of the generality, such as Maastricht, Venlo, Breda, Bergen-op-Zoom, with their territories, excepted. It was also stipulated that the French, as well as the Batavians, should enjoy, without paying any tolls, the free navigation of the Scheldt, the Rhine, and the Meuse, and all their branches as far as the sea; that the Batavians should pay to the French the expenses of the war which the latter had been compelled to make against the former; that the French republic acknowledged the independence and sovereignty of the Batavian; that an alliance offensive and defensive should be established between both republics; and that either the French or Batavians should conclude peace, or make any other treaty, in which both parties did not participate.

In 1796, the national convention of the Batavian republic made some considerable alterations in matters relating to religion. It was determined, that all the inhabitants of the republic were free to exercise without molestation any mode of public worship whatever to which their opinions might lead them; that there should be no established religion in the republic; that the use of bells in convoking persons to public worship, should be prohibited; and that Jews should be allowed to become citizens of the republic, and empowered to purchase lands in the same manner as other citizens. On the 11th of January 1797, the new plan of the constitution was discussed; and it was decreed, that the Batavian people should elect representatives to execute its sovereignty. It was also resolved, that all citizens born and resident in the republic, and twenty-one years of age, should be invested with the right of voting; and also strangers, after having resided within the republic six years successively. It was also resolved, that the republic should be divided into eleven departments. Towards the close of the year 1797, the French directory issued their mandate for a revolution. The execution of this mandate was intrusted with Charles Le Croix, and the plan of operations for accomplishing it was concerted with the Dutch general Dandels, who was an original mover, and principal agent in the revolution. Accordingly it was effected on the 22d of January 1798. This revolution gave birth to a new form of government in the Batavian republic, which was introduced and established by acts of violence. An assembly, formed by revolutionary deportment and military force, and assuming the name of the constituent assembly of the Batavian people, abolished those provincial divisions, and other administrations, that had been established under the constitution; which was a constitution grounded on principles deemed more popular than those which formed the basis of that which was about to be presented when this revolution took place, and against which a formal protest had been previously made by forty members of the convention; when it was offered to the primary assemblies for their consideration. The people, wearied with continual agitation, and indeed incapable of effectual resistance, accepted this project formed on the model of the French constitution, as the best remedy against further convulsions; and thus Holland sunk for a while into the state of a dependent province, under the protection of Le Croix, the revolutionary delegate of the French directory. The principal articles that constituted the basis of this new government are the following: viz. —The abolition of the division into provinces.—Separation of church and state.—No corporation or society to have rules contrary to the laws of the state.—Exclusion from the right of voting of all the adherents of the Orange family.—The formation of a democratic representative government by means of a legislative body composed of two councils, and a provincial executive directory consisting of five members, having under it the agents of the executive power.—The formation of a new plan of finance, founded upon the relative means of the citizens.—The commissioners of the treasury are to be appointed by the executive power.—Those of the chamber of accounts by the legislative assembly.—The territory of the republic to be divided into a suitable number of departments; and accordingly, the nine provinces were divided into eight departments, the extent of which was measured by the population and the limits formed by the great rivers; these departments were again divided, each into ten circles; and each department was presump that contained 235,000 inhabitants; and the general population of the republic was estimated at a million eight hundred and ninety-two thousand individuals:—The division of three powers, the legislative, the executive, and the judiciary.—The right of individual petition to the citizens.—Revision of the constitution after the expiration of the fifth year:—The oath of hatred to the government of the stadtholder, federalism, aridity, and anarchy, to be taken by all the persons employed by the republic:—No power to have the right of interfering with the banks of circulation in the different towns of the republic:—Institutions for public instruction in arts and sciences: —And alliance with the French republic.

In the year 1801, a new constitution for the government of the Batavian republic, consisting of 108 articles, was introduced. This constitution abolishes the executive directory, and establishes a state directory, consisting of twelve persons, one of whom goes out annually. The legislative body is to consist of 35 members. The territory of the republic is to be divided into eight departments, whose boundaries are to be the same as those of the old provinces. The allowance of the members of the legislative body is to be 4,000 florins. They are to meet twice in the year, and
to fit from the 15th of April to the 16th of June, and from the 15th of October to the 15th of December. The go-
ve rment has the power of commanding them at pleasure.
For further particulars, see Holland, and United Pro-
vinces. By the treaty of peace concluded at Amiens, March 27, 1802, the Batavian republic cedes and guarantees
to his Britannic majesty, in full property and sovereignty,
all the possessions and effects in the island of Ceylon,
which before the war belonged to the republic of the United
Provinces, or to the Dutch East India company.

BATAVIENSIS, in Entomology, a species of Crypto-
ceranus; the head, thorax, wings, and legs of which are

BATAVODURUM, in Ancient Geography, a town of
the Batavi, in the island called after their name. Accord-
ing to Tacitus, the Romans had a bridge in this place, and
the post was defended by a Roman legion, when the Ger-
man, who resorted to the succour of Cerialis, were d-icted
of penetrating into the island; and here they were repelled
after great slaughter, and at length obliged to throw them-
elves precipitately into the river. Some have supposed
that this town was the same with the modern Durafliles;
but others conjecture that it was not on the same side of
the river.

BATAVORUM INSULA, the island of the Batavi, was
formed by the Vahalis or Waal to the south, and a branch
of the Rhine to the north. This left branch, and also the
Vahalis, rejoin afterwards, and form the Mosa or Meuse.
According to Tacitus, the Rhine was divided at its entrance
into Batavia into two rivers; one of which retained its name,
and pursued its course through Germany, till it discharged
itself into the ocean; the other, washing the coast of Gaul,
with a broader and more gentle stream, was called Vahalis,
which on its joining the Mosa, assumed its name. From
this account it seems that the island of the Batavians was
bounded by the Ocean, the Rhine, and the Vahalis. Caesar
extends it to the Mosa; but Pliny's account coincides with
that of Tacitus. It appears, however, that this island was
of greater extent in the time of Tacitus than in that of
Caesar; as Drusus, the father of Germansicus, had by a new
canal conveyed the waters of the Rhine into the ocean at a
considerable distance to the north of the former mouth of
that river. When this island was occupied by the British
habitants of this island. Some historians say, that they had
been removed by the Cimbri and Teutones, when they in-
vaded the Roman territories; and it is not improbable that
the prospect of a more commodious establishment might in-
duce them to abandon a country which was constantly ex-
posed to the inundations of the water that encompassed it.
The Batavi, when driven from their own country by the
Catti, took possession of it, and became a very powerful
people. A part of this country still bears the name of
Batavus, formed from Batavi; and is probably the same with
the ancient *Insula Batavorum." This name, however,
is given only to the eastern part of the island, and is the same
with that which has the river Lek to the north, and Vahal
to the south of the Rhine. Batavorum Oppidum, Batavurg,
a town which seems to have been the Batavorum of Ptolemy,
but different from that of Tacitus. Ptolemy places it upon the Mosa, or
Meuse; and the Batavodurum of Tacitus was more to the north
upon the Rhine.

BATBERGEN, in Geography, a town of Germany, in the
circle of Weiphalia, and bishopric of Olensburg.

BATCHAJOVE, a town of Asia, in Armenia, 90 miles
south of Erivan.

BATCHelor. See Batchelor.

Batchelor's Buttons, in Botany, See Lychnis.

Batchelor's Pear, See Solanum.

Batchelor's River, in Geography, See Batchelor.

BATCHURISCHKOI, a town of Kinha, in the go-

dernment of Archangel, on the east coast of the White Sea;
8 miles north of Archangel.

BARTOLE, or Bateul, a sea-port on the coast of
Malabar, in the peninsula of India, situated between Oure
and Barcolere. The English had a factory here till 1670,
when they were massacred by the natives. It was ceded to
the British by the treaty of 1799. N. lat. 13 deg. 38'; E. long.
74 deg 37'.

BATE, GEORGE, in Biography, born at Maid's Mort-
on, in Buckinghamshire, in 1638, was sent to Oxford at
the age of 14 years, where he soon distinguished himself by
his diligence and application to study; and having made
choice of medicine for his profession, he was admitted to
practice as soon as he had taken his degree of bachelor in
that line. In 1657 he was made doctor in medicine; and
when Charles the First kept his court at Oxford, he was ap-
pointed his physician. Removing soon after to London, he
was elected fellow of the college of physicians, and physician
to the Charter-house; and conforming to the circumstances
of the times, he soon obtained such favour with the ruling
party in the state, that he was sent to Scotland, in 1671,
in conjunction with Dr. Wright, to attend Oliver Cromwell,
then confined there with an intermitting fever, and was ap-
pointed his first physician. This, however, did not prevent
his being made physician to king Charles II. on his acced-
ion to the throne, and being elected fellow of the newly con-
stituted Royal Society. These honors were procured him,
Anthony Wood says, by a report industriously circulated by
his friends, that he had hallowed the death of the protector,
by administering a deleterious medicine; a story, which, if
believed, whatever reward it might otherwise have procured
him, would never have placed him in a confidential post
about the perfon of the lover-ign. He died in 1688, and
was buried in the chancel of All Saints church, at Kinglon
upon Thames, where a monument is erected to the memory
of him and his wife, who died the year before. The only
medical work in which he engaged was in contributing a
part towards a treatise "De Rerum," published by Dr.
Gessner, in 1650. His posthumous works, an apothecary in
London, were published some years after his death, under the
title of "Pharmacopelia Bateana," and
have passed through many editions. He published, in 1649,
"Euenchus matuon superorum in Anglia, finum ac juris
regii et parliamentarii, brevem narrat," 12mo. Paris. A
second part of this work was printed at London, in 1661.
In composing this, he was assisted by papers furnished by
the chancellor Hyde. A third part appeared in 1679,
written by Dr. Skinner. He is also said to be the author

BATE, in Ancient Geography, a village or city of
Greece, in Attica, belonging to the tribe of Zegides,
where relied Abra, the commentator of Calcidias, who wrote
the epics of the Iliad, and Amygmon, to whom Epicurus bequeathed his property.
Steph. Byz.

BATE, or Bateau, in Geography, one of the principal
ports in a district of India, inhabited by a pratical tribe called
Sangarians, on the south coast of the gulf of Cutch. The
other port is Arabmoy.

BATEAH, a town of North America, in the province
of Yucatan, 160 miles S.S.W. of Menda.

BATEAU, in Navigation, a particular kind of boat,
very generally used upon the large rivers and lakes in Ca-
nada. Its bottom is perfectly flat, and each end very sharp.

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and exactly similar. The sides are about four feet high; and for the convenience of the rowers, four or five benches are laid across, and sometimes more, according to the length of the bateau. It is a heavy and awkward vessel both for rowing and sailing; but it is preferred to a boat with a keel for two very obvious reasons: first, because it draws less water while it carries a larger burden; and, secondly, because it is much safer in lakes or wide rivers, where tords are frequent. An oar-club awning may be thrown over the widest part of it, and supported by hoops similar to those of a waggon; and thus may be formed a very excellent cabin, which incloses the quarters of the weather, and at the same time allows a view of the beauties of the scenery on each shore.

BATECUMBE, or BADECOURT, William, in *Biography, an eminent mathematician, supped by Bus (De Illust. Angl. Script. An. 1420. p. 784.) to have flourished about the year 1420, in the reign of Henry V.* He studied at Oxford, and made great proficiency in mathematics; which appears from his writings. It is not known where he died. He wrote "De Sphaera concave fabrica et usu," "De Sphaera foliada," "De Opuslatione Arabalibii," and "Conclufiones Sophas," *Biog. Brit.*

BATELEUR, in Græceology, a name given by S. mini and others to Falco *Eucatius* of Lathom, &c.

BATELLO, St. in *Geography,* a town of Italy, in the kingdom of Naples, and province of Calabria Ultra, three miles north of Reggio.

BATEMAN BAY, lies on the south side of point Upright, on the east coast of New Holland, in which are three or four small islands. The north point is in S. lat. 35° 35'.

BATEMAN's Drope, in *Pharmacy,* are the anodyne balsam made with a weaker spirit, so that a larger dose can be taken; they are tinted with aniseed.

BATENBOURG, or Batt'enbour, in * Geography,* a town of the duchy of Gueldres, feated on the north side of the Meuse, nearly opposite to Ruveltein. N. lat. 50° 55'; E. long. 57° 35'.

Bateni, in *Antient Geography,* a people of Asia, placed by Paus and Schmus towards the Oxus and Bactria.

Batenites, a dept of apostles from Mahometanism, diffused over several parts of the East, who professed the same abominable principles with the Ilmicheen and Karmanians. The word signifies Eforerics, or people of inward or hidden light or knowledge. *Sela's Koran.* p. 186.

Batenketos, in *Astronomy,* a star about the third magnitude, in the constellation of Cetus.

Bates, William, in *Biography,* an eminent non-conformist divine, was born in 1635, and educated at Cambridge, where he took his degree of B. A. in 1647. He afterwards became a celebrated preacher among the presbyterians in London. Upon the restoration, he was appointed chaplain to Charles II.; and received a degree of doctor in divinity, by royal mandate from Cambridge. He was one of the commissioners at the Savoy conference for reviewing the liturgy, and one of the disputants on the side of the presbyterians against Dr. Pearson and other episcopalians. He took the oath required of non-conformists by the five-mile act, and was concerned in several unavailing efforts for effecting a comprehension of the dissenters by certain alterations and confessions. Moderate in his temper, and accomplished as a scholar, he was a fit person to be employed for such purposes; and he was always treated with respect by the members of the establishment. He was also much regarded by King William, and Queen Mary frequently perused his writings. Dr. Bates, towards the close of his life, resided at Hackney, where he died in 1699. His works, consisting chiefly of sermons and discourses, were collected after his death, and published in one volume folio. Besides these, a voluminous volume appeared in Svo, consisting of "Sermons on the everlasting Rest of the Saints." He likewise edited a volume of the lives of eminent persons, written in Latin, and entitled, "Vita selectorum aliquot Viarum, qui doctrinae, dignitate, aut pietate inclucrius," Lond. 1681, 470. The style of Dr. Bates has been commended for its elegance; and he appears to have read many books in polite literature, as well as in theology. *Biog. Brit.*

Bates, Joshua, Esq., late commissioner of customs, was born at Halifax, in Yorkshire, where he began his school education under the celebrated Dr. Ogden, with whom he remained till the doctor returned to reside at Cambridge. During this time he received the rudiments of music from Mr. Hartley, the organist of Rochdale. When Dr. Ogden quitted Halifax, Bates was removed to the school of Manchester, under Mr. Parnell; and it was there, as he has frequently told his friends, that the grand style of organ-playing, in which he so excellently excelled, was taught him by the performance of old Wainwright on the organ in the collegiate church. While he remained at Manchester, he had made such a proficiency in music as to be able frequently to execute for his old master Hartley, when he accidentally called him away from Rochdale.

Bates, on quitting that seminary, was removed to the foundation at Eton; but there his progress in music received a considerable check, and was in danger of being totally stopped; for it was contrary to the rules of that society for any of the boys on the foundation to be permitted the use of musical instruments. In this state of musical privation Bates remained some months, and had no other means of practising than by playing on imaginary keys on the table, which for a considerable time was his custom every day. At length, having by chance had an opportunity of touching the college organ, his talents for music were reported to Mr. George Graham, one of the affianced suitors, who, having a harpsichord, invited him to his rooms; and finding what an extraordinary performer he was, obtained permission from him to procure his musical studies, accommodated him with the use of his harpsichord, and procured him liberty to play on the college organ at his leisure hours.

When he went to Cambridge, the vacancies for King's college were so few, that he was in danger of being superannuated, and was actually entered at Christ's college, where, while he was a member, two of the university scholarships became vacant, and he declared himself a candidate. It proved on this occasion a fortunate circumstance, that he had not gone off to King's; for as Dr. Heath and Mr. Keate, both of King's college, and his seniors, were candidates, the custom of that college would not have permitted a junior to become a candidate. But though he was now a member of Christ's, that circumstance did not prevent his being a candidate for a university scholarship, or the examination which is considered as the most severe of any classical examination in the university of Cambridge. Some of the most distinguished under-graduates were at this time candidates; and after an examination of several days, Zouch of Trinity, and Bates, were elected.

This success established his literary character in the university as high as his musical had been before; and soon after, as the term of superannuation was expired, a vacancy happening at King's, he was admitted a scholar, and
in three years, fellow. The regularity of his conduct, during his scholarship, recommended him so much to provost Sumner, that he was appointed tutor to the college soon after his admission as fellow. While he was in this situation, among his private pupils he had not only students of his own college, but the present lord Bolton, and Mr. Coke the traveller, both then scholars of King’s, were his private pupils; as was the Hon. William Augustus Montagu of Trinity college, second son of the earl of Sandwich. This produced a connexion with that nobleman, which ended in his lordship’s tempting him to resign his fellowship, and reside with him at the admittance in the capacity of private secretary.

Few dilettanti musicians have ever acquired or deserved more fame for their knowledge in music, judgement, and experience in its effects, and abilities in conducting a complete orchestra and numerous band of singers, than Mr. Bates, who, at the university of Cambridge, distinguished himself as a fine performer on the harpsichord, as well as a zatulous votary of the works of Handel; and as long as he remained at college, he performed the part of a Conspicuous at all public and private concerts. It may perhaps not be thought unworthy of notice here, that at this time (about the middle of the last century), the university of Cambridge was in possession of four very extraordinary dilettanti musicians; Dr. Smith, master of Trinity college, for the theory of sound; the Rev. Thomas Twining, an admirable performer and leader on the violin, and an excellent judge of every species of music; the late worthy and ingenuous Mr. Lobb of Peterhouse, the most correct and certain judge men on the harpsichord or organ with whole performance we have been acquainted; and Mr. Bates for his masterly performance on keyed instruments, and abilities in conducting a band. There being at this time no very able professor in the university, these gentlemen regulated and performed at all public and private concerts during their residence in college.

No one stood higher in character, or was more counted in society, while at Cambridge, by persons of all ages than Mr. Bates; in particular by the late Dr. Smith, the master of Trinity college, with whom he spent most of his evenings, and who, at his death, left him a legacy.

Before he quitted the university, an organ was built for the church of his native place, Halifax; and determining that it should be opened with eclat, he, for the first time that any oratorio had been performed north of Trent, attended. With the affiance of the Rev. Mr. Allott, of Kirkleveton, who had trained up the country people in his parish to sing choruses in a very superior style, and with the addition of Bates’s own exertions, with the singers of Halifax, the choruses were performed with a precision that astonished every one; and it was universally acknowledged, by the best judges, that the Messiah had never been so well performed. The first violin, on this occasion, was performed by the celebrated Dr. Hericel, the almoner; and his profession being then music, he was immediately elected organist.

It was the successes of this undertaking that inspired the late commissioner with the idea of reforming the compositions of old masters from oblivion, by having them executed by a numerous and select band of vocal and instrumental performers; and after being settled in London as private secretary to lord Sandwich, he had an opportunity of communicating his plan to persons of the first distinction, and the establishment of the Concert of Ancient Music in Tottenham street was the consequence, being formed and executed entirely under Mr. Bates’s direction: and as many of the works of Handel, which had not been performed for many years, and never so well as at this establishment, were revived, the number of that truly great, and often fulminating composer’s admirers was much increased.

His majesty, a constant and steady patron and protector of the works of Handel, soon after the establishment of this concert, graciously condescended to become a subscriber; and together with him retired to the prince’s condescend to attend the several performances. The nobility and gentry, who were enrolled among the original subscribers to this respectable institution, have been likewise steadily in their patronage and attendance. And it is now (1802), from the splendor and celebrity of its admirable performances, in higher public favour, than at any former period of its establishment.

After remaining some years with the earl of Sandwich at the admittance, Mr. Bates was appointed commissioner of the virtualline office; and soon after, he married his celebrated pupil, Miss Harrop, who had been educated under his eye from his first arrival in London; and whose seraphic voice, and disposition for music, he so highly cultivated, as to render her one of the most enchanting singers which this or perhaps any country ever produced.

The virtualline office on Tower hill now became the receptacle of performers of the highest quality; and as his residence there, was planned that most magnificently musical performance, the Commemoration of Handel in Westminster abbey and the Pantheon, which was conducted by Mr. Bates in a manner never to be forgotten by those who had the happiness of being present. The great splendor and fecules of this commemoration will unit the name of commissioner Bates with the name of Handel, as long as such a memorable event shall remain in the records of the musical art. And the performance of Mrs. Bates, particularly in the pathetic songs of Handel, has rendered it so difficult for her successor at the concert of ancient music, to satisfy the old subscribers in such songs as she used to perform there, that something will always be wanting to complete their happiness.

Soon after the commemoration, Mr. Bates was promoted to a seat at the board of censors, but previously to his quitting the virtualline office, having officiously experienced the difficulties with which the capital of the kingdom often labours under for want of flour, he projected the plan of the Albion Mills; on the success of which he was so sanguine, that he ventured his whole fortune, and even that of his wife, in the capital stock of that company, to the amount of 10,000l. By the configuration which happened to this building, he was completely ruined. His whole fortune was not only lost in the company, but his credit for a large part of the stock in hand, which was all consumed by the fire; so that he was totally bereaved of the means of making any provision for his family, and of guarding against the vicissitudes to which humanity is subject. He submitted to this event with dignity and fortitude; but the circumstance of having involved his wife in the ruin, and sacrificed her professional acquirements without her approbation, preyed so continually on his mind, as at length to produce a complaint in his head, which finally proved fatal, and brought him to the grave, the 8th of June 1799, at the age of 59.

BATESON, Thomas, an English Madrigalist of the beginning of the seventeenth century, not devoid of merit as a vocal composer. He was organist of the cathedral of Chelster in 1600. Ant. Wood says, that he was a performer esteemed very eminent in his profession, especially after the publication of his English madrigals to three, four, five; and six voices. About 1648, he became organist and master of the children of the cathedral church of the Blessed Trinity in Dublin; and in the university of that city, he obtained the degree of bachelor of music.

BATS-
BATH.

BAT-FOWLING, a method of catching birds in the night, by lighting some straw or torches near the place where they are at roost: for, upon besting them up, they fly to the flames, where being anayed they are easily caught in nets, or beat down with bushes fixed to the end of poles, &c.

BATGAN, or B'HATGAN, in Geography, a city of Hindostan, fruite in the extensive plain of the kingdom of Nepal or Nepaul, to the east of Loll Pattan; and 10 miles south of Catmandu, is composed of Nepali. It contains about 12,000 families, extends towards the east to the distance of five or six day's journey, and borders upon another nation, also independent, called Ciratas, who profess no religion. In 1769, the king of Gorkha took possession by force of the city of Batgan. See Father Giuseppe's account of the kingdom of Nepal in Asiatic Researches, vol. I. p. 328.

N. lat. 28° E. long. 83° 12' N.

BATH, a city of Somersetshire in England, is situated in N. lat. 51° 22' 30" W. long. 2° 21' 36", at the distance of 107 miles west of London, and 12 miles from Bristol. This ancient and elegant city is singularly favoured by nature and art; whole joint co-operations have conspired to give it importance and celebrity. The beauty and peculiarity of its situation are perhaps unequalled by any town in England. Planted originally in the bottom of a deep and narrow valley, where its hot waters boil up, it continued for ages to be confined to the dimensions which the Romans had first marked out; and till within the last century, the ancient Roman walls (inclosing a space of about fifty acres) formed the boundaries of Bath. But the fashion and celebrity which it latterly obtained, induced many builders and speculators to extend the streets in all directions, by additional houses, which were incessantly occupied upon completion. Built of the fine siltic, or granulated egg-like freestone, which forms the bafis of the surrounding hills, the houses are remarkable for their exterior neatness and splendour, and being raised over the sides of the broad acclivity of Lansdown (which rises to the north) in irregular groups of streets, squares, parades, circuits, and crescents, they present to the eye an appearance equally singular, magnificent, and beautiful. Nothing, indeed, can be more picturesque than the views of this city from various situations on the surrounding eminences; where houses rise above houses in progressive order, and the more elevated seem to look down with proud superiority on the no less elegant and extant houses below.

Bath, Ancient History of. Various names have been given to this city at different periods. Its British appellation was Caer-Baddon. In Latin, it was called Aquae Solis, Fontes Calid, Achaamannum, Thermae, Badonia, &c. and in Saxon, Acemanes-ceap, Acemanes-beep, Leotbana, &c. Most of these names refer to its situation, and its springs or baths. The origin of this place as a littlement or town, is lost in the lapse of ages; and its early history is enveloped in legendary tales and monkish fables. The strange story of Bladud and his leprous pigs is dissevered by all rational thinkers, though it formed a part of the creed of the Bath citizens till within the last fifty years. But the present generation (observes Mr. Warner) are wiser and more prudent than their forefathers, and rather attentive to the value of the springs than their origin, have at length forgotten the antiquity of their discovery; in the agreeable contemplation of the large rents which they throw into the corporation chests.

That Bath was one of the principal, if not the most considerable, of the Roman stations in England, is satisfactorily proved by the many architectural and military antiquities which have been found within its precincts. It is probable that if Bath was not originally built by the Romans, it was at least reduced under their power, and embellished by their arts, as early as the middle of the first century; when, in the reign of the emperor Claudius, according to Tacitus, about the year 44, the western and southern parts of this island were completely subdued by Titus Vespasian. Attracted by the medicinal and warm springs which they found here, and which afforded every means of indulging in that prime enjoyment of Roman luxury, the bath, the Roman soldiers fixed in this place one of their principal stations. "Aquae Sulis," the name by which they designated this delightful residence, was soon established as a colony; and of course became entitled to the privilege, which all the Roman colonies enjoyed, of minting its own money. It is to be conjectured also, that a military forge, or college of armours, was erected here for the fabrication of legional arms, under the authority of a Roman government. In the reign of Adrian, about A.D. 118, the first detachment of the second legion, which had been stationed here, was joined by a division of the sixth; and in that of Severus, a part of the twentieth legion, removed from Vienna, or Chelten, had its station in Aquae Sulis, which was then become the most capital city in Roman Britain, and the principal, if not the only, place in this part of the island, for preparing the legional arms and ensigns. The form of the city then constructed, according to that usually affected by the Romans, approached to a parallelogram, swelling out on one side, so as to describe an outline somewhat pentagonal, and stretching in length, from east to west, about 400 yards, and 380 yards in the broadest part from north to south. The wall, which rose upon the outline of the settlement, appears, from sublequent discoveries, to have been twenty feet above ground in height, and in thickness sixty feet at the base, and thirty at the summit. It was strengthened by five towers, rising at the angles; and had four portes, or entrances, facing the cardinal points, which were connected together by two grand streets, dividing the city into four parts, and interfacing each other at the centre.

The place thus fortified and strengthened for security, was next adorned with houses for the officers, temples, and those magnificent baths, the remains of which were discovered, in digging to a considerable depth, in the year 1755. These baths were erected near the centre of the city, between the north and south gates, on the eastern side of the great folk-road. The fridatories, tympanum, fluted columns, cornices, pilasters, and sculptured ornaments, found here, proved that the buildings were constructed from elegant designs, and of similar characters to some structures discovered in Italy and Tivoli. Many altar-sacrifices have also been found here bearing the inscriptions of Dee Sulini Minerva, Dee Sulinis, &c., concerning which many conjectures have been adduced. Mr. Warner affirms the goddess Sulinis to be a local deity, Mr. Lysons affirms that the name is of Gothic origin, whilst Mr. Whitaker more appropriately and happily explains it to be the British characteristic appellation for Minerva as the tutelary goddess of m-ucine, deriving her influence immediately from the sun. This great defoner of heat was denominated Sul in the Celtic language. The ancient baths occupied a space measuring 230 feet in length from east to west, and 120 feet at the broadest part from north to south. (These baths, and remaining fragments, have been particularly described and illustrated by governor Powall and Mr. Warner, in publications expressly on the subject; and the fragments are represented and described by Mr. S. Lysons in a volume lately published.)

The Romans being established here, constructed four of their great military roads to communicate between this place
BATH.

(Aqua Soly,) and the nations of Durocorium (Cirencester), Verulam (Haddington), Ichelais (Iffley), and Abene (Amersham). The conquering Romans having enjoyed the possession of Bath and England for nearly four centuries, at length left the whole island to the possession of the Britons, who were afterwards subdued by the harry Saxon. It was not till the year 577 that Aquae Sulis fell into the hands of the Gallican conquerors, who, under the command of Candia and Cutham, overcame Cirencester, Cirencester, and Bath, at a place called Dyhyam, eight miles from the latter place, and took possession of their respective dominions. Bath now received the privileges of a Saxon burg had its Gerefa or judiciary appointed to it, who presided in the monthly meeting of its citizens, called the burgenote or tolentum; councils instituted for the regulation of the police, and administration of the laws within the burgh. Bath was afterwards taken by Offa, king of Mercia; and during the civil wars and Danish invasions which prevailed in the eighth century, it was torn to pieces and nearly exterminated as a town. During the brilliant reign of Athelstan, this place again rose to consequence; and a mint was established here by the first monarch, who also gave several large donations of estates to Offa's abbey. King Edgar was crowned and inaugurated here, and testified his regard for the place by granting it several privileges. The inhabitants seem to have been fully sensible of the favours conferred on them by this monarch; and according to the statements of Leland they praved for several centuries "in all their ceremonies, for the king's sole; and at Whitsuntide," he states, "there is a king elected every year of the towns men, in the joyful remembrance of king Edgar, and the privileges given to the town by him." During the Danish dominion in England, the mints of Bath continued to be worked, and several coins of Canute the Great, struck here, are still remaining in some select cabinets.

The Norman conquest had produced much general evil to the country; and Bath, with several other cities, experienced, in consequence of its great deterioration. But this was partial and light, compared to the miseries which happened to Rufus's reign; when in the insurrection raised by Odo bishop of Bayeaux, Geoffrey bishop of Conflance, and Robert de Mowbray; the two latter took the place by assault, and, in the spirit of the times, delivered it over to plunder and burning.

Bath was indebted for its restoration to John de Villula; who purchased it of Rufus, in 1095, for 500 marks, and obtained permission to remove the的照片 feat from Wells hither. He rebuilt the city, erected a new monastery upon the ruins of the old one, and united the bishopric to this institution. Thus reinvaded, Bath gradually increased its monastic possessions, in consequence of the munificence of monarchs and private persons; but the sweeping dissolution of Henry VIII. drove the monks from its monastery, when the abbey-house, with its lands, &c. was granted to private individuals.

The citizens of Bath returned members to the English parliament as early as the 26th of Edw. I. and waited were regularly sent them for the same purpose every time parliament was summoned to meet. But as those privileges were attended with heavy charges on the burgesses, who generally paid the expenses of their members, the city was not represented during the 18th and 2d years of Edward II. It now sends two members, who are elected by the body corporate, consisting of thirty-one persons. The government of Bath was originally vested in a sheriff; and the first that appears to have borne this office was Elfred, who is said to have been a great benefactor to the city, and died A.D. 907. It had afterwards a provost or bailiff. Its first charters were confirmed by king Edward III., Richard II., Henry V., and Henry VI. Queen Elizabeth, in the 22d year of her reign, granted the city a new charter, declaring it to be a sole city of itself, and the citizens to be a body corporate and politic, by the name of mayor, aldermen, and citizens of the city of Bath. This charter was renewed in 1754, when two additional franchises were granted the city and under that charter the corporation derive their authority, power, and rights.

The commerce of this city, abridged from the expences of fashionable company, is incomparably, nor is there any manufactory deserving particular notice. Bath was formerly distinguished for its clothing trade; and at the time of the restoration, it is said, there were no less than sixty broad-cloth looms used in the parish of St. Michael.

The river Avon, which winds round the southern part of this city, was made navigable by an act of parliament in the 12th of queen Anne; and the first barge, laden with deals, pig-lead, and meal, was brought here December 13th, 1727.

In the early part of the civil wars, this city was garrisoned for Charles I., and the sum of 7000l. is said to have been expended upon its fortifications; notwithstanding which, it was quickly surrendered to the enemy, and was made one of the principal posts for the parliament's forces. Sir William Waller lay here for a considerable time with his whole army, making forays into the country, and invading together all the disaffected from the neighbouring clothing towns and villages. But after the battle of Roundway-down, July 13, 1643, in which Waller was defeated, and the withdrawal of the garrison for the reinforcement of Bristol, the king's troops took possession of the city.

Having detailed a few particulars relating to the early history of Bath, we proceed to a brief description of its principal public structures, and other prominent objects which characterize this fashionable place. The Public Baths are in four numbers, besides two private baths. These are all constructed with particular attention to the convenience and accommodation of invalid bathers; and the laws and regulations are very equitable and fair. (For an analysis of the hot waters of Bath, and an account of their medicinal powers, vide Dr. Gibbes's Treatise on the Bath Waters.)

The King's Bath is supposed to be so denominated from some of the Saxon kings having made this city their residence. It is situated to the west of the abbey church, and forms a parallelogram, 65 feet 10 inches in length, and 43 feet 10 inches in breadth; the bottom of which is 12 feet below the surface of the ground. The spring or main source is from the centre, which is covered with a large leaden reservoir, to restrain its rapid motion, and to diffuse the water more equally, both for bathing and drinking. There are also two commodious rooms with pipes, fire-places, and other conveniences for the bathers. This bath fills in nine hours.

The Queen's Bath, which receives its waters from the former, forms a square of about 25 feet in diameter. The Cross Bath forms a hardstone termination to Bath-street, and is a very elegant building, constructed after a plan of Mr. Baldwin's; its shape is triangular. The Hot Bath is erected to the south-west of the latter, and is so called from the superior heat of its water; this also forms a parallelogram, and is perfectly convenient with respect to an open bath, private baths, dry pump, and dressing rooms. Certain regulations are promulgated respecting these baths and the persons belonging to them; as well as particular fees for every process of bathing, pumping, &c. Adjoining to the king's bath,
in Staflestreet, are some new private baths, which were
erected by Mr. Baldwin in 1788. These baths belong to the
Corporation. There are also the private baths, called the duke
of Kington's, or the Abbey baths, belonging to lord New-
ark, and in the occupation of Mr. Sloper. See Bath
Water.

**Bath. Public Buildings.** The Guildhall is a very handsome
structure, built after a design of Mr. Baldwin, and contains
a number of useful and convenient rooms for public
business. In the council-room, one of the most elegant of the
king in England, are portraits of the king and queen, the
late prince and princess of Wales, and the late earl's Chatham
and Camden. The Pump-room was constructed, by the
same architect, in the year 1795; its length is 85 feet,
including the recesses at the ends; in breadth 45 feet, and 34
feet in height. The inside is tinted with Corinthian
three-quarter columns; and lighted by a range of large
windows below, and of half ones above. Here is a marble
statue of Richard Neif, Esq, the author of the Grammar
of Bath; a gentleman to whom this city is principally indebted
for its fashionable celebrity. The pump is held under a
beneficial sale from the corporation for three years, the rent
being 50 guineas, exclusive of taxes; which, however, is
sufficiently low to enable the缴纳 to lay up 1200/.
1795, or 1500/ during the term. Most of the elegance of street-
building in Bath is owing to the late Mr. Wou; who
commenced his operations with spirit, and conducted them
with taste. To him the city is indebted for Queen-square;
the northern side of which presents a chaste and neat range
of structures, decorated with all the ornaments of the Cori-
thian order.

The Circus is of his designing; here the houses parake of
the three orders, Doric, Ionic, and Corinthian, highly
ornamented. To the grandeur of his design, the North
and South Parade bear ample testimony; as do several
streets stretching to the northern end of the old city, which
are near racy by judgment and execution. Subsequent ar-
chitects have followed Mr. Wood's example, and hence arises
a profusion of new squares, crescents, parades, and streets;
thus increasing Bath to fix times its original size; and the
beauty of the city is equal to its extent.

The new assembly rooms are the most elegant of the kind
in Europe; these were built by Mr. John Wood in 1771,
at an expense of 20,000/. The ball-room is 105 feet 8 inches
long, 42 feet 8 inches wide, and 43 feet 6 inches high; the
other parts of the building are composed of the octagon
room, the tea room, and the card-room, all of equal beauty.
The regulations to preserve order and decorum in these rooms
are simple and satisfactory. The lower rooms, near the
north parade, have a convenient suite of apartments appro-
rated to the elegance of the place; and here are to be seen
the original regulations by Mr. Nah, which he wrote for
the purpose of inducing politeness and urbanity to a system.
A neat Italian theatre was erected in Orchard-street by the late
John Palmer, Esq, who obtained a patent for dramatic enter-
tainments in 1768; and here plays are performed on Tues-
days, Thursdays, and Saturdays. Sydney gardens are laid
out in a very pleasant and elegant style, for the purpose of
evening promenades: where gaiety and public music and
fashioning are given similar to the entertainments at Vauxhall
gardens of London.

**Hospitals, &c.** Built ngs and institutions of this nature form
a striking feature of Bath; and no place in the realm, accord-
ing to its size, exhibits so many foundations for the extirpa-
tion of disease and wretchedness, for the support of the poor,
and the instruction of the ignorant. The general hospital, from
the munificence of its plan, is an institution open for all
the sick poor in the united kingdom, who labour under dis
eases to which the hot waters of Bath particularly apply, with
an exception to those persons inhabiting the city, who have
the waters at their own houses for a small expense. Mr. Nah
had the honour of suggesting the idea for its foundation, in
1715, and the first stone was laid in 1738. St. John's hos-
pital, originally founded by Reginald Fitz Jofelin in 1182,
and the chapel attached to it, stand near the crofs bath, and
were built in 1728, upon the site of an old structure for the
accommodation of sick infirm men and women. St. Ca-
tharine's hospital, called also the Black alms and Bimberries,
is another asylum for ten poor persons. Bellot's hospital
entertains twelve poor men and women, who have each an
apartment, the liberty of bathing, and a small weekly allow-
ance. The Bath city Dispensary and Almshouse is equally
open to the inhabitants and strangers in cases of physical
and surgical emergency; and is a most excellent institu-
tion. The Charity hospital is appropriated to paupers who have
been injured by accidents. The Puerperal, or child-bed char-
ity, is another benevolent institution, whose objects are
explained by its name.

Bath has, besides these establishments, a public grammar
school, charity and Sunday schools, with many humane and
scientific societies. The principal of these are, the drangers'
The first is established and conducted on the most benevolent
principles of universal philanthropy; and the only recom-
mandation for relief, is a sufficient proof of evident distress.
The second was established by Mr. Edmund Rack in 1777,
for the encouragement of agriculture, arts, manufactures,
and commerce; and from the judicious management of its
founder, and late secretary Mr. W. Matthews, it has ac-
quired some celebrity, and proved of extensive utility. The
philosophical society was established in the year 1799, by
some respectable literary characters at Bath, upon a plan
somewhat similar to that at Manchester, for the promotion of
science and the diffusion of knowledge.

**Parishes.** Bath is divided into the parishes of St. Peter
and St. Paul, St. James, St. Michael, and Walcot. Bathwick,
thought connected by Pulteney bridge, and consisting of a
great number of half-dome houses, is cut of the jurisdiction
of the city. Each of these parishes has its church; and
in that of Walcot are several chapels of ease. Of these the
principal is the Abbey Church, which presents a noble speci-
mum of English architecture. It is built in the form of a crofs,
from the centre of which rises a tower 162 feet high, orna-
mented with beautiful light perforated battlements. The
length of the body from call to wall, is 210 feet, from
north to south, 126; and the breadth of the body and side
niles, 72 feet. The grand entrance at the west is through
a noble arched doorway; and the chaste uniformity, propor-
tion, and harmony in the structure of the interior of this
stately building, powerfully arrests the attention of the be-
holder. The west window is of extreme richness, and the
whole of this front displays a representation of allegorical
carvings, not usually met with. The roof, consisting of two
parts, the nave and the choir, is equally remarkable; the
ribs which compose its tracery being the only solid work, the
intermediate spaces having being originally left open, and af-
terwards fill'd up with bath and plaster. The windows are all
large, of admirable and nearly uniform construction; this has
occasioned the church to be called "The Lantern of Eng-
land." A profusion of marble monuments ornament, or rather
crowd up, the inside; among which may be noticed those
of bishop Montague, Queen, beau Nash, lady Millier, and sir

William
The分析 of Bath water has been the cause of much controversy among chemists, but it seems now to be well understood. To the taste it is neither biting, nor acid, nor alkaline, nor impure; it is simply hot and chalybeate; and it is only marketable that the chalybeate taste is entirely lost as soon as the water cools, before any sensible precipitation of the iron takes place. The actual quantity of the iron is so minute as never to have been climaxed with any accuracy: probably a quarter of a grain in a gallon is an ample allowance, a quantity too small as only to be perceptible to the taste when fresh drawn and hot.

Bath water contains no other ingredients of any importance. It is hard, and holds some calcareous earth in solution, and (as Dr. Gibbs has discovered) a portion of silica. It is perfectly free from sulphur. A considerable quantity of azotic gasses rise from the earth along with the water, and a certain portion is held by it in solution or rather weak affinity. Of carbonate acid it only contains about \( \frac{1}{4} \) of its bulk.

The diseases for which the Bath water has been recommended are very numerous. It has long enjoyed a high celebrity in the cure or relief of gout, chiefly of the stone kind; of rheumatism; paralysis, especially that partial palsy of the limbs induced by rheumatism; and diseases of the urinary organs. When drank freely from the spring (the only time when it pollutes any peculiar virtue), it sometimes ratifies the pulse, cauizes the face to flush, and heats the body very considerably; and hence there are many invalids who cannot bear its operation, or who must be gradually accustomed to it. This heating effect, however, is by no means constant or universal. It often produces a collique state of body and generally keeps the patient periodical and eaily perspirable. Its use as a hot, warm, or tepid bath is fled as extensive and probably important as when taken internally. It has been thought by many that the practice of drinking our Bath waters in Somertershire is not very ancient, and that their ancient use was in bathing; but Dr. Freud endeavours to show the interval use of these waters to have been very early. Dr. Guidot, in whose time this usage revived, and who has given us an historical narrative of these waters, goes no higher for their internal use than the latter end of the sixteenth century. But they appear to have been in use in the thirteenth century. Gilbert, renowned Anglicus, who, according to Bayle, lived about 1270, in the reign of king John, or more probably in that of Edward I., mentions amongst the curiosities of a certain place, a great swelling, &c. by the sulphureous baths: which Dr. Friend underliest the Bath waters; and that the cure was wrought by drinking, not bathing, which had been improper in such a cafe.

Dr. Masegrave makes it probable, that they were referred to in the time of Cæsar; there being found the remains of a statue erected to that general, in gratitude for some benefactions which he had conferred on the place. Some pretend that these waters were in use 800 years before Christ. Phil. Trans. N° 49 346.

The two stated seafons for drinking the Bath waters are spring and fall, though they may be used whenever they are found necessary.

Bath, in Geography, a river of Africa, in the kingdom of Fez, which rises in mount Atlas; and joining the Saba or Sbah, flows into the ocean north of Minamore.

Bath, a country of Virginia, in N. E. America, about 60 miles long and 50 broad. bounded on the east by the country of Augusta; and noted for its medicinal springs, which are hot and cold, near the foot of Jackson's mountain.

Bath, a township of Lincoln county, in the district of Maine, in America, containing 949 inhabitants. It lies on the
BATH.

the west side of Kennebeck river, about 13 miles from Wiscasset, 60 N. E. from Portland, 32 from Hallowell, and 165 N. E. from Boston. N. lat. 43° 49'.

Bath, a thriving town, in Berkley county, in Virginia, seated at the foot of the warm spring mountain. The springs in the vicinity of this town, though less efficacious than the warm springs in Bath county, draw upwards of 1,000 people here, during summer, from various parts of the United States. The county in the environs is agreeably diversified with hills and valleys; the soil rich and well cultivated; 269 miles S. W. from Philadelphia.

Bath, a township of America, in Graffton county, New Hampshire, containing 439 inhabitants; and lying on the east bank of Connecticut river; 35 miles N. E. from N. from Dartmouth college, and 97 N. W. from Portsmouth.

Bath, or Port Bath, an ancient town in Hyde county, North Carolina, on the north side of Tar river, about 24 miles from Pamlico sound, 64 S. by W. from Edenton, and in the port of entry on Tar river. It contains about 12 houses, and is declining. N. lat. 35° 31'. W. long. 77° 15'.

Bath, a village in the county of Renfelaer, New York, pleasantly seated on the east bank of Hudson river, nearly opposite to the river of Albany, at the head of Sloop navigation. A mineral spring has been discovered in this place, and a commodious bathing-house has been erected, at a considerable expense, containing hot, cold, and shower-baths.

Bath, a thriving post-town in Steuben county, New York, containing about 50 houses, situated on the north bank of Conhoacon creek, a northern head-sater of Tioga river, 43° 30' S. E. from Williamsburg, 120 from Niagara, and 221 miles from Hudson city. N. lat. 42° 15'. W. long. 77° 10'.

Bath, a village in the eastern parish of St. Thomas, in the island of Jamaica. It owes its rise and name to a hot spring near it, which is said to be very efficacious in the cure of the dry belly-ache. The sulphureous water flows from a rocky mountain about a mile distant, and is so hot that the hand cannot be held in it.

Bath, balneum, a convenient receptacle of water for persons to wash or plunge in, either for health or pleasure. Baths are either natural or artificial. Natural, again, are either hot or cold. See Mineral Waters.

Baths, Artificial or Medicated. The very accurate imitations of most of the mineral waters for the purpose of drinking which are now met with, have induced some ingenious artists to extend the imitation to larger quantities of water sufficient for the purpose of bathing. The method of performing each will be explained under the article of Water, Mineral.

Of artificial baths some are aqueous, others vapporous, others dry, &c.

Baths, Aqueous, are those prepared from common plants and other substances of emollient, resolvent, and nervous kinds. Aqueous Baths sometimes consist of milk and emollient herbs, with rose-water, &c. when the design is to humectate; at other times of bran and water, when the design is only to cleanse; sometimes again they are made of a decoction of roots and plants, with an addition of fruit of wine, when a person babbles for a great pain or tumor, &c.

In Vappour Baths, the fume or steam of some decoction is received upon the body to promote a perspiration. There are also by some called Bathea Locemen.

Vappour Baths are, when the patient is not plunged into what is prepared for the bath, but only receives its fume upon those parts of his body which require it; as in some distempers of the fundament and womb, where the patient sits and receives the fumes of some proper fomentation, &c. Mrs. Bath, a celebritious author, has published "A Method of constructing Vapour Baths," as to render them of small expense, and of common use in private families. The principles on which this method is founded are, that in the vapour bath the water being applied, not in the state of steam, but, that being solid, is received in the air. Men of spirit is then saturated, the heat of the inclosed air can be maintained in a sufficient degree; and that the room is filled, either metallic ones, being the greatest conductors of heat, are to be avoided in the construction of the vessel containing the vapours, and the lightest and most non-conducting materials used instead of them. The whole apparatus for the vapour-bath is, therefore, reduced to a box, tin pipes wrapped in flannel, and a deal box, with a cotton cover, for the reception of the body and circulation of the vapour.

To these may be added the bagnio, where people are made to sweat by the heat of a room, and pouring on of hot water; after which they generally go into a hot bath, or hagmi. See Bathing.

Baths, Dry, are those made of ashes, salt, sand, flints of leather, and the like.

The ancients had divers ways of sweating by a dry heat, as by the means of a hot sand, foyro rooms, or artificial bagnios, and certain natural hot fumes of the earth, received under a proper arch, or hot-houne, as we learn from Celsus. They had also another kind of bath by molatation, where the body was exposed to the sun for some time, in order to draw forth the superficial moisture from the inward parts: and to this day it is a practice in some nations to cover the body over with horse dung, especially in chronic diseases, to digest and breathe out the humour that causes the distemper. In New England, they make a kind of fls of turp, wherein the sick are shut up to bathe or sweat. Phil. Trans. No 384, p. 150. The same name is sometimes also given to another kind of baths, made of kindled coals, or burning spirit of wine; the patient being placed in a convenient cloche chair for the reception of the fume, which rises and pro. vokes sweat in a plentiful manner: care is here taken to keep the head out, and to secure respiration.

This bath has been found very effectual in removing old obdinate pains in the limbs, and other complaints; and, it is said, will often complete a cure, left unperformed by salivation.

Baths, Metallic, those made of water impregnated with the f binaries of metals. The mud common and useful of this kind are those prepared with the f binaries of iron, which abound with the earthly, saline, and sulphurous sub stance of the metal; and these are of excellent service for strengthening and braceing up the part to which they are applied, and recovering weak and decayed limbs; stopping various kinds of bleeding; and retarding the menstrual and hemorrhoidal flux, where obstructed; in such quantity that they may well be substituted for the natural iron baths.

Adjacent to the fine ting huts where metals are rem from their ore, are to be found large quantities of the flag of copper, antimony, and cobalt, which, assaying with sulfur, vitriolic salt, and an earthly principle, make serviceable baths for strengthening the soft tone of the fibres, and laxing them when they are too full. These baths have likewise a detestive and cleansing virtue; so that, with prudence and due regard to circumstances, they may be used on many occasions. The way of making these artificial baths is, either to take the flags as they come hot from the fur,
BATH.

Bath, Balneum, in Chemistry. In many chemical processes it is the utmost importance both for the facility of the vessels, and the success of the operation, that the application of the necessary heat should be gradual and regulated. This is particularly the case in distillations, and in digestions at a moderate temperature, and whenever globe vessels are employed. Hence the contrivance of baths or internally between the burning fuel and the vessel containing the subj ect of the process, in which the vessels are immersed, and whereby they receive the heat in a regular gradual manner. As fluids heat with more uniformity than solids, they are preferable where only a heat a little inferior to the boiling point of the fluid is required; and they possess this important advantage, that the heat is so kept down by evaporation, that it can never rise beyond the known and given point of boiling. But where as much even as a low red heat is required, no fluid can be employed with any convenience, and recourse must be had to some incom busible solid reduced to powder. A great variety of baths were used by the elder chemists, especially those who were engaged in alchemical pursuits, which were supposed to require long digestions in a very accurately regulated heat; but most of these are now laid aside, and only the following kind of baths are retained.

The water Bath, Balneum Aquae, is of great use in the distillation of volatile oils, of the aromatic part of vegetables, of the finer kinds of aromatic spirits, in evaporating into dryness the solutions of vegetables employed in medicine whose virtue would be lost by any excess of heat, and in many other processes. The apparatus for this bath forms part of the improved alembic (which see, in Plate III. fig. 13. A. of Chemistry); but any vessel full of water, capable of being heated to boiling, and of containing a retort or other vessel, may be used as a water bath. As the utmost heat which any substance immersed in a boiling liquid can acquire thereby, falls short by a few degrees of the temperature of the liquid itself, the heat of a water bath cannot amount to 212°. This is considerably increased, however, by using a strong solution of sea-salt, or any other salt, instead of water; as the boiling point of saturated brine is much higher than that of mere water. This forms the ancient Balneum Maria, Bath of Mary (the Virgin, as some have interpreted the term); but others with more plausibility write Balneum Mariae, sea-salt r, or brine bath.

Mercury, the bubble alloy of bismuth tin, and lead, the atoms, and other metals, have been applied for the purpose of baths, and now and then used, when a higher heat than the hot water bath is required; but the metals are cumbersome by their weight, and expensive, more is dangerous to the bystanders from its evaporation, and they all have the inconvenience of requiring more pressure to be used than the mere weight of the substance which they are to heat, to enable it to be immersed in the melted metal.

Balneum Siccam. This well-known term has been applied to the outdoor bath, in which the vessel to be heated is enclosed in a kind of case filled only with the steam of boiling water. It is small if not quite out of use for chemical purposes, but it forms a valuable implement for the kitchen.

Balneum Acre. Sand bath, of all kinds or chemical baths is that which is used the most extensively. In experimental furnaces, or smaller chemical operations, the vessel to contain the fluid is of card iron, very much in the form of an inverted round hut, of which the hollow part is supported by the projecting rim upon the sides of the furnace, and hangs down over the burning fuel. The flame of which plays round it and gradually heats the vessel which it contains, together with every vessel buried therein. The sand should be of reddening fines, the finest as well as the very coarsest being separated by sifting; for by this means the heat is more gradually distributed. These distillations, which at any part of the process require as much as a low red heat, are usually performed in sand baths, even in manufactures in the great way, as of aqua fortis. Sand, when thoroughly heated, continues hot for a very considerable length of time.

Bath is also used in another sense, to signify the fusion of metallic matters in certain operations; thus, in refining or culminating, the metals are said to be in bath when they are melted.

Baths, the name proper to such public or private edifices as are used for bathing.

The practice of bathing is found among all the nations of antiquity. The people of the East were ever accustomed to it, and have continued the habit to the present time; their methods being perfectly conformable to those of the Greeks and Romans. If we may credit Homer, Moseley, and Thucydides, the first ages of Greece knew no other baths than the rivers, and it was not until the rise of the prince's Nautica, and Helen bathed. Homer (lay the French Encyclopédists) indicates, that in his time private baths of a regular form were in use. Telemaque and Phœdrus, they observe, were conducted to baths of uncommon seats: the most beautiful slaves in the palace bathed them, perfumed them, and adorned them with the handomest garments. But all this is an assumption which the text of their author by no means warrants. The passage alluded to is in the Odyssey, Book x. l. 135.

ξύφω στὴν δαίμονας ερυθρίας ἱππάτισις θερμήν
καλλι χρυσόν νητὶς αργηίαν λιπάσις
ναυτικαὶ.

And the lines which follow plainly show, it was nothing more than a common ablution previous to an entertainment. The Aith s was a kind of v ale occasionally placed upon a tripod.

The Romans, who for a long time bathed in the Tyber, borrowed the idea of artificial baths from the Greeks; their various habits of life and times rendered such accommodations necessary; and, to make short of our relation, all the most splendid and fascinating luxuries of the emperors were...
BATH.

multiplied and brought together in the vast buildings of the
thermae.

The thermae, these prodigious monuments of Roman
maquiiicence, were formed in imitation of the Greek gymna-
sia. In both were assembled all the institutions favourable
to health, all the exercises of the body, all the exercises
which were supposed to relax on the mind, and afford
amusement to the people. Although the name of thermae,
given by the Romans to these edifices, signifies a place
ded to the use of warm-baths, yet the diversity of uses to
to which they were applied will not suffer us to comprise
the whole in a single article. All that concerns the
immediate use of the baths will be found here; but for other
details, we shall refer to
Thermae.

The most complete and beautiful baths were composed of
six principal apartments.

The first was called the apodyterium, where the frequenthers
of the bath undressed; it was furnished with tables to receive
the garments of the bathers, and guards named coriari
to take care of them. This room was also called by the Ro-
mans the frigidarium. All the baths were not furnished
with an apodyterium. Lucan says, that in those which
were without it, the frigidarium was used for the same
purpose. The apodyterium is found neither in the gymnasium
of Vitruvius, nor in the palace described by Lucan. It is
very probable, there was no such apartment in the Greek
gymnasia, and that the frigidarium supplied its place. Pinay
is the only author who mentions it, when describing the
baths of his country house.

The second apartment was the cold-bath: named laconon
by the Greeks, and frigidarium by the Romans. This room
was usually exposed to the north, and served, as we have
just related, the purpose of an apodyterium to such baths as
were without one; of course, it was then the first apartment.

The ancient writers imagined that the frigidarium and
tepidarium were the same; but ancient paintings prove the
contrary.

The third room was the tepidarium. Its principal use was,
by the temperate air it contained, to prevent any bad effects
that might be occasioned by passing too suddenly from the
warm to the cold apartment. In the paintings of the baths
of Titus, this apartment is found between the frigidarium and
the concamerata sudatoria. The tepidarium, according to
historians, joined the frigidarium to the warm bath; and it is
for that reason that Pinay calls it calda media, the middle
room. Galen gives it the same name, and imagines it ac-
quired this appellation on account of its situation in the
centre, but more in its temperature for, says he, this
room was as many degrees colder than the third or warm
bath, as it was warmer than the first or frigidarium. The
frigidarium and tepidarium, however, were more frequented
for the benefit of the air than of their water.

The fourth chamber was that which contained the flo\ve;
and was called laconium, from the name of the oven which
warmed it. According to Galen it inclosed a dry heat; and
he advises persons of a warm temperature not to enter it,
but rather to use the warm bath, where the water absorbed
by the pores would hinder the heat from being attended
by any bad consequences. The laconium also had its name,
as having been originally derived from Laconia. Martial
says to one of his friends (IV. G. ep. 42):

Risus et lubet plantum laconium,
Contentus potes arodeo vapore.

Cruda virgine Martiique mergi.

Dion informs us, that they who perspired in the laconium
anointed themselves with oil, and then entered the cold bath;
nevertheless in its origin the laconium was only used by old
men and valetudinarians. This room, agreeably to Vitruvius,
as well as to the ancient paintings of the baths of Titus,
joined the tepidarium, and communicated to it a more tem-
perate heat. A fort of furnace was usually suspended at the
corner of the room, of a circular form, terminating in a
small spout, open at the top; which, as Vitruvius says, served
to regulate the degree of heat which the bathers would
give the room. It seems beyond a doubt that the laconium
itself was nothing more than a kind of furnace; and the
mists it has occasioned owe their rise to the room in
which it was placed having taken its name from it. In
the paintings of Titus's baths, it is called the concamerata sudatoria;
but Vitruvius furnishes us with a proper distinction, when he
says (I. v. e. 10), "laconicum sudationis locum con-
jugantem tepidarium;" and explains himself more fully in the
next chapter, where he reckons the floors as a chamber of
the palestra. There stood in one of its corners, he says,
was placed the laconicum, and in another the warm bath.
"Concamera sudatoria longitotnique duplex quantram latitudine
qua hebat in veritas ex una parte laconiuni . . . . ex
adverso laconicum calida lavationem." It should perhaps
have been before observed, that according to Vitruvius,
the laconicum had niches which were called sudatories,
where those who used the dry baths seated themselves, as we see
in ancient paintings.

The fifth apartment was the balneum, or warm bath,
called thermolonyx, and was the most referred to. Its size
was proportioned to the number of those who bathed in it
at once. Its breadth was a third less than its height,
without including the gallery, called solabo; which was
carried round it, and terminated near the basin with a little
wall for the bathers to lean against. This gallery was
sufficiently large to contain those who waited for their turns
to bathe. The middle of the room was occupied by a basin
called piscina, or by a bathing place which had the name
of elecurum, as we see in the balneum of ancient paintings.
The bath was placed immediately below the only window
by which the light was admitted, that it might not be
darkened by the shadows of those who were walking in the
gallery.

The sixth room was the elecurium or orituranum. Here
were preserved the oils and perfumes used both in entering
and quitting the bath; and it was so constructed as to receive
a considerable degree of warmth from the hypocaust.
The hypocaust was a fort of subterranean furnace, which
Vitruvius calls fospenta; the bottom forming an inclined
plane, by a gradual descent from the opening where the
wood for heating it was thrown in; by which means
the heat was increased, and the apartments warmed more ex-
peditiously. It extended under the greater part of the rooms
we have mentioned.

Before these rooms particularly destined to the use of the
bath, there were several others intended for the exercises
previously taken. Such were the piperiferarium, the considarium,
the corceca, the fluidum, the ephebeum, and others: all forming
part of the gymnasia; but which were not always append-
dages of the baths, particularly those of private persons.
Private baths, however, differed greatly in construction
from those we have mentioned. Each possessor followed his
own caprice, either in changing the rooms of which they
were composed, or in making the same rooms serve for
different purposes. The description the younger Pinay has
left us of his bath at Laurentium, is a proof of this. In
this building there was neither apodyterium nor tepidarium;
and the arrangements of its other parts was very different
from that of the public baths. You first entered a spacious
frigidarium; where contiguous to the walls, and opposite
to each other, were placed two baths sufficiently extensive to
swim in. Near this chamber was the meatalurn: you
then entered the hypocaust, the praeparatum, and two other
apartments: one but not magnificent: you afterwards came to
an hot bath, from which the sea was discovered; and
farther on was the philerium, exposed to the open air. To
its inside in Tullion, on entering the bath, we first find
a great apodyterium, a spacious and agreeable chamber for
undressing. This conducted to the frigidarium, which was
darkened, and contained a bath of an appropriate size. When
it was not found sufficiently spacious, there was in the
open air a vault, which might be used for the same
purpose. Not far from the frigidarium was a chamber ex-
posed to the sun sufficiently warm, but left to the
frost; this was the tepidarium. This room had three par-
titions, each having a different degree of heat. The two
first were entirely exposed to the sun; and though the last
had not all the heat of the former, it was equally light.
Above the apodyterium was the philerium, or place of
exercise, for different games. Although Piny does not in-
form us how the bathers employed themselves after having
undressed and anointed, it is highly probable they went up to
the philerium and exercised, defended by another
stairs into the vault, and afterwards returned to the
apodyterium; not forgetting in their way to visit the tepida-
rium and frigidarium. The following description, according to the Hippias
of Lucian, gives another idea of the baths of the ancients,
with the various apartments they contained.

"Having passed the great vaulted hall, to which was an easy
access, you entered a spacious hall for the use of the
domesticus who attended their masters. On the left were
the chambers, where they waited the bath retired; which
were the handiwork and most agreeable of all. Further on
was another hall defined for persons of consideration.
After this apartment, on each side were galleries, where the
bathers changed their dressings. The central, which was both
elevated and well-lighted, contained three baths of cold
water, ornamented with Lацион marble; and had like wise
two statues of the same material, the one of Hygeia, and
the other of Ecphrasis. On leaving this part of the baths
by a low vaulted passage, the building became infinitely
warmer, although the heat was far from disagreeable; this
passage led to a light apartment where the oils and essences
were preferred, which on the right hand had a communica-
tion with the palestra; and the door-polls of which were
covered with Phrygian marble. The apartment contiguous
to this, as Lucian informs us, was more beautiful in its de-
corations than any we have mentioned; its very floor
was composed of the marble already spoken of. It was of a size
sufficiently large for the bathers to walk in, and was fur-
nished with seats. After this apartment you entered a part
of gallery heated; of sufficient length to allow the exercises
of the course. It was inclosed with Numidian marble; and
led to a handsome well-lighted apartment, paved with pur-
ple, where were three warm baths. To leave it, it was not
necessary you should go back by the way you entered, but
across a warm chamber where the heat gradually clim nhi.
All the chambers were lighted from the top; and Hippias
showed great judgment, in constructing the apartments which
contained the cold bath fo as to face the north. In regard
to those which required a greater degree of heat, he exposed
them to the south, the south-east, and well."

It appears from this description, that the bath of Hip-
pias had no apodyterium; there were only at each end of
the frigidarium, which contained the three baths of cold
water, tables on which the dressings were placed. The bathers
entered a warm passage which conducted to the unfrigium
whence having anointed themselves they gained the philer-
rium, the largest and handsomest apartment of the whole.
When the excursions were finished they passed into the hot
bath by a gallery where there was sufficient heat to preface
the privation felt excited in the philerium: so that
when the bathers first entered the warm bath, the difference
they found was scarcely perceptible; since the warmth of
the water was nearly the same with that of the body.
After having used the bath, they returned by a shorter way,
and crossed an apartment where the heat diminished in pro-
portion as they approached the frigidarium where their
dwellings had been left.

The following is the description which Vitruvius has left
us of the Hygeia baths. Having described the different
apartments of the gymnasion, he says: "On the right of
the ephebium is built the coryceum, or the room for show-
ing, dressing, &c.; near which should be the caldarium,
where the land for the wrestlers is preferred; and at the
corner of the peristylium, the boutreum, or cold bath. On
the left of the ephebium, the eleothetium, or apartment for
the essences and oils: near which is constructed the frigidari-
um; whence a passage should conduct the bathers to the
propileum near the floor in the corner of the portico.
Adjoining, on one side the frigidarium, is built the vaulted
chamber for perspiration, which is always made twice as
long as wide; and at one of its angles, usually opposite to
the warm bath, the lacoarium."

The disposition of each of the apartments we have men-
tioned varied still more in the thermes of the Romans,
although their plans evince uniformity to a certain extent.
As the Romans had two peristylium in their thermes, it seems
right to conclude they had a double order of baths. Varrus
proves incontrovertibly, that the women bathed in different
apartments from the men for, in speaking of the public
baths of Rome, he says: "Item primum balneum nomen
coryceum introit in urbem: ubi bina effent conjuncta excip-
icia lavandii cum; ubi viri, alterum ubi mulieres
lavarentur." What Maial and St. Cyprian relate of the
baths, where the men and women bathed indiscriminately,
does not confute this passage; since writers attribute those
indecencies to none but women of infamous character:

"Cum te lucernam balneas extirpavit
Admissit inter bullarum machas."

This separation is conspicuous in the baths of Caracalla; a
great part of which was surrounded by a vestibule which
empirized the principal buildings of the thermes. This
part was divided into hirty vaulted halls separated from, but
perfectly resembling each other. One of these yet remains
entire, and sufficiently indicates how the others were di-
vided. It is approached by a small vestibule. The room
in which the bath was placed, was thirty-one feet in length
by fifteen feet three inches wide; the basin was on marble,
with a border of larger stones extending eighteen inches
from the edge of the hot bath. The cavity between the files
was twelve feet wide by fifteen long. It was divided into
three feet in front by seven or eight steps extending the width
of the bath; four above the brink, and three or four went to
the bottom of the basin: and the whole was lighted by a small
opening at the top. A thousand perfous could bathe in
this part of the thermae at once.

When the water flowed into these baths, it seems to have
been only lukewarm, as it was brought from the hot baths
of the great thermae; of which these, as we have already
mentioned, formed only the outer circle. The water was
conveyed from these baths, by pipes, into a great piscina,
or pool, defined for the use of those who wished to exercise themselves in swimming.

In front, on the right and left, were other baths for people of finer connoisseurs. In the room of baths they had three bathing vats, which were of copper, porphyry, granite, or bronze. They also contained large vats of warm and cold water, of which we see a great number at Rome. One may observe, affixed to the baths of Caracalla, had in his time fifteen hundred.

The grand hall was a rotunda, 111 ft diameter, which is believed to have been called cela/Julia, or the hall of fountains, of which Spartanus speaks in these terms: "Cælum Foraminum architecti negatis pulsibus,quit vacuitates qui facta est ita." It seems to have had its name from the bars of copper and bronze which, according to some, formed its pavement, and to others its ceiling; bearing some resemblance to the fountains among the ancient Romans. It had also large plates of bronze or copper, which covered and ornamented the piers of the windows and other parts of the rotunda. It contained a number of vats in which the warm bath was taken.

Of all that relates to the baths, nothing has so embarrassed the learned as the manner in which hot water was heated to all the recesses but for bathing which have been found. For it was imposed, and it may be done without exaggeration, that each bath in the thermae of Diocletian was capable of supplying for bathing the poor perfum might have been put into it. But as no vats remain, insufficient to form even an idea of the manner in which the water passed into the vats, we must content ourselves with what Varro has said upon it. - Baccius has treated this subject better than any of the moderns. He imagines the water was conveyed from reservoirs outside the thermae, and that those were used for raising it to that height, which, agreeably to his examination of Diocletian's baths, seemed requisite. He was also induced to conclude, that the water was heated outside the thermae, from the number of pipes which he saw underneath the area of the building; where there had never been any alteration, and which were all forded by other pipes from the hypocaust. But this supposition appeared to Baccius himself to be ridiculous; that he pushed his researches on this matter no further.

The two figures of the water towers or reservoirs for the baths of Caracalla, engraved by Piranesi, will suffice to explain how easily the Romans heated the largest body of water their thermae could contain.

The water tower of Caracalla received its supply from the aqueduct of Antoninus, part of which passed by the Appian way.

It appears from the plan of this reservoir, that it had, immediately above the hypocaust, twenty-eight vaulted chambers; that these chambers formed two ranges of fourteen each, and that they had a communication one with the other. Above these were twenty-eight other chambers, which were connected with each other in like manner, though only one of them communicated with the chambers below. Above all these was a spacious reservoir, not very deep, but which extended the whole length of the water tower; in this, the water received considerable warmth from the heat of the furnace, before it passed into the chambers. This reservoir did not receive its water directly from the aqueduct, but from an intermediate cistern. Whenever it appeared necessary to draw off the water of the lower chambers to fill the bathing places, the water of the reservoir became uncleans, and would have overflowed but for an opening on one side of the cistern, by which it escaped without going into the baths. During all this time the water of the reservoir was tepid. The cistern suffered two purifications; it prevented any agitation in the water of the reservoir, and carried off that which was of no use. When the twenty-eight vaulted chambers, in medially above the hypocaust, began to heat, the warmth they acquired was quickly augmented; as there was only one of them which communicated with the exterior air.

The strength of the walls and vault was quite sufficient to resist the rarefaction of air within the water, and to confine the water not to hinder its evaporation from producing danger. It was necessary that it should have pipes to give the water a sufficient heat for the usage of the bath. When the hour of bathing came, the warm water was let into the bathing places from the lower chambers; where it ran with incredible swiftness, and rose to a perpendicular height equal to the surface of the reservoir of the water tower.

To hinder the water from cooling as it passed through the subterranean pipes, they were enclosed in others which came from the entrance of the hypocaust, forming a sort of double tunnel, and acquiring a considerable degree of heat before the water entered them.

Each chamber was within the walls 49 ft long, 27 wide, and about 30 high. The number of square feet on the surface of the lower chamber amounted to 8,350. If we allow for the medium height 30 feet, the quantity of water contained in the lower chambers amounted to 1,143,450 cubic feet.

The ancients do not inform us how they discovered the method of heating such large volumes of water. We are therefore in the dark whether it was an invention of the Romans, or whether they brought it with them from the East. It is reasonable, however, to suppose, that such methods could be of no use before the construction of the thermae at Rome, and of course could not be older than the time of Augustus; in whose reign, Dion Cassius informs us, Maecenas built a warm bath capable of admitting persons to swim in.

This method, or one very similar, was used in all the baths of Rome. That of Terme by Vitrivius was insufficient to furnish water for these vast buildings, which Anniusius Marcellinus compares to provinces (lavacra in modum provinciarum extra) ; though it was undoubtedly the caele in private baths. They heated the water of the bath, says Vitrivius, by means of three vats of copper, so disposed that the water flowed from one to the other. One was called caldarium, another tepidarium, and the third frigidarium. The marquis Galani observes, that it is no easy matter to give a precise idea of the situation of these vats above the furnace. Cæsariano and Caporali have engraved one above the other, or rather one within the other, placing the frigidarium above the tepidarium, and that above the caldarium, which was placed immediately above the furnace. But the great difficulty is, that in this arrangement the heat, by the aspiration of the flame, ought to warm the upper vats, or frigidarium. Perrault, on the contrary, places the three vats on a level; and he imagines that syphons carried the water of one vats to another: but how, without a pillow, or some such expedient, the water could be raised so as to re-defend, he has not explained.

The ancient paintings of Titus's baths place these vats upon three steps, in such a manner that the bottom of the water of one vats shall be upon a level with the aperture of the other; so that it is easy to comprehend how the water was conveyed. But the marquis Galani believes, that this disposition is not altogether agreeable to the truth; and that it was adopted by the painter, only to afford a more clear idea how the water was transferred.

I believe,
B A T H.

I believe, he says, that the three vases were upon a kind of level: the caldarium immediately above the furnace; the tepidarium a little back ward, so as to receive a reverberation of the heat more than the fire itself; and the frigidarium upon a muffy pedastal, so that the warmth could not reach it. From the caldarium to the baths was a pipe, which, by means of a cock, supplied any quantity of water that was requisite. Another pipe carried the water of the reservoir to the frigidarium, and kept it at the same level. All the figures which this has given us, have caused me to request that an ancient should overlook this translocation of the water: but that author himself tells us, that the operation was performed without such ease; its collection was not tepidarium in caldarium quantum aque calde extas inert de frigidario in tepidium ad calumnum modum.

They had also other means of heating the water of the baths. We construct, says Seneca, a species of vases high and narrow, in the form of dragons and other fanciful shapes, in which we place pipes of native copper, of a spiral form, through which the water pusses till it acquires a sufficient degree of heat. In the same degree as the cold water enters the pipes, the warm pusses out; so that all the water which runs through, acquires the same temperature. Seneca explains that it was to this purpose, that he has seen in the tunnels through which the water pusses having no communication with the fire, the vapours are not mixed with smoke; nor allow vaporem evaporo, qui certa perturbetur.

The parallel which Seneca has given in his letters between the baths of Scipio Africanus and those of his own time, is highly interesting, and will probably elucidate much that has been already written on the subject.

"Scipio’s bath," he says, "was small and somewhat dark, agreeable to the ancient custom; for our ancestors thought that a bath could not be warm enough unless it was close. It was therefore a great pleasure to me to compare the manners of Scipio with our own. In this little nook did Scipio (the dread of Carthage, and to whom Rome was indebted for having once taken it) use to bathe his body when fatigued with domestic labours. Under this low and forced roof he reposed, and disdained not to tread the vile and mean a floor. But who is there in our time who would condescend to bathe in this way? A man thinks himself poor and mean, unless the walls are decorated with large and precious embellishments; unless Alexandria marble is polished and inlaid with Numidian rough cast; unless a rich and curiously variegated plastering be spread upon them in profusion; unless the roof is covered with glass-work; unless the Thasian stone, once reckoned a scarce and curious ornament, even in home temples, now composes about the pools in which we bathe our bodies when 'enfeebled with fatigue at some thrilling sport.' In short, unless the water is conveyed by a silver front. I am speaking as yet of common baths; but what shall I say when I come to speak of our freemasons? What noble statues! What vast pillars, supporting nothing; but placed there for mere ornament, and the vain ostentation of expense! What large and far flowing extravas! We are arrived to such a pitch of idlecey and extravagance, that we cannot tread but upon the most precious marbles.

In Scipio’s bath there are some chinks, rather than windows, cut out of the stone wall to let in the light without hindering the strength of the building. But now we call the baths moth-houses and dungeons, if they are not so contrived as to admit of those that love the air’s free and spacious widths, whereby men are trained as well as washed; and from the bathing vessels have a prospect both of the meadows and the sea. So that these baths, which, at their first construction, called together a vast concourse of people, and filled them with admiration, are now rejected as poor antiquated things; while luxury is daily presenting some novelty that shall at last prove its own ruin. Formerly there were but few baths, and those not ornamented with any costly decoration; for to what purpose is it to adorn a common room, open to any one that pays his money, and which was built not for pleasure but for use? It was not customary to have the water sprinkled or poured in upon the bathers; nor did it always run freely, as from a warm spring; nor did they think it material, how far the water was whither they were to wash off their bath."

From this letter of Seneca, we perceive to what a pitch of magnificence luxury had carried the edifices defined for the baths. And nothing gives a stronger confirmation to the account, than the fragments of the buildings which have reached our own time. The greater part exhibits to us the most precious furniture. The hall of the bath, discovered a few years since at Otricoli, has preferred the relics of the rarest marbles; its pavement was formed of the same wonderful kind of mosaic which at this day ornaments the rotunda of the Vatican museum. In the baths of Titus, the marble coating is carried to the height of about ten feet, where it is ornamented with small holes, which were designed for the warm baths, had no openings to admit the light; at least none have been found. When it became fashionable to frequent the baths by night, it was necessary the place should be lighted by lamps and candleabra; the introduction of which contributed very much to the decoration of the apartments. The most magnificent we have seen at Rome, have been found in the Thermae: their light was reflected by mosaics of crysfal, suspended from the roof or fixed against the walls, so as to produce the most diffusent light.

The use of glass in the decoration of the baths, commenced about the time of Pliny, who calls it a modern invention: novitium et hoc invenit. It did not exist, as far as has been discovered, in Agrippa’s time; whose baths were covered with ornamented clay or stucco, called albanum opus.

Having thus brought the history of the Roman baths to a conclusion, it will not be irrelevant to add a brief notice of the principal ruins of them which remain, taken chronologically.

The better half of Paulus Aemilius’ baths is nearly perfect.

Those of Livius, on the Palatine hill, and under the ruins of the imperial palace, still shew two small apartments entire, decorated with fresco, painting, and gilding.

The magnificent ruins of the baths of Titus, Caracalla, and Diocletian, still shew the entire plans: sufficient remains of the walls to determine the sections and elevations with tolerable certainty; and of the construction of the courts and aisles, enough to give the most satisfactory information.

There are some remains, but very incomplete, of the baths of Constantine, in the gardens of prince Colonna.

At the rest of the ancient baths, in or about Rome, are newly or entirely discovered; and it is to be remarked, that the baths of Titus, Caracalla, and Diocletian, are entirely stripped of their magnificent columns and fine marbles, excepting the great hall of Domitian’s baths, which was converted into a church by Michael Angelo, and its granite columns of single stones, each forty feet in height, preserved.

That
BATH:

That the Romans, who enjoyed dominion in our island near four hundred years, had these baths, is evident from the frequent mention of them which are found; and some indications occur where the builders had undoubtedly the remains of their parent country in view. At Hovingham in the north Riding of Yorkshire, 1743, a Roman bath was discovered, which had its fudaria and vaporarium (Can. Hill, ed. 1789, ii. 855); and ten years after, in taking down the abbey house at Bath, to build a new set of baths called the duke of Kingston's, the workmen found remains of very noble Roman baths and fudatories, whose forings and drainages were made use of for the present baths. The plan and elevation of them were engraved by Mr. Gough. (Ibid. i. 75.)

Not while mentioning the ancient baths in England, must we forget one instance where a magnificent building of the kind occurs among the monstrous conveniences of the middle ages. Hugh the facet of the monastery of Durey, we are told, early in the twelfth century, finished the aulam hotitum and baireatorium of his house; and Sampson, who was elected abbot in 1182, appears to have completed the latter edifice upon a scale, for those times, peculiarly grand. (Aqueductum et aquam per rinsulos derivatam et lavatoria opere mirifico et magnitudine miranda confunnavit.) See Leland, Itin. vol. iv. App.

But it must be owned, that in spite of all the advantages derived from the habitual use of baths with respect to health and cleanliness, the moderns have till lately very much neglected to employ them; though from this custom we must except the Orientals and the Turks, among whom the practice of the bath has been more early preferred, on account of its connection with religious worship. Their manner of bathing is very similar to that of the ancients; they have still vall edifices for the purpose, which are heated by means of pipes, and receive light from the top: and though the use of the triglia (see Architecture, Plate III.) may not have been preferred, proper frictions for the excitement of perspiration are still used; and the instruments adopted by the ancients are replaced by rough cloths and flannels. The rich among them have private baths, in the construction of which they are expensive, and devote to them the most considerable part of their mansions.

Among the modern Europeans, the practice of bathing, generally speaking, has returned to the fame condition it was in when Homer described it in the earlier ages of Greece. It is in the river, during the heat of summer, that the multitude bathe; and that more for pleasure than on any other account: without once reflecting on the accidents which are likely to result from the crudity of the water, the intemperance of the air, or the action of the sun, to which they are frequently exposed.

At Florence, on the bank of the Arno, public baths were constructed by the late duke, with such accommodations as seemed most appropriate for general use: adjoining which are other baths belonging to private persons; and gardens of promenade.

What are called public baths at Paris, are far from uniting the advantages; they are no other than large boats, called tonne covered with a cloth, with small ladders attached by cords, to facilitate the purposes of bathing. The French have also private baths for hire, similar to those in England; and many of their larger mansions are furnished either with domed baths of the larger kind, or bathing vessels formed of metal.

Those which are called natural baths, are usually buildings constructed nigh the sources of mineral waters; such as the baths of Puzzuoli, Baia, and St. Germano, near Naples; P 69, in Tuscan; Bourbon and Vichi, in France; Duxton, Bath, and Harrowgate, in England.

Of the engravings which accompany this article, Plate I. exhibits the plan of the baths of Caracalla; of the references in which we give the following explanation:

1. The great square, surrounded by a portico, for the exercises of the flumen.
2. Those parts of the porticoes which served for entrance to the ventilates of the palæstra.
3. The cella solaris of the palæstra; the gates of which were furnished with lattice work of bronze.
4. Ventilates of the great hall.
5. The great hall, furnished with the xyllum.
6. Other ventilates belonging to the lateral apartments of the palæstra.
7. Others nearer than those already mentioned, leading to the same apartments.
8. Halls, open at the top, whose sides were ornamented with baso-relievo in marble. A fragment of one of the last of these was lately in the possession of cardinal Albani.
9. Anti rooms belonging to the xyllum.
10. Common entrances to the same.
11. Openings to give the xyllum light.
12. A spacious xyllum in the middle of the palæstra, for the exercise of the athletes.
13. Apartments in which the athletes anointed themselves and left their vestments, with staircases ascending to the upper part of the cella solaris.
14. Reception for the rain-water from the roofs of the porticos (fig. 14.), which was conveyed by pipes to the lower baths.
15. Other uncovered receptacles, for the same purpose, formed in the side walls.
16. The portico, whence passing through the xyllum you reached the great bath: it was exposed to the S. W. and was sometimes warmed by the sun, and at other times by furnaces.
17. Chambers or baths belonging to the wrestlers, and other combatants, of the theatre and xyllum.
18. The cistern of water in the centre.
19. Porticos, ornamented by niches, with magnificent fountains; serving as a shelter for the populace from the rain and sun.
20. Double portico before the theatre.
21. Seats for the spectators at the games; in front of which, upon occasion, the flagge, and scenes for theatrical representation, were erected.
22. Open spaces between the porticos and the great hall or salon.
23. Uncovered hall.
24. The athenaeum.
25. Open space in front of philosophic walks.
26. The philosophic walks.
27. Quarters for the pratorian guard.
28. The great exerci, for trials of strength.
29. Apartments appertaining to the exerci, subdivided into smaller ones for the accommodation of the officers and exterferes in the different games.
30. Apartments for the scenes, and other theatrical apparatus.
31. Openings with iron gratings, for the admission of light to the lower story.
32. Staircases from the lower to the upper story.
33. Ventilates of the upper story.
34. Other staircases of ascent to the porticos.
35. Quarters of the pratorian bands; with porticos in front.
36. Painting,
B A T H.

56. Piazzas, or pools of cold water.
57. Porticos erected at a later period, by Alexander Severus.
58. Cold bath with fountains in the centre.
59. Walks for public accommodation.
60. Magnificent fountains.
61. Walls surrounding the summit of the hill on which the baths of Caracalla were erected.
62. Open space around the referrvoirs of water.
63. The aqueduct of Antoninus, which supplied the baths.
64. Intermediate referrvoir, into which the water of the aqueduct was discharged.
65. The opening by which the water was conducted to the warm bath.
66. The referrvoir.
67. Walls of the city, anterior to those of Aurelian, which were enlarged by Caracalla, for the extention of the thermae.
68. The fountains mentioned in fig. 58.
69. Porta Capena in the city wall.
70. Porta Tarentina.
71. The Appian way.

Plate II. exhibits a painting from the baths of Titus, on a brown ground, representing three flite temples; in the centre one a flate, supposed to be Apollo, with a priest on either side; and above each of the lateral temples a bas-relief, representing the facilities of Bocchus. The smaller figures in Arabifque.

Here may be remarked, that in flift contradiction to all that is affixed by the French writers, the paintings of the ancients, whether Greek or Roman, are in bad perspective.

Plate III. contains a fection of the baths of Caracalla, from Panache; with Montanell's idea of explaining the relative situation of the different apartments in the Roman thermae.

Bath, in Jewish Antiquity, is the name of a liquid measure, containing the tenth part of an acre.

Some dilligently five kinds of baths: viz. the greater bath, containing 80 pounds of water; or, according to Josephus, 1440 Roman ounces; the second, containing 120 ounces; the third, 60 ounces; the fourth, containing 25 ounces; and the fifth 6½ ounces of water. Beveryn. Sync. de Metf. p. ii. p. 127.

Some have esteimmated the sacred bath at half as much again as the common bath; but there is no fufficient reason for this dihcufion. Cabinet.

Ba'th, Knights of the. This order was instituted in England at the coronation of Henry IV. in 1399, and revived by Geo. I. by his letters patent. bearing date at Wellmiflcr, the 18th of May in the 11th year of his reign, 1725, in the following words: "George, by the grace of God, of Great Britain, France, and Ireland, king, defender of the faith, &c., to all to whom these presents shall come greeting. Whereas our royal predecessors, upon divers wise and honourable considerations, have, on occasion of certain royal solemnities, conferred with great latitude, upon their royal issue male, the princes of the blood royal, several of their nobility, principal officers, and other persons distinguished by their birth, quality, and personal merit, that degree of knighthood which hath been denominated the knighthood of the bath; we, being moved by the fame considerations, do hereby declare our royal intention not only to re-establish and support the said honour of knighthood in its former luster and dignity, but to erect the same into a regular military order; and, accordingly, of our especial grace, certain knowledge, and mere motion, and by virtue of our royal prerogative, being the fountain of honour, we have instituted, erected, constituted, and created, and by these our letters patent, do institute, erect, constitute, and create a military order of knighthood, to be and be called for ever hereafter by the name and title of "The Order of the Bath," whereby we, our heirs and successors, kings of this realm, for ever shall beoverege; which said order shall consist of a great matter, to continue during the pleasure of us, our heirs or successors, and thirty-six companions, to be from time to time nominated and appointed by us, our heirs and successors, wherein a Señor shall be always regularly continued; which said order shall be governed by statutes and ordinances, to be from time to time made, ordained, altered and abrogated, by us, our heirs and successors, at our and their pleasure. And to the end that such statutes may be legally established, we, following the example of our royal predecessor, king Edward the Third, of glorious memory, founder of the most noble order of the garter, who gave function to the statutes of that order, by affixing to them the seal which had been by his command made and appointed for the same order; do hereby declare and appoint, that a seal shall be immediately engraven, having upon one side the representation of our royal person on horseback in armour, the shield azure, three imperial crowns, or the arms usually ascribed to the renowned king Arthur, with this circumfcription, "Sigillum Honoris Insignis Ordinis Militaris de Balene;" and on the reverse, the same arms emblazoning our royal arms and our royal will and pleasure, that the said seal shall for ever hereafter be the seal of the said order of the bath; and that the statutes to be perpetually and inviolably observed within the said order, shall be established and sealed by and with the same seal: and we do hereby for us, our heirs and successors, declare and ordain, that the said statutes to be given by us, our heirs or successors, to which the said seal shall be affixed, shall be of the same force and validity as if the same statutes, and every article of them, had been webstholm recited in these our letters patents, and had been passed under the great seal of this our realm. And further, we do hereby ordain, constitute, nominate, and appoint our right true and right entirely beloved confab John duke of Montagu to be the first great master of the said order, to hold the said office during our pleasure, with such powers, privileges, and emoluments, and subject to such regulations as shall be for that purpose appointed in the statutes to be established by us, our heirs or successors, aforesaid. And whereas it is absolutely necessary, for the dignity and service of this order, that there should be officers peculiarly appropriated thereunto, we do by these presents, for us, our heirs and successors, will and ordain, that there shall be for ever hereafter a dean, genealogist, king of arms, regifter, secretary, usher, and teller, of and belonging to the said order, whose respective duties, privileges, emoluments, and perquisites shall be particularly expressed and declared in the said statutes; and we do hereby for us, our heirs and successors, constitute, create, and appoint the dean of the collegiate church of St. Peter's Wellmarsh, for the time being, to be for ever hereafter dean of the said order, and do for us, our heirs and successors, give and grant full power and authority to the great master of the said order, for the time being, to constitute, nominate, and appoint, under the said seal hereby appointed for the said order, a genealogist, king of arms, regifter, secretary, usher, and teller of the said order; and from time to time to fill up the places of such officers upon vacancies, according to such rules and directions, as shall for that purpose be laid down and expressed in the said statutes to be given as aforesaid. And to the end that the respective
BATH.

Respective fees to be paid to the several officers of the said order of the bath by such persons as shall be nominated unto and accept the honour of a companion of the said order, may be certain and fixed, we do, by these presents, for us, our heirs and successors, will and be erect that all such fees shall hereafter be allowed and assessed according to the usual and long-established usages in such matters, and to be sworn and ordained and to be paid on or before the first day of May in every year. After the investiture, the knight wears on his breast and on the left shoulder the four-angled and enameled gold badge, which shall be placed over his heart, the one yard in length, and one yard three quarters in breadth, fringed about with red and white silk; and that, in the lowest margin, the name and title of the knight shall be inscribed with letters of gold upon a black ground; and that the crown, helmet, and sword shall likewise be affixed to the said badge, together with an escutcheon of his arms and supporters, enamelled within a circle gules, having thereon the motto of the order in letters of gold, and his name and title in like manner as the knights of the garter are in St. George's chapel, Windsor; the arms also of his three esquires are enamelled on one plate, with their names and title affixed thereto, and placed under the knight. At an installation of the order, each knight is allowed three esquires, who must be by the statutes "gentlemen of blood, bearing coat armour": they precede their knight in the procession, having for their device a crimson flag with the letters of the knight's name, and the motto of the knight's garter, and twelve thrones, the whole of which are of crimson, with a furcast of white silk set with gold buttons, having a hood of the same affixed thereto, and on the right shoulder of the furcast the plate of cut out of the order, "azure, three imperial crowns". A black silk hat or coat: for which each esquire shall, during the term of his life, enjoy all rights, liberties, privileges, exemptions, and advantages which he enjoys by the presence of the sovereign's body, or the gentlemen of the procession, and which is granted to esquires, or are entitled unto by virtue of any grant, prescription, creation whatsoever; and the eldest of every of those esquires shall have the addition and title of esquire in all acts, proceedings, and pleadings, provided that all those esquires to be entitled to these privileges, shall have certificates of their qualifications before their respective admission, and likewise an exemplification of their actual performing the duties of the creation of any knight or knights of the bath, attested by the great master under the seal of the order. An esquire of the order is allowed to hunt and fish in the king's liberty, and is exempt not only from serving the office of a high sheriff, but any private office. To prevent any abuses in the chasing these privileges and exemptions, the following notice was inserted in the gazette, previous to the installation of the order in 1805, when twenty-two knights were installed, attended by their esquires. Every esquire, therefore in this order, is hereby advised, that no exemplification will be made to any esquire from his royal highness the duke of York, after the enacting of the following resolution, that it shall be certified to his royal highness by the generalissimo, that the degree and coat armour of the several knights and their respective esquires have been entered in the genealogical books of the order, in obdience to the said statutes.

Given at the Hoftie guards, this 13th day of May 1803; Frederick, acting as great master of the said most honourable military order of the bath.

The dries of the officers of the order is as follows: viz. the marshal and esquire of the deann are the same as the knights; he wears a gold chain, with the badge of the order, but no collar. The generalissimo, king of arms, regent, secretary, and others is a white mantle mantle or robe lined with crimson, having
having on the right shoulder the badge of the order tied about the neck with a cord; the same as the knight’s; under it is a fur coat like the esquire’s, with a gold chain about their necks, to which is pendant an effuetece of gold thereon enameled the badge of the order; except that on collar days, the badge is worn pendant to a red ribbon. The office of genels-affair is a distinct office of record for the pedigrees and coat armour of the knights of the order and their esquires, which are entered in a regular series from the year 1359 to the present time. The office of genels-affair has, from the revival, been successively filled by John Anlisi, esq., John Sibbald, Dr. Wynn, esq., and George Naylor, esq., York herald, its present full flour.

The order of the bath doth not appear to have been of greater antiquity in this kingdom, than the reign of Henry IV. who, on the day of his coronation, conferred that dignity upon forty ex esquires, who had watched all night before, and had bathed themselves; yet this degree of knighthood may justly boast of a much earlier antiquity. The learned William Canvon, and Jean du Thiet suppose it to have been practised by the old Franks, or inhabitants of Lower Germany; with whom Mr. Anlisi (who was genels-affair of the order on its revival) is of opinion, the Saxons, who invaded England, had the fame common decent; and who, upon their settlement in England, introduced the same method of knighthood. Dr. Thiet further remarks, that those ancient Franks, when they conferred knighthood, observed many solemn rites. Before they performed vigils, they bathed, to signify that such as were admitted to this degree should be of a pure mind and honest intentions; be willing to conflict with any dangers or difficulties in the cause of virtue; take care, both in their words and actions, to follow the maxims of prudent; and, on all occasions, religiously observe the motto of the order. “Tria juncta in uno!” which implied a true belief of the Trinity: which rites and conditions, according to his testimony, still continued to be practised in England; and from the practice of these, gentlemen were denominated knights of the bath. Mr. Anlisi, with his usual precision and clearness, hath fully proved that William the Conqueror, and the succeeding kings of England, conferred this degree of knighthood as well in Normandy as in England. We have a very particular detail of the ceremonies that were used in creating knights of the bath at the coronation of King Henry V.; and our historians and records imply much that from that time till the reign of King Charles II. inclusive, it was the usual practice to create knights of the bath at, or previous to, the coronation of our kings, the creation of princes of Wales, and at the celebration of their nuptials, and those of others of the royal family. King Charles II. previous to his coronation, created no less than sixty-eight knights of the bath; from which time no knighthood of that degree were created, until the revival by George I. in 1725.

Bath metal is a preparation of copper with zinc, which gives a more beautiful colour than the calamine used in the preparation of the common brass.

Bath Kol, in Jewish Antiquity, a species of revelation by a voice or echo from heaven.

The word signifies, in the Hebrew original, daughter voice, or daughter of a voice; for it may be interpreted both ways. It seems to have been thus called with respect to the original voice delivered from the mercy-seat, when God was confounded by urim and thummim; this latter was the grand and primary voice of revelation; the former of secondary dignity, and inferior to it as the daughter to the mother.

The Jewish writers speak of three kinds of revelation among them; the first by urim and thummim, which obtained from the erection of the tabernacle to the building of the temple; the second by the spirit of prophecy, which prevailed from the beginning of the world to that of Masachi; the third, the bath kol, or daughter voice, which took place when the spirit of prophecy wholly ceased in Israel; and was, says Grotius, the sole oracle which remained during the time of the second temple.

This bath kol, says Dr. Prideaux, was no such voice from heaven, as the Jews, and particularly the Talmudists, pretend; but only a Scharshalk mode of division of their own invention, resembling the “Sors Virgines” among the heathens. (See Everts.) Phil. Comm. pt. 2. b. 5. vol. 1. p. 465. Grotius, Works, and Aaron, lib. 4. c. 6. Lychotz’s Works, tom. 1. p. 485. Grot in John, xii. 28.

Bath has a different on the purity and impudence of the bath kol: “De filia vocem, etc. dixit Iovis, annum nulma.”

Bath, in Ancient Geography, the ruins of an ancient city of Africa, in the kingdom of Algiers, about two leagues south of Oran, which was destroyed in the wars that raged between the African powers, about the beginning of the seventh century, it has been remarkable, in more modern times, for a little chapel, erected in memory of a merchant, who lived among these ruins, and by the presents he received for his hospitality to travellers, became rich enough to maintain 300 disciples, whose employment it was to go through a long litany of all the divine attributes, by the help of their beads at certain hours of the day; but the feat has of late declined and is almost extinct.

Batha, a town of Ethiopia, near Egypt. Pliny.

Batha, Bach, or Bashia, in Geography, a town of Hungary, situate near the Danube, and capital of a county of the same name. It was formerly the see of a bishop, now united to Colocza; 20 leagues south of Buda. N. lat. 40° 40’. E. long. 20° 40’.

Batha, a town of Ethiopia, on the confines of the country called by the Arabs Barbera, and more commonly Zanguebar.

Batha, a name sometimes given to the isle of Bath, which see.

Bathasca, a town of Lower Hungary, in the county of Totha, on the Sarwitz.

Bathenas, in Ancient Geography, a town of Syria, between Cyrus and Edefi. Anton. Ibn.

Bathgate, or Bathget, in Geography, a market town in the county of Linlithgow, in Scotland. There are three fairs held annually in Bathget: second Wednesday in April, first Wednesday after White Tuesday, O.S. fourth Wednesday in June, third Wednesday in July, third Wednesday in August, N.S. and first Wednesday after Martinmas. The circumjacent country is rather chilly, yet by no means defective of agricultural improvement; the soil of late is made to yield abundant crops; and rural economy advances daily. In a mora, about a quarter of a mile from Bathget, some flight traces of the principal residence of Waller, higheward of Scotland, (the founder of the royal house of Stuart,) are still discernible. The mansion, and lands thereto belonging, were the dowry beffowed on the higheward’s wife, lady Margery, by her father, king Robert the Bruce. in A.D. 1316.

Bathing, the act of using or applying a bath; that is, of immersing the body, or part of it, in water, or other fluid. See Bath.

Bathing, on a religious account, is more properly called ablution, or baptism.

Bathing is a practice of antiquity. The Greeks, as early as the heroic age, are said to have bathed themselves in the
We even find mention in Homer of hot baths in the Trojan times; but these seem to have been very rare, and only used on extraordinary occasions. Athenæus speaks of hot baths as unusual even in his age. In reality, public baths appear to have been discouraged, and even prohibited, by the ancient Greeks, who were contented to wash themselves at home in a fort of bathing tubs. Pott. Archæol. tom. i. lib. iv. c. 19. The method of bathing among the ancient Greeks, was by heating water in a large vessel with three feet, and then pouring it on the head and shoulders of the person seated in a tub for that purpose. who, at coming out, was anointed with oil. Durett, in Hist. Acad. Infér. t. m. p. 117.

The Romans were also long before they came into the use of baths; the very name of which, thermae, shows they borrowed it from the Greeks. As the ancient Romans were chiefly employed in agriculture, their custom was, every evening, after work, to wash their arms and legs, that they might sit down to dinner with more decency; for it is to be observed, the use of linen was then unknown, and the people of that age went with their arms and legs bare, and consequently exposed to dust and filth. But this was not all; for every ninth day, when they repaired to the city, either to the forum, or to attend at the assemblies of the people, they bathed all over in the Tyber, or some other river which happened to be near, and to them. This seems to have been all the bathing known till the time of Pompey, when the custom began of bathing every day. Mercurial, de Art. Gynm. lib. 1. c. 10. Men. Acad. Insér. tom. ii. p. 114.

The Celtic nation were not without the use of bathing; the ancient Germans bathed every day; in winter in steam, and in summer in cold water. This is what Tacitus seems to forget, "Ritum e formo—lavantur, lupus cultus, aut equal quos pluries hieus occupat." De Mor. Ger. cap. 32.

Bathing, among the ancients, made a part of diet, and was used as familiarly as eating, or sleep; and cold bathing was in high esteem among their physicians for the cure of diseases; as appears from Strabo, Pline, Hippocrates, and Oribasius; whence occur frequent exhortations to walking in the sea, and plunging into cold water. The first influence of cold bathing, as a medicine, is Melampus’s bathing the daughter of the king of Arcos, and the first influence of warm bathing is the use of it by Medea, who was said to boil people alive, because Pelas king of the Thesylus died in a warm bath under her hands. The cold bath was successfully used by Antonius Mafa, for the recovery of Augustus; but after the death of Marcellus, who was thought to have fallen a sacrifice to the improper use of it, the practice sank into neglect. It was again revived towards the close of the reign of Nito, by a physician of Marcellus named Charmis; but it was afterward disused during the ignorance of the succeeding ages. Among the Turks, bathing forms a part of diet and luxury, and in every town and even village there is a public bath for those who have not the convenience of private baths attached to their own houses. Baron de Tott (Mém. de l'Acad.) gives us the following account of the construction of the private baths. Two small chambers, built with brick and faced with marble or gilding, communicate with each other, and each of them is heightened by a small cupola cut in the center. This little edifice is commonly joined to the house by a small room, in which those who bathe undressed, and from doors, folding over and lifted with felt, that in the front and found part of the floor. A wood fire is kept in a little round vault, the entrance into which is from the back of the room. This fireplace is under the farthest chamber, and heated a candle immediately beneath the marble floor, which serves as a ceiling to the vault. Pipes, placed within the walls, proceed from the middle of the caldron, and go out at the cupola, for the purpose of evaporating the water, which is kept continually boiling. Other tubes, communicating with a reservoir, are likewise contained within the brick-work, and turn the inside with cold water, by means of cocks placed at the sides of these which yield the warm water. Small seats of smooth wood are made to sit on, and drains cut in the marble to carry off the water which is thrown down. These private baths, always heated twenty-four hours before they are used, by being then exhausted, provide such a degree of heat, that persons who undressed in a small exterior chamber, and put on high fences of wood to preserve the feet from being burnt by the marble floor, cannot enter the first room with safety till they have stopped a moment between the two doors to let the lungs dilate; after which they cannot enter the second floor, under which the heat is most active, without similar precaution. A sudden perspiration rising through all the pores, is felt immediately as they are entered; but the violence of this heat does not prevent the women from staying in these baths five or six hours, and returning to them very frequently. The following description of the public bath, and the method of using it, is abridged from the account given of the baths at Caro, by Savary, Travels, vol. i. p. 146, &c. The first apartment, or undressing chamber, is lofty and spacious, and, which lies on the ground, is open at the top for admitting a free circulation of the air. A fracasule or raifed floor, covered with a carpet, and divided into compartments, goes round it, on which the persons who bathe lay their clothes. In the middle of the building, a jet d'eau springs up from a bathon, and agreeably entwines the eye. When you are undressed, you tie a napkin round your loins, put on a pair of sandals, and then enter a narrow passage, where you begin to feel the heat. The door being shut, at the distance of twenty paces, you open a second door, and proceed along a passage, which forms a right angle with the former; here the heat increases. Those who are afraid of suddenly exposing themselves to a stronger degree of it, step in a marble hall, in the way to the bath, properly so called. The bath itself is a spacious and vaulted apartment, paved and lined with marble, round which are four closets. The vapour ascends rising from a fountain and cistern of hot water, mixes itself with the burning perfumes, which perfumes are diffused by the porsus who bathe. The bathers extended on a cloth that is spread out, and put in hot water, by a small cushion, stretch themselves freely in every posture, whilst they are enveloped by a cloud of odorous vapours, which penetrate into all their pores. After remaining there for some time, till gentle moisture is perceived over the whole body, a servant press's you gently, turns you over, and when the limbs are become supple and flexible, he makes all the joints crack without any difficulty. He mosses, i.e. delicately touches, and seems to knead the flesh, without making you feel the smallest pain. When this operation is finished, he puts on a glove covered with a piece of coarse fluff, and rubs you for a long time; and during this operation, he detaches from the body, running with a foot or feet of small scales, and removes even the imperceptible filth, that keeps the pores. The skin becomes soft and smooth like fatin. He then conducts you into a closet, pours a lather of perfumed soap upon your head and then withdraws. The closet is furnished with a cistern and two cocks, one for colds and the other for hot water. After having washed in this apartment, the servant brings a deploratory pomatum, composed of a mineral called "rutilum," which is of a deep brown, and which the Egyptians burn lightly, mixed with water, and mix with half the quantity

bathing
quantity of dressed lime. This greyish polce, applied to the
hair, makes it fall off in a little time; and it is generally used
both by men and women in Egypt. After being well waffled
and purified, you are wounded up in hot linin, and conducted
through the walkings that lead to the outer apartment: and
by this gradual transition from heat to cold, or by fropoing
for some time in the baln next the fivo, no inconvenience
arises from the use of the bath. On arriving at the ertrala,
you find a bed prepared for you, and as foon as you are laid
down, a child preffes every part of your body with its delicate
fingers in order to dry you thoroughly. Here you change
linen a second time, and the child-girt gives the coldliny
of your feet with pumice done. He then brings you a pipe
and Mocha cofl.

By their baths, the Savages, the ufe of which the ancients
strongly recommended, and which are still the delight of the
Egyptians, they prevent or depofe inflations, catarrhs, and
such cutaneous disorders as are produced by want of perpira-
tion. Thus the blood is made to circulate with freedom, the
whole body acquires a suppleness and lightness, and the
spirits gain a vivacity and flow, which are not experienced in
an equal degree, by thole who do not pay so much attention to
external coolant. The women are particularly fond of
these baths, and frequent them at leat once a week. After
undergoing the usual preparations, they wash their bodies,
and more especially their heads, with rose water. Here the
female head dresses are formed with hair black hair into trefis,
to which they apply colly infences, instead of powder and
pomadon: They here blacken the auds of their eyelds, and
lengthen their eye-brows with "cannel," or a preparation of
the burn with gall-nuts. Here also they trim their finger
and toe nails with "cone," (See ALCANDA), which gives them a
golden colour. The linen and clothing which they use are
poled through the sweet cream of the wood of aloes. The
lady, appropriated to the ufe of the bath, are fenced
for the Egyptian women, and on this occasion they pay
great attention to the ornaments of their dress, as well as to
the cleanliness of their persons.

Baths similar to that above described, though differing in
fize, are constructed in all the principal towns of Egypt.
The neceffity of coolant in the fomner climates, where perpira-
tion is to cypious, has rendered this bath indispensa-ble:
the comfort they produce, preffures the ufe of them: and
Mahomet, who knew their utility, has refenrenced the
practife of ablation and bathing by express precept.

Mr. TOLLOE (View of the Russian Empire, vol. ii. p. 7, &c.)
forms us, that the common Russians, in general, use but
fome medicines; supplying their place, in all cafes by the
fweating bath, a practice universal among them, and which
has a decided influence on the whole phifical state of the
people. The ufe of the bath, that viecaiie refet of the
manners of the ancient world, as this ingenious writer de-
nominates it, is now almost entirely con fined to the Oriental
nations, where it ministers both to health and to luxury, and
is perpetuated by religion. In Europe it has been gradually
decaying for feveral centuries, though it was here also in
fome fhort interwoven with religion, the holy water of the
Roman catholic church being a flight remnant of it.

Rufia and Hungary are at present the only countries in
this quarter of the world, where it is still the custom to
bathe after the manner of the ancients. In Rulfia, particu-
larly, the bath forms a fubftantir part of the fystem of life,
that it is used by people of every age, and in all circumftan-
ces, by infants, by lying-in women, in almost all ficknesses,
before and after a journey, after hard work, &c. The bath is
a nefercy of life fo indispensable to the common people, that
they frequent it as often as possible, well or ill, and without
any particular occasion, once a week at leat. Perfons of
middle ftation in good circumstances, and the great, infuf-
fly construct vapour baths, after the Rulfian fashion, in their
own houses, though in these classes the practices is not fub-
infeited under the increafing influence of foreign manners. Baths have
been common in Rulfia from time immemorial. They are de-
ferbed by Mofes fowing ago as the 11th century, pricifely
in their present form. Among the ancients the baths were
public buildings under the immediate cognizance of the
government. The invention of them was owing to coolant-
ifs and convenience; but in proof of time all the graces of
architecture were fcribed upon them; and at length luxury
and voluptuousnefs fo pufioedit them from their prifine
purpofes that they became offenfive and shocking to the
moralists of antiquity. All wonder was allowed at the mag-
nificent of the baths in Perif. At Rome, under the em-
perors, there were once 870 of these edifices, such, with
respect to magnificent and table, as might put for make-
pieces of art; and in after ages they were demolifh by the
Goths, or converted by fiphos into ahrches. In our days,
however, Hungary is the only country that can fiil exhibit
baths equal in magnificent to those of the ancient Romans.
In Ruffia, on the contrary, they are always of that fimple
conftuction, which indicates their primitive and molt elfential
destination. Here the public baths, called public becaufe
they are under the care of the police, and let out to com-
mon people on the crown's account, ufually enclosed of mean
wooden boards, laths, where it is pojible, by the aide
of a running stream. In the bathing room is a large vaulted
oven, which, when heated, makes the pavin fones lying
upon it red hot, and adjoining to the oven is a kettle
fixed in molfinry, for the purpose of heating boiling water. Round
about the walls are three or four rows of benches, one
above another, like the seats of a fcafl fiil. The room has
little light, but here and there are aparatus for letting the
vapour escape; the cold water that is wanted being let in
by small channels. Some baths have an anti-chamber for
dressing and undressing; but in most of them this is done in
the open court-yard, which on that account has a boarded
face, and is provided with benches or plalls. In tafe of
parts of the country where wood is scarce, they sometimes
confilt of wretched caverns, confined, dug in the earth
chief to the bank of some river. In the houses of wealthy indi-
viduals, and in the places of the great, they are conftituted
in the fame manner, but with fab, frics, ochtes and conveni-
cence. The heat in the bath room is usually from 32° to 40°
of Rankin; and this is much increafed by throwing over
every five minutes on the glowing hot flakes in the chamber
of the oven. Thus the heat of a s.f-e, confined on the
uppermost bench, to 44° of the thermometer. The perfons
that bathe lie quite naked, on one of the benches where
they perspire more or lefs in proportion to the heat of the
humid atmoilphere in which they are enveloped. Promot-
ing perpirition, and more completely opening the pores, they
are full rubbed, and then gently fpackled with lefty bunches
of birch. After remaining for some time in this flate, they
come down from the sweating bench, and wash their bodies
with warm or cold water, and at latr plungc over head in a
large tub of water.

Many perfons throw themselves immediately from the
bath-room into the adjoining river, or roll themselves in the
fnow to a bals of ten or more degrees.

The Ruffian baths are, therefore "sweating baths,"
not the Roman tepidaria or caldaria of a moderate warmth,
but very violent sweating baths, which to a perfon unbati-
ated to the prattle, bring on a real, though a genic and
almoft voluptuous swoon. They are "vapour-baths," not
water
water nor yet dry sweats or baths; differing in this respect from all the baths of antiquity, as well as from those of the modern Orientals; and in this consists their essential excellence, that they are beneficial in such a variety of cases, where hot-water baths would be usefo or even pernicious. They are further "salutary baths," as they promote cleanliness, assist the perspiration, render the skin soft and smooth, &c. and not voluptuous baths like those of the Greeks and Romans. All the inventions of luxury and cegacy are entirely obviated; and the history after the use of the bath, indispensable in those, the Russian is wholly ignorant. Instead of this the sudden transition from heat to a rigorous cold hardens his body, and adapts it to all the severities of climate, and to every variety of weather, a tradition of which gives to us unshaken or dangerous, merely from the prejudices of a fast and effeminate age.

Mr. Tooke adds, that without doubt, the Russians owe their longevity, their robust state of health, their little distilution to certain moral duties, and their happy and cheerful temper, mostly to these baths, though climate, altitude, and habits of living likewise contribute there share.

The great lord chance for Bacon, and other sagacious observers of nature, and of mankind, have hitherto, and certainly not without cause, that the practice of bathing has fallen into disuse among the modern nations of Europe, and anxiously wish that it might again revive in all our towns and villages. In fact, when we consider, says Mr. Tooke, that the old physicians so early introduced into their practice this remedy of nature's own invention, and employed it with such great success; when we recollect that Rome for 500 years had no physicians but only baths; and that to this day a multitude of nations cure almost all their maladies merely by baths; we cannot avoid regarding the dismission of them as the epocha of a grand revolution, which has been wrought in the physical state of the human race, in one quarter of the world. The natural perspiration, the most important of all exertions, must naturally go on better in a body contantly kept soft by bathing. Many impiuries that privily lay in us the train to cedions and dangerous distempers are removed in time, before they poison the blood and juices. All exanthematic diseases are abated by bathing, and consequentiy the small pox; and if this dreadful disorder he actually less fatal in Ruflia than in other countries, this pheenomenon need not be attributed to any other cause besides vapor or baths.

Bathing, medicinally confidered, ranks among the most efficacious means by which diseases are prevented or cured. Its effects vary according to the variation of temperature, and according to the qualities of the liquid medium employed; that is, according as the bath consists either of common water, or of water containing salt or other mineral ingredients (see Mineral Waters), or of water impregnated with the virtues of aromatic or other herbs. These last, which go under the name of medicated baths, are much used; and when they are we are inclined to believe that it is to the watery medium, rather than to such impregnations, that their beneficial operation is to be ascribed.

Under the present head, we shall confine ourselves to the consideration of the effects produced by bathing, so far as they depend upon a diminution or increase of temperature above or below the natural bandom of the human body. Bathers of different degrees of temperature, corresponding to the familiar terms, cold, temperate, and hot, are suited to different and opposite states of the body. The manner of using them is also different; the time of immersion or laying in them varying according to the difference of temperature, and according to the required quantum of impression or effect, as will be particularly noticed in treating of each.

And, last of the Cold Bath, by which is understood water of a temperature from 05 to 33 of Fahrenheit. The general effects produced in a healthy person by immersion into an ordinary cold bath (that is, water of the temperature of 48 or 50) are, according to the accurate statement of Dr. Saunders, as follow: 'First, there is a general sensation of cold, forming that sudden shock to the whole system which is one of the most important effects of the cold bath. This is almost immediately succeeded by an equally universal flush of warmth, which increases rapidly to a certain point, so as to cause the surrounding water, though relatively cold, to feel of a comfortable warmth; and this feeling is sooner produced, and continues longer, in proportion as the person is in full health, and naturally possesses a vigorous circulation. By degrees, however, if the body continues immersed, it becomes chilled; violent shivering comes on; the extremities grow numb and pale; sometimes sickness takes place; and, at last, the animal powers are exhausted by cold and fatigue. In this proceeds the most remarkable effects are those which occur first, and are directly consequent to the shock of immersion; and these require particular attention in a medical view, as it is only in the production of these that the cold bathing should be fulfilled to proceed. The sensations of returning warmth which take place directly after the cold of the bath, constitute what has been called the reaction of the system; and this is certainly a proper and characteristic term, as it imports an action produced in the body itself, to refit an external impulsion. Reaction in this place seems to be a peculiar effort of the living power, and to be excited in a degree proportionate to the force of that power, and to the intensity of the caufe which called it into action. It implies not merely an increase of the production of animal heat, but, superadded to this, a sudden effort within the body, and the whole arterial system, to overcome an impulsion on the extremities as fulminating and powerful. Hence it is that a mere abstraction of heat, by a cold medium will not produce that which is precisely meant by reaction, except the external cold be applied suddenly, and to a large surface. These two conditions are fulfilled by sudden immersion into cold water. The superior power of conducting heat which water poifes over air, is also a circumstance that is always to be kept in mind in applying cold externally. This is particularly thon when a person continues long in this cold medium beyond the first effects of reaction. On account of the high conductive power of water, the body must be constantly employed in producing an unusual quantity of heat; and this appears to be a great effect in the constitution, which, if carried too far, goes directly to destroy the animal powers.' Thus three effects are produced by immersion in cold water; viz., an inflammatoneus and powerful shock, a sudden abstraction of heat from the surface of the body, and that excretion of the vital energies to counteract the shock and restore the lost quantity of animal heat, which is termed reaction. It is easy to perceive that when the body is placed under such circumstances for a few seconds, a considerable impression must be made, first upon the sentient system, i.e., the brain, and its ramifications, the nerves; and, secondly, upon the sanguineous and absorbent systems; and that such impression may be rendered subterfuent to the prevention and cure of various diseases. Accordingly, the cold bath is a principal remedy, first in many conjunctive affections, and in maulcral attacks; and secondly, in certain forms and conditions of fever.

2. In
Bathing.

1. In the convulsions to which children are so liable, Dr. Currie of Liverpool (whose observations on the subject of cold bathing cannot be too often quoted) has found this application a most useful remedy, whether the convulsions originated in worms, or other causes. In early infancy, however, he remarks, that he has used it with caution, sometimes tempering the water when the weather was cold, and sometimes pouring it upon the patient, rather than immerging the patient in it; making the application of the cold water in this way sudden and transient, so as to secure reaction, and avoiding the remedy entirely in all cases where the vital energy seemed much exhausted. He further remarks, that the chief benefit derived from the cold bath in convulsive diseases, depends on its being used in the paroxysm of convulsion. It not only shortens the duration or abates the violence of the exiting paroxysm, but has a remote good effect in retarding or wholly preventing its return. In that convulsive disorder termed erethes vii. vii., the cold bath, though strongly recommended by most practitioners, has not succeeded with this author; and he candidly acknowledges, that his experience of its effects in epileptic fits is as yet too limited to enable him to form any satisfactory conclusion. The late Dr. Heberden, whose experience in these affections was considerable, had no great opinion of it. Again, tetanus, whether idiopathic or arising from local injury, this remedy has been employed with the most decided good effect, particularly in the tropical climates; and it has proved beneficial in manic and maniacal paroxysms. See Dr. Currie's work hereafter quoted.

2. In certain forms and conditions of fever. In these cases, cold bathing, whether by immersion or affusion, is of eminent service when properly applied; as, by abstracting the preternatural degree of heat, it flies the body of an exhausting fluxus and irritation, and thereby abates the frequency of the pulse, the delirium, and other febrile symptoms. It may be referred to in most fevers, (some of the exanthematic fevers excepted) where the skin is hot and dry; but it is especially adapted to the typhus, or common contagious fever of this country, the acutest fevers of the hot climates, and the yellow fever of the West Indies, &c. The safest and most advantageous time (says Dr. Currie) for using the affusion or affusion of cold water, is when the exacerbation is at its height, or immediately after its declination is begun; and this has led me almost always to direct it to be employed from six to nine o'clock in the evening; but it may be safely used at any time of the day, when there is no fever of chilblains present, when the heat of the surface is steadily above what is natural, and when there is no general or profuse perspiration. It is of the utmost importance that medical practitioners be careful not to apply this remedy during the cold fit of fever, when it would extinguish life; nor to apply it when the heat of the body is less than natural, or even only equal to the natural heat; nor when the fever-patient is in a state of perspiration. Cold bathing has also been tried in the febrilina; but in this species of eruptive fever as well as in measles, the application of cold water to the surface of the body is, in our opinion, by no means advisable. Another caution on which we would insist with regard even to fevers that are not eruptive, viz. that when they are complicated (as often happens in this climate) with pneumatic inflammation, cold ablution is inadmissible.

Cold bathing has often been recommended in certain glandular diseases, and particularly in scrofula. Accurate observation, however, has proved, that in these cases it is generally hurtful; and that for such complaints, a temperate bath, whether of fresh or salt water, is preferable.

Having thus described the general effects of cold bathing, as well as its particular application to certain states of disease; we have only further to add a few words respecting the manner of using it. In the case of immersion, the time of staying should in general not exceed a minute or two, where the degree of cold is below 60; but in the summer and autumn fevers, immersion in rivers, and especially in the seas, may be continued as long as is pleasant to the feelings of the patient provided the body is at the same time exercised in exercising. Much mischief, however, is frequently done by staying in too long.

It has been commonly supposed, that if a person has made himself warm with walking, or any other exercise, he must not let him become cooled before he should plunge into the cold water. Dr. Currie, however, has shown that this is an erroneous idea, and that in the earlier stages of exercise, before profuse perspiration has dissipated the heat, and fatigue diminished the living power, nothing is more safe, according to his experience, than the cold bath. This is in true, that he has for some years constantly directed infants to use such a degree of exercise before immersion as may produce some increased action of the voluntary system, with some increase of heat; and thus secure a force of reaction under the shock, which otherwise might not always take place. The popular opinion, that it is safest to go per stictly cool into the water, is founded (he observes) on erroneous notions, and sometimes productive of injurious consequences. Thus, persons heated and beginning to perspire, often think it necessary to wait on the edge of the bath until they are perfectly cooled; and then plunging into the water, feel a sudden chilliness that is alarming and dangerous. In such cases, the injury is generally imputed to going into the water too warm, whereas in truth it arises from going in too cold.

Besides immersion, there are other modes of cold bathing; such as offusion, which consists in suddenly pouring upon the body a sufficient quantity of cold water from buckets or other vessels. This mode of applying cold water produces a very considerable shock, and consequent reaction. It is this mode of cold bathing that has been referred to with advantage in the contagious fevers of this climate, and in the yellow fever of the West Indies. What is termed the flourer-bath is only another mode of effusion.

As cold bathing is a remedy which is successfully employed for the cure of various disorders, so is it a precaution against others, and particularly against febrile infection. When used by persons in health, it increases the tone of the muscular fibres, strengthens the digestive organs, and by diminishing the sensibility of the whole system, and particularly of the skin, renders the body less susceptible of atmospheric impressions from cold, wet, and sudden changes of temperature; thus contributing to the production of what is termed a robust or athletic constitution. A temperate bath (i.e., from 70 ° to 83 °, or more) is applicable to the same cases as the cold bath, and may be used in the same manner. It is preferable in many cases where the shock of the ordinary cold bath is too great.

If after going into the cold bath a person feels dull or chilly, or complains of headache, or tightness across the chest, it is a proof that it disagrees, and it should accordingly be discontinued. It should further be remarked, that this remedy is not suited to those who have a tendency to consumption, nor to such as are constitutionally liable to bowel complaints. The best seasons of the year for cold-bathing are the summer and autumn.

We now proceed to the consideration of Warm Bathing: a remedy not less efficacious than the former in diseases of an opposite nature; but concerning
concerning the operation of which, wrong notions have
till very lately been entertained by the generality
of medical writers and medical practitioners. It has been
imagined that the warm bath relaxes (a figurative
effect) and weakens, whereas it produces a contrary
effect; unless indeed the temperature be so high, or the
time of immersion continued so long, as to bring on that
degree of debility which is accompanied with delirium.
But this arises only from an abuse of hot bathing, and is
even then the consequence of an excess of stimulation. So
far is immersion of the body in water heated to 105 from hav-
ing a lowering or weakening operation, that when duly re-
regulated it is found to reile the spirits, to mend the pulse and
appetite, and to refresh and invigorate the whole frame.
Hence the benefit derived from it after great fatigue; in
old age; in atomic gout, accompanied with swellings and
palpil swellings of the joints; in paralysis; in chlorosis; in
defeases arising from a certain torpor of the lymphatic and
glandular system, such as scrofula, leprous, and other chro-
nic eruptions, &c. In cases of predilection to phthisis, it abates
the frequency of the pulse, and tends to retard at least, if it does not wholly prevent, the pulmonary affec-
tion. In consequence of its soothing and agreeable impression upon
the surface of the body, it produces very beneficial effects in
certain disordered states of the alimentary canal, originat-
ing in diminished action; and it relaxes the bowels and feces
and relief in a great variety of painful disorders, whether con-
ected with local inflammation or not; such as chronic rheumatism, certain forms of dropsy, nephritis, calculous
colics, enteritis, &c.

The time of immersion should be varied according to the
temperature of the water, and the exigencies of the patient.
In a bath of 90°, a person may remain fifteen, twenty,
or thirty minutes, or even longer; but in one of 98 or 100.
it will seldom be proper, and indeed there are few passions that
can bear, to remain beyond ten minutes, and in the gener-
ality of cases not so long. Patients labouring under chronic
rheumatism and palpily bear the high degrees of temper-
ature bath. When sweating is desired (which will seldom happen,
except in cases of local inflammation), the warm bath
should be used in an evening, and the patient should
immediately afterwards be put into a warm bed, and remain
there until late the next morning; but in all other cases,
where sweating is not required, or in which it would be
hurtful, the best time for using the warm bath will be in the
afternoon, about two hours after breakfast. In these cases,
the bathers should not retire to bed, nor confine themselves
within doors, but go about as usual; unless the weather
should be particularly damp or inclement. Hot bathing,
like cold bathing, is applied topically by pumping on the
diseased part, as will be described when we come to treat on
mineral waters. Sometimes steam is applied to the body in-
stead of warm water. See VAPEUR BATH.

Among the works on cold and warm bathing, the follow-
ing are those which seem most entitled to notice: viz.
"Flower on Cold Bathing," 1759. It should be remarked,
however, that this author works without method on this
subject; that he is too indiscriminate in his profiles of the cold
bath, and that he recommends it in some diseases of debility
to which warm bathing is better adapted. "Maced via
Currie's "Medical Reports on the Effects of Water, cold and
warm," 1757. And the 6th chapter of Dr. Sam-

BATHING, a bath or a bade, is, when Inquiry white from
her range feet, and also bird, reimbursed, and ther-
oughly reclaimed, she is offered safe water to bathe her-
self in, a bade, where she may stand up to the thigh,
choosing a temperate clear day for that purpose. By the
use of bathing she gains strength, with a sharp appetite, and
so grows bold.

BATHING, among the Copts and Ethiopians, denotes
the day of Christ's baptism, reputed the 6th of January;
when, from an opinion of an extraordinary faculty in the
waters on that day, they not only, by ancient custom, bap-
tified their catechumen, but were re-baptised themselves.
The water of this day they carry home to keep; and
Cyprian affirms us, that it had been often known to
remain sweet and uncorrupted for two or three years.

BATHING Tab. In the Roman baths there are two kinds
of bathing-tubs; the one fixed, and the other moveable.
Among the latter, some were contrived on purpose to be
suspended in the air; whereby, to the pleasure of bathing
was added that of being swung or rocked by the motion
given to the bathing-tub. Barett, in Hist. Acad. Inscrip-
tom, i. p. 172.

BATHNUS, in Antiquity Geography, a river of Panonia,
near which the young men of the country assembled, laid
down their arms, and threw themselves at the feet of the
victorious Romans.

BATHIS, Bathous, a river of Asia, in the territory of
Celisb, which ran from the east to the west, and discharged
itself into the Euphrates 92,0 leagues south of the mouth of
the Phenus.

BATHIS, in Entomology, a species of Papilio (Pib. run)
that inhabits Sarum. The wings are two-toned, with a
black ocellus spot, beneath brown, suffused with white,
and angle rufous. Fab. 1797.

BATHMONSTER, in Geography, a town of Hungary,
separated by the Danube from Bathem.

BATHOS, in Ancient Geography, a town of the Pelo-
pomnesus, in Arcadia, near the river Alpheus, according to
Pausanias, who adds, that they celebrated every third year
the mysteries of the greater godesses in this place.

BATHRACUS, a port of Africa, in Mararama. Pto-
lemy.

BATHRITITES, the name of a nome of Egypt,
where, according to Luidius, king Vaphres sent fœcuro
king Solomon.

BATHRUM, a name given by ancient geographers to a
kind of pool or bench proper for the reduction of dilute
waters. This is called Delphic Irenapheus, or the Hippocratic
well. Its description and use are represented at large by

BATHURST, Ralph, in Biography, born at How-
 thorpe, a small hamlet belonging to the parish of Thading-
worth in Northamptonshire, in the year 1630, received
the rudiments of his education at the free school in the
city of Coventry, where his prolegs in the Latin and Greek
languages was so rapid and extensive, that he was sent to Ox-
ford, and entered in Gloucester Hall (now Wadham Col-
lege), October the 10th, 1641, being then only fourteen
years of age. He was however soon removed to Trinity
College, where his father had educated him, and of which
two of his brothers, George and Edward, were then mem-
bers. Proceeding in his studies, he was elected scholar of
the college, June 5th, 1677. In January following he took
his degree of Bachelor of Arts; and in the year 1680, he
was appointed Fellow of the College. In 1681, he pro-
ceded Master of Arts; and in 1684, was ordained priest by
the bishop of Oxford; he inclinatory, was his biographer says,
deposing him to theological studies. Finding, however, from
the troubles that then, and for many years after, afflicted the
country
country, little prospect of advancing himself in that line, he applied to the study of medicne; which, in a letter to a friend some years after, he called "his refuge in bad times, and not his primitive design." But his mind was vigorous, he soon acquired considerable eminence in this profession; being assisted in his endeavours by Dr. Thomas Willis, with whom he kept up an intimate connection until death deprived him of that valuable friend. In 1634, he took the accumulated degrees of Bachelor and Doctor in Medicine; but he had before so far signalized himself, as to obtain the appointment of physician to the sick and wounded of the navy, which office he performed to the satisfaction of the commanders of the ships, and of the admiralty. Quitting this situation, he returned and settled in Oxford; and, with his friend Dr. Willis, attended Abingdon market regularly every Monday, to give advice to such patients as applied. He was an associate with Mr. Boyle, Dr. Seth Ward, Christopher Wren, and various other persons, who met every week at the rooms of Dr. Wkins, to discuss philosophical subjects; which meetings led to the formation of the Royal Society in London, in 1662. A committee or branch of the society continued their meetings at Oxford for several years after, of which Dr. Bathurst was elected president in 1668. On the restoration of King Charles the Second, he quitted the practice of medicine, and refumed his theological studies. In 1663, he was made chaplain to the king; and the year following, president of the college, which was nearly rebuilt under his direction. The expense of the building was furnished in part by the college, part by subscriptions solicited by the doctor, and no small portion of it from his own fortune. About the same time he married the widow of Dr. John Palmer, warden of All Souls College; but had no children by her. In 1670, he was installed dean of Wells. This advancement was procured him by the duke of Devonshire, to whose notice he had recommended himself by an elegant copy of Latin verses to Mr. Hobbes, on his Treatise of Human Nature, which was printed with the volume. In 1675 he was made chancellor of the university, and was re-elected to that office the two following years, by which means he had opportunity of reforming many abuses which had crept into the institution, and of establishing many useful regulations which still continue to be observed. As he had contributed largely in rebuilding and beautifying his own college, and was the first in introducing Grecian architecture in Oxford, he now set about restoring St. Mary's church, which had suffered much during the protecrator. He subscribed 300 l. towards paving the choir with marble, and erecting an organ there. In 1691, he was nominated by king William and queen Mary, bishop of Bristol, with liberty to keep his deanery and headship of the college; but had the resolution to decline this noble offer, lest it should detain him, he said, too long from the university, and be the means of retarding the improvements he was making there, both in discipline and in the buildings. In the mean while his fame for proficiency in letters became so extended, that he corresponded with most of the first literary characters in the kingdom, who frequently submitted their works to his inspection and criticism before they were published. He was particularly instrumental in advancing Derham, the celebrated author of the " Aftrj," and " Physico-Theology," from obscurity and indigence; recommending him to the bishop of Salisbury, through whose means he was made perpetual vicar in the church at Stratton. As he was a strict disciplinarian, and regularly attended his duty both in the university and at his deanery, he had little leisure for undertaking any extensive works; accordingly, excepting his " Prélecções tres de Respiratione," we have only his " Orations" before the university, on his being appointed vice-chancellor, on laying down his office, and on a few other subjects; with some short poems. These however have been sufficient to establish his character as an elegant Latin scholar. He was very abstemious in his diet, and regular in taking exercise; and had the happiness of enjoying an almost uninterrupted state of good health until he was upwards of fourteen years of age, when his sight began to fail, and at length he became blind. Walking one day in his garden, the only amusement that remained to him after the failure of his sight, he had the misfortune to break his thigh bone, by what accident it is not said; which occasioned him excessive torture, and after languishing a few days, he died in 1704. His property, which was considerable, he had directed by his will to be disposed of in the manner he had expended a large part of his income in his lifetime; in donations towards improving his college; in books and medals to different libraries; in donations to the cathedral at Wells, and to the servants of the cathedral and of his own college. The remainder was left among his relations, who were numerous. His directions concerning his funeral, as being singular, and marking somewhat the disposition of the man, we shall transcribe, etc. Concerning the place and manner of my funeral (he says) I am not at all particular, but shall leave it to the discretion of my executor; except it shall please God to give me leisure and opportunity of ordering it at the time of my death, as occasion may then require: only I shall always desire, that it may be performed with all convenient frugality and privacy; and that my mouth and nostrils may be firmly closed up with a platter of Dutch, and my whole head wrapped in a cloth: and that I be buried without any cover to my coffin, only with a black pall of woollen stuff loosely nailed on, and hanging loose down." See Life of Ralph Bathurst, by T. Warton.

Bathurst, Allen, earl Bathurst, a nobleman not more distinguished by the elevation of his rank, than by his abilities and integrity as a statesman, and by the elegance of his taste and the variety of his accomplishments as a polite scholar, was the son of Sir Benjamin Bathurst, descended from an ancient family of Luneburg, residing at a place called "Batters," and settled in England in the time of the Saxons, at a place called "Batters Hurl," or Batters Grove, in Suffolk, whence the name; and born in Wiltshire, in the year 1634. At the age of 15 years, he was entered in Trinity College, Oxford, where he enjoyed peculiar advantages for improvement under his uncle, dean Bathurst, who was then president. Having availed himself in an eminent degree of these advantages, he commenced his political career as a senator in 1705, being chosen representative for the borough of Ginceling in Gloucestershire, which he served in two parliaments. Under this character he distinguished himself in the debates that related to the union of the two kingdoms, and vigorously supported this measure. He likewise concurred in the opposition planned by his two friends, Mr. Harley and Mr. St. John, against the duke of Marlborough and his adherents; and by his spirit and eloquence he was of great service to his party. At the same time he was duly sensible of the merit of those from whom he differed in political principles; and by his conduct toward lord Somers, both in and out of office, he preserved his lordship's esteem and friendship. In his opposition to the whig ministry, he appeared always in the highest estimation of his own mind; for after their dismission, he accepted himself under government, though his abilities and activity entitled him to notice, and his connection with the principal tones of that period might naturally have led him to expect some honourable office. 
able and lucrative preferment. However, his merit was re-
compened in 1711, by advancement to the dignity of a peer
of Great Britain, under the title of lord Bathurst, baron Ba-
thurt of Bathurst in the county of Bedford. Upon the
accession of king George I., the political friends of his lord-
ship were in disgrace, and some of them were actually ex-
posed to the prosecution of government; and yet his attach-
ment to them remained firm and unchangeable. He even
avowed his disapprobation of the treatment they suffered,
which he considered as severe and vindictive; and on this
occasion he is said to have observed, in strong and poignant
terms, "that the king of a faction was only the sovereign
of half his subjects." His zeal in defence of his friends
was manifested by his joining in the protests against the
attainder of lord Bolingbroke, and the duke of Ormond; and
by his opposing the prosecution, and concurring in the un-
animous acquittal, of lord Oxford. In 1716, he opposed the
septennial bill; and united with thirty peers in entering his
reasons for dissenting from it, as a violation of the constitu-
tion. From the commencement of the year 1718, he took
an active and distinguished part, for the space of twenty-five
years, in every matter of importance that came before the
upper house of parliament, and he steadily opposed the mea-
ures of the court, and the administration of sir Robert Walpole.

Lord Bathurst was a zealous advocate for bishop
Atterbury; and distinguished himself, in 1723, on the third
reading of the bill for inflicting pains and penalties on that
ingenious and celebrated prelate. In 1727, he opened the
debate on the king's speech, and strenuously opposed a war
with Spain, which then threatened the country. "What
(faid he) can we get by the war, if it be a successful one?
I'll fay it in one word, nothing. What can we lofe, if it be
unprosperous? I'll fay it in one word, in a syllable, all." In
the year 1731, he supported the bill against permitting
penitentiaries to fit in the house of commons; he moved an
addres to the king for discharging the 12,000 Heftian troops
in the pay of Great Britain; and in the next parliament,
he very ably refuted the undue taxation of the poor, on the
bill for the revival of the salt-duty. On another occasion
he displayed his parliamentary talents, by the support of
the earl of Oxford's motion for reducing the number of forces
to 12,000 effective men, and vindicated the expediency and
usefulness of a national militia, as the most proper and con-
stitutional mode of defence in a free country. In a subse-
quent debate on the mutiny bill, his lordship declared him-
self, with great eloquence and spirit, against a large flan-
ding army, and in favour of a national militia. Among other
things, lie particularly urged the importance of all men in
the kingdom, or at least all freeholders, farmers, and sub-
tantial merchants and tradesmen, providing themselves with
arms, and training themselves to military discipline. He
likewise declared his utter disapprobation of the method
that had been adopted of alienating the finking fund, and
applying it to other objects besides the payment of the pub-
lic debts. Lord Bathurst was uniform and active in oppos-
ing the measures of sir Robert Walpole's administration,
particularly with regard to the transactions that regarded
the Spanish depredations, and the convention with Spain,
and the subsequent conduct of the war with that kingdom;
and he exerted himself, with fingular ability, in the debate
that lasted two days, on the question, whether an address
should be prefented to the king for the removal of this mini-
ister's influence, on majesty's preference and councils for ever.
When his lordship had accepted a place, in conjunction
with some of his friends, his reafoning, in 1743, in vindica-
tion of the propriety and necessity of retaining the Han-
overian forces in the service of England, was somewhat differ-
ent from the sentiments he had avowed on a former occa-
sion; but he was probably led to approve and defend this
measure by the critical situation of our foreign affairs, and
argued in its favour from a conviction of its prudence and
rectitude. Whatever opinions may be entertained of lord
Bathurst's political principles, and of the general reasons
upon which his opposition to the whig ministry was found-
ed, the history of that period will furnish scarcely any char-
acter, in which we may discover less discrepancy of con-
duct than in that of his lordship. We had close this brief
recital of his political history with the testimony of an ano-
nymous writer, who delivered it at a time in which his ta-
lents were in their full exertion and display. "Lord Ba-
thurft, in all he says, carries along with him that conviction
which arises from a warm sense of liberty and virtue, direct-
ed by great abilities and a most exquisitely distinguished.
He was called to the house of lords by means of the Tory in-
terest, upon a particular exigence of state; and therefore it
might have been prefixed, that he was entirely devoted to
that party. Yet he has chosen his principles of government
so happily from what is commendable in both parties, that,
upon whichsoever side he speaks, he is always observed to
lean to the extremes of neither."—Gent. Mag. vol. x. p. 103.

Lord Bathurst was married, in 1704, to Catherine, daugh-
ter and heirs of sir Peter Apley, by whom he had four
sons and five daughters. Having resigned, in 1744, the offi-
cce of captain of his majesty's band of gentlemen pensioners,
to which he was appointed in 1724, his lordship was in no
public employment till the year 1757, when he was ap-
pointed treasurer to the present king, prince of Wales,
in which office he continued till the death of George II.
At his majesty's accession in 1760, he declined the accept-
ance of any employment on account of his age; but in con-
consideration of his distinguished merit, he had a pension on
the Irish establishment of 2000l. a year. "As his lordship's a-
ilities and integrity," says an impartial and candid biogra-
pher, "in public life, gained him the esteem even of his political opponents, so in private life, his humanity and be-
nevolence excited the affection of all who were honoured
with his more intimate acquaintance."—"To his other vir-
tues lord Bathurst added all the good-breeding, polite-
necs and elegance of social intercourse. No perfon of rank,
perhaps, ever knew better how to unite "Otium cum dig-
nitate." The improvements he made round his seat at Ci-
rencelder were worthy of his fortune, and showed the gran-
deur of his taste." In this respect Mr. Pope (Works,
vol. ii. p. 170. ed. 1776.) paid him a just and fine com-
pliment:

"Who then shall grace, or who improve the foil?
Whos plants like Bathurst, or who builds like Boyle?"

The same excellent poet, in his epistle to Lord Bathurst on
the use of riches, has no less justly expressed his lordship's
knowledge of the right mode of employing a large for-
tune:

"The fence to value riches, with the art
'T enjoy them, and the virtue to impart,
Not meanly, nor ambitiously purfued,
Not funk by floth, not raised by fervitude;
To balance fortune by a julf expence,
Join with economy, magnificence;
With splendour, charity, with plenty, health;
Oh teach us, Bathurst, yet unfpoil'd by wealth;
That secret rare, between the extremes to move,
Of mald good-nature, or of mean felf love."

His lordship's wit, taste, and learning led him to seek the
acquaintance of men of genius; and he was intimately con-

BATH

nestled with the eminent personages of this character who adorned the beginning of the last century. From the few letters of his lordship that have been published, it appears, that his correspondence was a real honour and pleasure to those who enjoyed it. To the close of his life he preserved his natural cheerfulness and vivacity; and he was always accessible, hospitable, and benevolent. He was fond of rural amusements; and enjoyed, with a philosophic calmness, the shade of the trees which he had planted. Till within a month of his death, he constantly rode out two hours in the morning, and drank his bottle after dinner, jocosely observing, that he never could think of adopting Dr. Cadogan's regimen, as Dr. Cheyne had advised him fifty years before, that he would not live seven years longer, unless he abridged himself of his wine. About two years before his death, he had a party of friends; and being about to part with them at an early hour in the evening, when his fon, the chancellor, wished to retire, he said to his companions in a sprightly manner, as soon as his fon was gone, "Come, my good friends, since the old gentleman is gone to bed, I think we may venture to crack another bottle." In 1772, his lordship was advanced to the dignity of earl; and having lived to see his eldest surviving son several years lord high chancellor of Great Britain, and promoted to a peerage by the title of baron Aplly, he died in the 94th year of his age, after a few days' illness, at his seat near Crewe Castle, on the 16th of September, in the year 1775. Dibb. Brit.

BATHUS, in Entomology, a species of Papilio (Papilio. R. R. R.), with entire black wings, glossed with blue; beneath white, with numerous black dots, and a continued fulvous band. Fabricius. Inhabits Antria. This is Pa-

pìlìo Bathyllus Schreb. and Papìlo Bathyllus Schreb. BATHYCHRUS Cator, in Paining, a term used by the Greeks to express what the Romans call aestus: colour. Such a colour was coarse and dull, and wanted the life of the florid colours. See Exanthà Colores.

BATHYCOLPUS, in Ancient Geography, a bay and river of Europe, in the Thracian Bosporus. Hebychus.

BATHYLLUS, and PYLADES, in Biography, the inventors of a new method of representing all kinds of theatrical pieces by dancing. Bathyllus was a freedman of Maccenas, the object of his extravagant and licentious attachment; and in compliance with the wishes of Maccenas, Augustus connived at their plays and their art. Bathyllus excelled as a comic, and Pylaides as a tragic pantomime. They flourished under Augustus, about the year B.C. 18. From these two competitors for public fame in the respective departments of their art sprung two sects, each of which retained the name and preserved the manner and character of its master. The disciples of Bathyllus were called Bat-

thylli, and those of Pylaides were denominated Pylaides. The Romans divided themselves into parties on account of these two pantomimes; and the interest of Bathyllus's was at one time in pre-eminence as to procure the banishment of Pylaides. Upon his return Augustus recommended his behaving better for the future, and not attempting to divide the people into parties or factions. Pylaides replied, "Caesar, it is of service to you to have the people buffs about Bathyllus and me." Gen. D. C. Crev. Hist. 1. 1. p. 132.

BATHYLLUS, in Ancient Geography, a fountain of Arcadia, in the Pempeutice, near Megalopolis. Paufianias.

BATHYMIL, a people of Arabia Felix. Ptolemy.

BATHYS, a river of Phrygia Salutaris, which flowed in the north of this province, along the plain of the city Dorylaeum, and discharged itself into the river Sangaris.

BATHYS, Flumè Tavurom, a river of Sicily, which ran into the gulph of Calèl a Marc.

BATIAS, the name of a port of Ethiopia. Ptolemy.

BATIA, a people of India, on the other side of the Ganges. Ptolemy.

BATIA, a town of Italy, in the territory of the Sabines.

BATI, a district of Attica, belonging to the tribe of Eóides.

BATIÈ, a town of Epirus.

BATIANA, BAIX, a town of Gaul, on the right side of the Rhine, according to M. d'Asville.

BATIANI, a people of Italy, placed by Ptolemy in Langued.

BATUS, a musical instrument made of metal, in the form of a staff, furnished with metallic rings, which being struck yielded a kind of harmonical sounds; used by the Armenians in their church-service.

BATINA, in Ancient Geography, a town of Asia, in Medo. Ptolemy.

BATINUS, a town of Italy, in Piccinum.


Species, 1. B. moratima. Sloa. Jan. 1. 144. Kali. This is a thorn about four feet high; stems bristie, round, ashcoloured, branched, diffused, procumbent; young branches, four-cornered, four-furred, green, oppoite and upright; leaves oblong, acute, drawing to a point towards the base, flatly, fuscic; flat above, convex beneath, fuscic, opposite, scarcely an inch long, numerous; stigma white; fruits yellow or greenish-yellow. The whole plant is very tall to the talie, and is barbed for barilla at Carthagena, &c. A native of the Caribbe islands and the neighbouring continent; very common in all the Clint marlies on the south side of Jamaica. Linnæus doubts whether it be distinct from the Lupbenal of Plinther. Martyn's Miller's Dict.

BATIS, in Entomology, a species of PhalaEna, found in England and some other parts of Europe. The interior wings are brown, with five rose-coloured spots on each; posterior ones whitish. This is a rare and elegant insect, and is called by collectors of Englibh insects the peach-blossom moth. Linn. Donov. Brit. Inf. &c.

BATIS, in Ethnology, a species of Raja, called in England the Skate. It is varied; back fom th in the middle, with a finge row of spines on the tail. Linnæus.

This is the largest fish of the Ray tribe; it inhabits all the northern parts of Europe in immense quantities, though it is certainly less common than the thornback, with which it is sometimes confounded. The usual size is from two to three feet in length, or rather more, including the tail; and they have been taken of the weight of an hundred and fifty

5 R 2 or
or two hundred pounds. They couple in March and April, and spawn in May. The flesh of the skate is thought better than that of the other Rays.

BATISTANI, in Ancient Geography, a people of Spain, who inhabited the northern part of Baetica.

BATISTE, in Commerce, a fine white kind of linen cloth, manufactured in Flanders and Picardy.

There are three kinds of battle: the first very thin; the second left thin; and the third much thicker, called Holland battle, as coming very near the coastlands of Holland. The chief use of battle is for back-charts, head-charts, surphers, &c.

BATMAN, a weight in Turkey, consisting of six okes. For one of these batman make a carver's yard, and amount to about seven hundred and twenty pounds English weight.

Batnir, or Batnir, is of a weight used in Turkey and Persia. The Turkish batman is of two kinds: the larger containing six okes, or ocques; at three pounds three quarters Paris weight the ocque; so that the batman amounts to about twenty-two Paris pounds and a half; the smaller, composed likewise of six ocques, at fifteen ounces the ocque, amounting to five pounds ten ounces.

The Persian batman is likewise of two kinds: one called the 'Ega's weight, la- man de Ega, or Ega, used for weighing most of the necessaries of life, equivalent to about twelve pounds and a half Paris weight; the other called leman of Tauris, equal to six pounds four ounces Paris or Amsterdam weight. These, at least, are the proportions given by Tavtrier. Chardin rates the Persian batman somewhat lower, viz. the former at twelve pounds twelve ounces; and the latter at five pounds fourteen ounces.

BATMANSON, John, in Biography, prior of the Carthusian monastery, or Charter-house, in London, in the 16th century. He studied at Oxford; and being a great favourite of Edward Lee, archbishop of York, wrote at his request against Erasmus and Luther. He died in 1531, and was buried in the Charter-house. Bale represents him as proud, arrogant, and fond of wrangling; and says, that Erasmus flays him an ignorant fellow, and vain-glorious even to madness. Pits, on the other hand, commends his genius, learning, piety, and zeal; his acquaintance with the scriptures, and his highly exemplary life. His works are "Animadversions in Annotationes Erasimi in N. T."; "A Treatise against some of Luther's writings;" both these he afterwards retracted: "Comment in Prover. Solomon," etc. in Cantica Canticum: "De Unio Magna," etc. in Institutiones Novi Test. "De Contemptu Mundi," "De Chribo du Boeunt," a homily on Luke ii. 42; and, "On the words Alisne efi, &c." B. G. Br. Gen. Dict.

BATNE, in Ancient Geography, a town of Mevrotamia, in Osdrome. Ammianus Marcellinus calls it Batne and Batare, and says, that it was a municipal city of Antiochus, of great trade, built by the Macedonians, at a small distance from the Euphrates. The emperor Julian made it a place of defence by encompassing it with walls. Procopius calls it a small and obscure town, and says, that it was about a day's journey distant from Edessa. It lay south of Edessa, and east of Zeugma. It was reduced by Trajan, who took it from Choraces, king of the Parthians.

Batne was also a small town of Syria, situate between Berea and Hierapolis, pleasantly seated in a grove of cypress, about twenty miles from the latter city. When Julian visited this town, A.D. 353, the solemn rites of sacrifice were decently prepared by the inhabitants, who feem attached to the worship of their tutelar deities, Apollo and Jupeter.

Batnir, or Batinda, in Geography, a town of Hindostan, in the county of Moultan, in a district famous for pastures and fine hores. Timur marched from Adjodin, a town included in one of the large islands formed by the branches of the Selenge, to Batnir, the distance of 600 miles, 500 miles being equal to about 95 British miles; and in his way he crossed an extensive defile; so that Alexander was not misinformed when he was told there was a defile beyond the Hyphasis. After taking and destroying Batnir, represented as a very strong place, which, however, employed only a few days, he marched by a circuitous road to Sumatra, directly distant from Batnir only 72 geographical miles. Batnir is about 170 miles E. S. E. of Moultan, and 170 N. W. of Agrimusc. N. lat. 29° 15'; E. long. 74° 30'.


Bato, a river of Italy, in the kingdom of Naples, which runs into the Mediterranean, 2 miles S. E. of Scala, in the province of Calabria Citra.

BATOA, a small island near the west coast of Sumatra, seated very nearly under the equinoctial line. E. long. 98°.

BATOE, Ibn Batoe, long Abes; & Ibn Pampis Cambolus, names given by Valent. in his work on Indian fishes, to the species of Chetodon, specifically called Annularis by Grinl.

BATON, or Baton, in Heraldry. See Baton.

Baton, or Bifion, as an instrument of punishment. See Bistolado.

Baton, Fr. in Musc, a musical character for slenderness, during two bars in alla breve time, and four & common and triple time. It fills up two spaces of the five-line staff; and has a 2 or a 4 placed over it, proportioned to the time of the movement. See Breve, Time-Table, and Rests.

BATOONS of St. Paul, Bajloncini di San Paolo, in Natural History, a name given by some of the Italian writers, as Angustino Sicilia and others, to the lizards jadali, or other species of echini. These are found in vast abundance in the island of Malta; and some every thing there is commemorated with some title, with St. Paul at the end of it, these are called boschi di Pastoral. or St. Paul's batoons.

BATOPILAH, in Geography, a town of North America, in the province of New Navarre, 120 miles north of Cinamon.

BATOS, in Ichthyology. See Batis.

BATRACHIA, in Ancient Geography, a town of Afia, in Sarmatia. Ptolemy.

BATRACHIAS Lapis, the frog stone, a name applied by different writers to two very different substances; some understanding by it lumps of common flint, which have accidentally formed themselves into this figure; and others, those pieces of amber, which contain either a whole frog, or any part of one.

BATRACHITES, among Ancient Naturalists, a kind of gem found in Egypt, denominated from its resemblance in colour to a frog. The word is formed from βατράχον, rana, a frog. Linny speaks of three flones under this denomination; nam ranæ fimbriam coloris, alterium eburni (or rather, according to Hardouin's correction, æburni), tertium rubentis et nigri. The batrachites differed from the modern bufonites, which does not appear to have been known to the ancients.

BATRACHOIDE, in Ichthyology, a genus of fishes of the Jugulares kind, established by Lacépède for two fishes; the one belonging to the Gadus, and the other to the
the Blemys, genera of Linnaeus, viz. G. lat. and B. rufus. The character of the blemys consists in having the head very large and greatly depressed; opening of the mouth very spacious; and one or more beards situated about or on the upper lip. - See BLEMYS.

BATRACHOMYOMACHIA, a poem, by Homer. Geography, vol. i. pp. 114, 115. See BATTALION.

BATRACHUS, a species of Silurus, found in Asia and Africa. The dorsofin is single, and contains sixty rays; beards of the mouth eight. Linn. Mus. Fr.—The tail is entire.

BATTA, or Batta, in Geography, a duchy or province of Africa, situate on the south-west of Pango, and having Dumbo, Amulissa, and the salt-peat mountain on the east, on the south the marquise of Inculls, and the burnt mountains, and Congo and Fumba on the west. It is of considerable extent, was formerly called Anguirima or Aghirumba, and was a kingdom of itself, till both king and people submitted to the kings of Congo. This country is generally fertile, well-watered by rivers, and produces several sorts of grain. The inhabitants are more civilized than their neighbours.

Batta, the capital of the above duchy, is distinguished in no other respect besides the fertility of its territory, and its being the residence of the governors of this province. There are allowed to have a number of archbishops in pay, to defend it from the incursions of the wild Giajas, or Jaga, who inhabit the districts near its eastern frontiers, beyond the mountains of the Sun and Salkpeter, and who chiefly infest by ravaging the adjacent territories. The road between this capital and that of the kingdom of Congo, called St. Salvador, has, it is said, a great number of houses and hamlets on both sides.

Batta, the name of a country in Sumatra, where the English have two settlements. The inhabitants still eat human flesh, but restrict themselves to that of prisoners taken in war, and capital offenders.

BATTABLE GROUND, denotes land lying between England and Scotland, of which the right of possession was disputed, when they were two distinct kingdoms.

The word imports as much as litigious, or disputable ground, from battre, to beat or fight.

BATTACKS, or Battages, a punishment in Russia, similar to the battado, or batallado, of China, Turkey, &c. The delinquent is stripped naked, and made to lie on his belly, while two executioners beat him with small sticks, till the judge cries out, "enough." The order to beat is frequently not given till the back of the unfortunate sufferer has been mostly mangled. During the whipping, he is obliged to pronounce the word "Winawat," which means "I am guilty," and at the end of the punishment he must go and kiss the feet of him who directed it, and thank him that he did not make it more severe. The highest lords are not exempted from the battages, and the sentence is set on their unhappy heads. This punishment is particularly reserved for the inferior orders, whom malversation or rogosity would have nowhere else driven from their employments. In Russia, it is reckoned sufficient to reduce them to an inferior employment, after the commission of the battages. Chantreus's Travels in Russia, vol. i. p. 117. See BASTONADO.

BATTAGLIA, in Geography, a town of Italy, in the kingdom of Naples, and province of Capitanata, 3 miles N.W. of Velle.

BATAIL, in Ancient Geography, a promontory of Arabia, north-west of Jofa Cemara.

BATTAIL, an army ranged in order of battle, or ready for engagement.

In this sense, we meet with the depth of a battalia; to march in battalia, with the baggage in the middle; to break the battalia, &c. In the Roman battania, the Battail made the front.

BATTALION, in the Military Art, signifies a small body of infantry, arranged in regular order, and instructed to march and to act in concert.

There are different opinions respecting the force of which a battalion should consist. If composed of too great a number of men, it cannot perform its evolutions with the necessary facility; if, on the contrary, the troops are not sufficiently numerous, it is incapable of producing by its attack any considerable effect. The number must therefore be so regulated, as to permit the necessary movements to be executed with promptitude and regularity; and at the same time, to compose a solid body, capable both of charging with firmness, and of fulfilling the different offices in which it may be opposed without falling into disorder.

The number of the battalion varies according to the situations of belligerent nations, their arms, the manner in which they employ those arms, and the order in which they engage. Europeans formerly differed very widely on all these points; but at present all the continental powers, the Turks alone excepted, observe nearly the same dispositions with respect to the battalion. The term even is adopted in every modern language.

The French have fixed the number of the battalion at about 700 men. Some nations form them still stronger, others weaker. In the English service they usually consist, in time of war, of ten companies; forming, exclusively of the flanks, a total of between seven and eight hundred. When employed on service, the battalion being filed up at the commencement of a campaign, and rarely recruited till its close, are seldom or ever complete; as well from the losses they suffer in different engagements, as from the sickness and other accidents inseparable from the military profession.

The arms of the battalion have been frequently and materially altered. In the infancy of modern tactics, one third of the troops were furnished with pikes, and drawn up in the centre; the other two thirds carrying musquets, were posted on the wings, to flank, protect, and second, by their fire, the onset of the pikes. The infantry are now universally armed with firelocks and bayonets, the use of the pike being completely laid aside.

The modern method of arrangement has been decreed by the
the ingenious chevalier de Folard (Traité de la Colonne, p.7) as rendering the battalions too shallow, weak, incapable of supporting each other, and exposing them to be easily penetrated and broken through, all which he denominates essential faults in tactics. According to him, the real strength of a corps consists in its thickness, or the depth of its files, and their connection and plaine, this rendering the flanks almost as strong as the front. He even lays it down as a maxim, that every battalion arranged deeply, and with a solid front, will defeat another much stronger than itself disposed according to the usual method. In fact, a corps whose front is widely extended, and whose depth is but small, manoeuvres with more difficulty, and cannot totally avoid that wavering from which the close order of M. Folard's battalion or column renders it comparatively exempt. The opinion of the Chevalier has been in a great measure adopted by his countrymen, though his theory has been violently attacked by two French officers formerly in the service of the States General. They admit the superior strength of the column to the modern battalion, were the action to be decided with pikes and swords; but maintain that where fire-arms are used, M. Folard's column is but ill calculated for the purpose, and must be infallibly destroyed. The late campaigns in Italy furnish the bolt commentary upon his superciliousness.

BATTALION, Square, is a battalion the files of which are equal to the ranks, and whose files form an equal front. There are two kinds, the solid, and the hollow: in the former, the ordinary intervals between the ranks and files are the only ones preferred; in the latter, a vacant space is left in the centre, of pretty considerable extent, according to the ground occupied by the battalion. We shall presently give some account of the evolutions necessary in forming both kinds of the square.

The solid square, however ingenuous in its formation, and respectable in its appearance on a field of exercise, is of very little utility in actual service. In the first place, it suffers prodigiously from the fire of the enemy, especially if artillery is brought to bear upon it; in the second, it is next to impossible for the troops in the centre of the battalion to employ their own fire effectually. M. de Folard, in his treatise de la Colonne, exposes much at large the defects of both the solid and the hollow square. He indicts, however, recommends their use; his own column being nothing more than two or three battalions drawn up according to the rules of the solid square, and placed without any intervals in the rear of each other. Regarding, however, the solid square as entirely unfit for the column, of which we shall speak more at large in its proper place, we shall here conclude by observing that the only case in which it seems capable of affording any real service is when opposed to an enemy whose forces confine entirely of cavalry.

The hollow square, which claims for its inventor the celebrated prince Maurice of Nassau, is much less usefully in its movements, sooner formed, and more easily reduced, than the solid. Its fire too is more regular, better directed, and does much greater execution. It however partakes in a great measure of all the disadvantages of the solid square, and its use can only be recommended in cases of the last extremity, or, as above, when opposed to cavalry.

BATTALION, Triangular, is a body of troops disposed in a triangle, whose ranks, augmenting equally, form an arithmetical progression. Many skilful officers have preferred it to the square, from its presenting a greater front, and being able to make head on all sides. The difficulty is to ensure soldiers to march in this order; and we may conclude the triangular only preferable to the square battalion in close action, when it is necessary to preserve an extended front, or when the nature of the ground requires such a disposition.

BATTALION, Round, is that in which the ranks form a number of concentric circles. The Romans made frequent use of this manoeuvre in cases of emergency, and were very perfect in its execution. Cæsar's commentaries furnish several examples, especially on occasion of the defeat of Sabinus and Cotta by Ambocius, where the formation and nature of the orb are very satisfactorily elucidated. (De Bell. Gall. lib. v.) But in the battle between Cæsar and Labienus in Africa, translators seem to have mistaken for the orb, a disposition perfectly different. (Hirt de Bello Afr.)

Although recommended by M. de Puyfécourt, the round as well as the triangular battalion are now generally disdained.

At a crisis like the present, we trust the following account of the training the recruit for service, the order and formation of the battalion, and the principal evolutions it is designed to execute, will not prove wholly unacceptable to our readers. Care has been taken to render the narration as little tedious as possible, and as concise as may be consistent with periphrasis.

Drill of the Recruit without Arms.

It requires in the instructions to whom this duty is entrusted, and who are to be serviceable for the reception and instruction of the corps, an accurate knowledge of the subject, and a clear and concise method of conveying instruction, united with a firmness capable of commanding perfect attention to their directions. They must allow for weaknesses of capacity in the recruit, be patient and not rigorous where endeavour and good-will are not wanting, as quickness is only to be acquired by much practice. Officers and instructors must be critically exact in their own commands, as well as in observing the execution of what they require from others. Without this, all labour will prove ineffectual, and the proposed discipline never be attained.

The recruit must be taught progressively to comprehend one thing before he proceeds to another. In the first circumstances of postion, his single, flegers, elbow, &c. are to be justly disposed by the instructor. When more advanced, recruits should not be touched, but from example and directions be taught to correct themselves when admonished. They should not be kept too long at any particular part of their exercise, so as to fatigue or render them unsteady; and marching without arms ought to be much intermixed with the use of the fire-lock. Yafe, or mufic, must on no account be used. The young soldier is to be confirmed by habit alone in that cadence of step he is afterwards to maintain in marching to the enemy in spite of every variety of noise or circumstance which may tend to derive him.

Each recruit must be trained finely, and in squad, as hereafter described; nor until he has been in various points of his duty, is he to be allowed to join the battalion, which is sensibly incommoded by the awkward behaviour even of one man. On return from long service, every folder must be re-drilled before he can again join his company.

1. Position of the Soldier. The equal squareness of the shoulders and body to the front is the first and great principle of the position of a folder. The heels must be in a line, and closed; knees straight, without slightness; toes a little turned out, so that the feet may form an angle of about forty degrees; the arms are to hang near the body, but not stiff, the flat part of the hand and little finger touching the thigh; the thumbs as far back as the seams of the breeches; elbows and shoulders to be kept back; the belly rather drawn in, and the breast advanced, but without constraint; the body upright, but inclining forward,
BATTALION.

ward, so that its weight principally bears on the fore-part of the feet; the head to be erect, and turned neither to the right nor left. The position in which a soldier should move, determines that which he is to observe when standing still. No method must be left untried to suppress the limbs, and banish the air of the ruffle. But that exactness of position which refines the person, and tends to throw the body backward instead of forward, is contrary to every true principle of movement, and must therefore be most carefully avoided.

II. Standing at ease. 1. On the word Stand at Ease, the right foot must be drawn back about six inches, and the greatest part of the weight of the body be brought to bear on it; the left knee a little bent, the hands brought together before the body; but the shoulders to be kept back and square; the head to the front, and the entire attitude without constraint. 2. On the word Attention, the hands are to fall smartly down the outside of the thighs; the right heel to be brought up on a line with the left, and the proper position of a soldier to be immediately resumed. After standing at ease for any considerable time in cold weather, the men may be permitted, by command, to move their limbs, but without quitting their ground, so that on the word Attention, no one shall have materially lost his dressing in the line.

III. Eyes to the right, &c. On the word Eyes right, glance the eyes to the right, with the right foot possible turn of the head; Eyes left, turn them in the like manner to the left; Eyes front, the look and head are to be directly to the front, the habitual position of the soldier. These motions are only useful on the wheeling of divisions, or when dressing is ordered after a halt. Particular attention must be paid, in the several turnings of the eyes, to prevent the recruit from moving his body, which should be preferred perfectly square to the front.

IV. The Facing. In going through the facing, the left heel never quits the ground; the body must rather incline forward, and the knees be kept straight. At the word, to the right, face, first, place the hollow of the right foot smartly against the left heel, keeping the shoulders square to the front; second, raise the toes, and turn to the right on both heels. To the left, face; first, place the right heel against the hollow of the left foot, shoulders square to the front; second, turn, as before, to the left on both heels. To the right about, face; first, place the ball of the right toe against the left heel, shoulders square to the front; second, raise the toes, and turn to the right about on both heels; third, bring the right foot smartly back, in a line with the left. To the left about, face; first, place the right heel against the ball of the left foot, keeping the shoulders square to the front; second, turn, as before, to the left about; third, bring the left foot smartly up, in a line with the left. The utmost precision must be observed in the facing, for if they are not exactly executed, a corps, although previously properly dressed, will lose their dressing on every small movement of facing.

V. Position in Marching.—March! The soldier must here, as much as possible, maintain the position of his body, as directed in feet. I. He must be well-balanced on his limbs. His arms and hands without stiffness, must be kept steady to his sides, and not suffered to vibrate. He must not llop forward, still less lean back. His body is to be kept square to the front, and thrown rather more forward in marching than when halted, that it may accompany the movement of the leg and thigh, which movement must spring from the haunch. The ham must be stretched, but without flatening the knee. The toe a little pointed, and kept so near the ground, that the shoes-soles may not be visible to a person in front. The head to be kept up, Davis to the front, and the eyes not suffered to be cast down. The feet, without being drawn back, must be placed flat on the ground.

VI. Ordinary Step. The length of each pace, from heel to heel, is 30 inches, and the recruit must be taught to take 75 of these leaps in a minute, without tottering, and with perfect headsets. Ordinary time being the pace on all occasions whatever, unless greater celerity be particularly ordered, the recruit is to be carefully and thoroughly trained to this most essential part of his duty, and made perfectly to understand, that he is to maintain it for a long time together, in line, in column, and in marching over rough or smooth ground. This is the flowell leap which a recruit is taught, and is also applied in all movements of parade.

VII. The halt. On the word, halt, let the rear foot be brought upon a line with the advanced one, so as to finish the leap which was taking when the command was given.

VIII. The oblique Step. Having acquired the regular length and cadence of the ordinary pace, the recruit is next to be taught the oblique leap. At the word, to the left, oblique march! he will, without altering his squarings of position, when he is to turn, with his left foot, and point, and carry it forward 15 inches, in the diagonal line, to the left, which gives about 13 inches to the side, and nearly the same number to the front. On the word two, he will bring forward his right foot 30 inches, thus placing the heel of that foot 13 inches directly before the left one. Here he will pause, and on the word two, continue the same mode of marching, by advancing his left foot 30 inches, pausing at each leap, until confirmed in his position, as it is essentially necessary to take the greatest care in preferring the shoulders square to the front. Combining these two movements, the obliquity gained will amount to an angle of about 25 degrees. When the recruit is habituated to the leap, he must be made to continue it firmly, without pausing, and in the cadence of the ordinary pace, viz. 75 leaps in the minute. As all marching (the flip-leap excepted) commences by the left foot, whether the oblique commences from the halt, or on the march, the first diagonal leap taken, is by the leading foot of the side inclined to, when it comes to its turn, after the command is pronounced. Squareness of person, and the habitual cadenced leap are, consequently, the great directions of the oblique, as well as the direct march.

Each recruit should be separately and carefully instructed in the principles of the foregoing eight sections of the drill. They form the basis of all military movements. Three or four recruits will now be formed in one rank, at very open files, and instructed in the following manner.

IX. Drilling when halted. Drilling is taught equally by the left as by the right. On the word drill, each individual will call his eyes to the point to which he is ordered to drill, with the smallest turn possible of the head, but preserving the shoulders and body square to the front. The whole perfom of the man must move as may be necessary, and bending backward and forward is not permitted. He must take short, quick leaps, thereby gradually and exactly to gain his position, and on no account be permitted to attempt it by any sudden or violent alteration, which will infallibly derange whatever is beyond him. The faces of the men, not their breasts, or feet, are the line of drilling. Each soldier is to be able just to distinguish the lower part of the face of the second man beyond him. In drilling, eyes are always turned to the officer who gives the word; who is polled at the point by which the body halts; and who from that point corrects his men on another, at or beyond
the opposite flank. Faults to be avoided, and generally committed in drilling, are, pesling the line; the head forward, and body kept back; shoulders not square; or the head turned too much.

Two or more men being moved forward, or backward, a given number of paces, and placed in the new line and direction, the following commands will be given: 1. by the right (or left) forward-drift ; 2. on the right (or left) backward-drifts. The drifting once accomplished, eyes front will be given, that heads may be replaced, and remain square to the front. No rank, or body, ever should be drifted, without the officer on its flank determining a line on which to form it, and to that purpose taking as his object the distant flank man, or a point beyond him, or a man purposely thrown out. Drifting must then be made gradually, and progressively, from the fixed point, towards the distant flank one; and each man successively, but quickly, must be brought up into the true line, so as to become a new part, from whence the instructor proceeds in the correction of the others; and himself, while thus occupied, must take care, that his person, at least his eyes, be in the true line, which he is then giving.

X. Stepping out. The squad marches, as already directed, in ordinary time. On the word, step out, the recruit must be taught to lengthen his step to 33 inches, by leaning forward a little, but without altering the cadence. This step is necessary, when a temporary exertion in line, and to the front, is required; or when the rear divisions of a column are to move up in line with the leading ones, and is applied both to ordinary and quick time.

XI. March time. On this word, the foot then advancing completes its pace. The cadence is then continued, without gaining any ground, but alternately throwing out the foot, and bringing it back square with the other. At the word, ordinary time, or forward, the usual pace of 30 inches will be taken. This step is necessary marching in line, when any particular battalion is advanced, and has to wait for the coming up of others.

XII. Stepping short. On the word, step short, the foot advanced will diminish its pace, and afterwards each recruit will step as far as the ball of his toe, and no farther, until the word, forward, be given, when the usual pace is to be taken. This step is useful when a momentary retardation either of a battalion in line, or of a division in column, is required.

XIII. Changing the Feet. To perform this in marching, the advancing foot completes its pace, and the ball of the other is brought up quickly to the heel of the advanced one, which instantly makes a step forward, so that the cadence may not be lost. This is required of an individual who may be stepping with a different foot from the rest of his division; in doing which, he will, in fact, take two successive steps with the same foot.

XIV. Side, or closing Step. This is performed from the halt in ordinary time, at the following command; Close to your right, or left (a caution)—March! On the latter word, eyes are turned to the right, and each man carries his right foot about 12 inches directly to his right; or, if the files are closed, to his neighbour's left foot, and instantly brings up his left foot, till the heel touches his right heel; he then pauses, so as to perform this movement in ordinary time, and proceed to take the next step in the same manner; the whole with perfect precision of time, shoulders kept square, knees not bent, and the true line on which the body is formed.

At the word halt, the whole halt, turn their eyes to the front, and are perfectly steady.

XV. Buck Step. This is performed in the ordinary time and length of pace, from the halt, on the command step back

---March! The recruit must be taught to move straight to the rear, preferring his shoulders square to the front, and his body erect. On the word halt, the foot in front must be brought back square with the other. A few paces only of the back step can be necessary at a time.

XVI. Quick Step. The cadence of the ordinary step having become perfectly habitual to the recruits, they are now to be taught to march the quick time, which is 108 steps in the minute, each of thirty inches, making 3200 feet in a minute. The word of command, Quick—March! is given with a pause between them. The word Quick, is to be considered as a caution, and the whole to remain perfectly still audibly. On the word March! the recruits step off with the left foot, keeping the body in the same posture, and the shoulders square to the front. The foot to be lifted from the ground, that it may clear any flints, or other impediments in the way, and be thrown forward, and placed firm. The whole of the sole to touch the ground, and not the heel alone. The knees are not to be bent, neither are they to be stiffened, so as to occasion fatigue or constraint. The arms to hang with ease along the outside of the thigh; a slight motion to prevent restraint may be permitted, but not to swing out, and thereby occasion the heel turn, or movement of the shoulder. The head is to be kept to the front; the body well up, and the utmost readiness to be preferred. This is the pace to be used in all filings of divisions from line into column, or from column into line; and by battalion columns of manoeuvre, when independently changing position. It may occasionally be used in the column of march of small bodies, when the route is smooth, and no obstructions occur; but in the march in line of a considerable body, it cannot prudently be required, nor often in a column of manoeuvres. Fatigue will otherwise arise to the follower, and more time be lost in hurry and inaccuracy than is attempted to be gained by quick steps.

N. B. The word March given singly, at all times denotes that ordinary time is to be observed. When the quick march is meant, that word will precede the other. The word March marks the commencement of movements from the halt; but is not given when the corps is in previous motion.

XVII. Quickest Step. The quickest time, or wheeling march, is 120 steps of 30 inches each, or 3000 feet, in the minute. The directions already given for the march in quick time are equally applicable to the march in quickest time. This is adapted chiefly to the purpose of wheeling, and is the rate at which all bodies accomplish their wheels; the outward file stepping 33 inches, whether the movement is from line into column, or column into line. In this time also divisions should double and move up, when passing obstacles in line, or when in column of march it becomes necessary to increase or diminish the front.

Three or four recruits in rank, with intervals of twelve inches between them, should be practiced in the various stops, that they may acquire the firmness and independence of movement. Many different times of march would only perplex the soldier: the three already mentioned must suffice. Plummets, which vibrate the required times of march in a minute, are of great utility, and can alone prevent or correct uncertainty of movement. They must be in the possession of, and occasionally referred to, by each instructor of a squad. The several lengths of plummets swinging the times of the different marches in a minute, are as follows:

Ordinary time, 35 steps in a minute, 54 inch. 96 hund. Quick do. 108 do. 12 3
Quickest do. 120 do. 9 80

A musket
A musket ball, suspended by a string which is not subjected to stretch, and on which are marked the different required lengths, will answer the above purpose, and should be frequently compared with an accurate standard. Accurate distances of steps may also be marked out on the ground along which the soldier is practiced to march, and thereby assist him to the just length of each.

Six or eight recruits will now be formed in a rank, at close files, leaving a steady well-drilled officer on their flank to lead; and file marching may be taught them.

XVIII. File Marching. The recruits must first face, and then be instructed to cover each other exactly in file, so that the head of the man immediately before may conceal the heads of all the others in his front. The drilled obedience of all the rules for marching is particularly necessary in marching by files, which is first to be taught the ordinary, and afterwards in quick time. On the word March, the whole immediately step off together, gaining at the very full step thirty inches, and continuing each step without increasing the distance between each recruit, every man backing or placing his advanced foot on the ground, before the spot whence the preceding man has taken up his. No looking down or leaning backward is to be tolerated on any pretense. The leader is to be directed to march straight forward to form contact object given him for that purpose, and the recruits made to cover another during the march with the most systematic exactness. Great attention must be paid to prevent them from marching with their knees bent, which they will at first be extremely apt to do, from an inattention to maintaining the heeled of those before them.

XIX. Wheeling in Single Rank, from the Halt. At the word to the Right Wheel, the man on the right of the rank faces to that flank; on the word March, they step off together, the whole turning their eyes to the left (the wheeling flank), except the left hand man, who looks inwards, and during the wheel, becomes a kind of guide-line for the rest to conform to and maintain the uniformity of front. The outward wheeling man always lengthens his step to thirty-three inches. The whole observe the same time; but each man shortens his step, in proportion as he is nearer to the standing flank on which the wheel is made. During the wheel, the step diminished, as they touch without incommending their neighbours; nor must they step forward, but remain upright. Opening out from the standing flank, and closing in upon it, during the wheel, are equally to be avoided. On the word Halt—Drill, each man halts immediately, without jumping forward or making any false movements. When able to perform the wheel with accuracy in the ordinary time, the recruits must be next practiced in the quickest. Nothing sooner tends to enable them to acquire the proper length of step, according to their distance from the pivot, than continuing the wheel without halting for several revolutions of the circle.

XX. Wheeling, in Single Rank, from the March. The recruits are first taught to perform this wheeling at the ordinary, afterwards in the quickest time, the proper wheeling step. The rank marching to the front in ordinary time, receives the word of command, Right—Wheel. The man on the right of the rank instantly halts, and faces to his right. The rest of the rank turning their eyes to the wheeling flank (as above directed), immediately change the step together to wheeling time. As soon as the portion of the circle intended to be wheeled is completed, the words Halt—Drill will be given, (a pause of two or three seconds may be made), and then March, at which the whole rank steps off together in ordinary time.

XXI. Wheeling backwards, in Single Rank. At the word On your Right, Backward—Wheel, the right-hand man of the rank faces to his left. At the word March, the whole step backward in wheeling time, drawing by the outward wheeling man, those nearest the pivot making their steps extremely small, and those towards the wheeling man increasing them as they are placed nearer to him. The recruit in this wheel must not bend forward, nor be suffered to look down; but by closing his eyes to the wheeling flank, preserve the drilling of the rank. On the word Halt, the whole remain perfectly steady, still looking to the wheeling flank, till they receive the word Right—Drill. The recruits should be first practiced to wheel backwards at the ordinary step. At all times it will be necessary to prevent their hurrying the pace, an error soldiers are very apt to commit, particularly in the backward wheel. Where large bodies wheel from line into column, this wheeling is necessary to preserve the covering of pivot flanks, and the distances of the interval, which the line has broken into.

XXII. Wheeling in Single Rank, on a movable Pivot. In performing this wheel, both flanks are moveable, and describe concentric circles round a point, which is removed a few paces from what would otherwise be the standing flank; and eyes are all turned towards the directing pivot man, whether he is on the outward flank or the flank wheeled to. When the wheel is to be made to the directing pivot flank (suppose the left), the rank marching at the ordinary pace, receives the word Right Shoulders Forward; on which the pivot man, without altering either the time or length of his pace, continues his march on the circumference of the lesser circle; and tracing out a considerable arch, on the principle of wheeling, gradually brings round his rank to the direction required, without obliquing the other flank, which is describing the circumference of a larger circle, to too great hurry. On the word Forward, shoulders are squared, and the pivot marches directly to his front. When the directing pivot is on the outward flank, and has to describe the circumference of the larger circle, on the word Left Shoulders Forward, he will (preferring the time and length of his pace) gradually bring round the rank to the required direction, so as to enable the inward flank to describe a similar arc of a lesser circle, concentric to the other. The pivot man, during this time, continues his march, on the circumference to which the rank marches to the proper pivot; and when he describes the smaller circle of the wheel, the other flank which has more ground to go over, will quicken its march and step out. When the pivot describes the greater circle of the wheel, the other flank having less ground to go over, will step shorter and gradually conform. In the first cafe, the recruit must be cautioned against opening out from the pivot; and in the latter, from crowding on him. The just performance of this mode of wheeling depends so much on the directing pivot, that a well-drilled soldier should at first be placed on the flank named, as the proper pivot, and changed occasionally. It is used when a column of march (to follow the windings of its route) changes its direction in general less than a quarter circle.

I. Position of the Soldier. When the firelock is given, and is shouldered, the person of the soldier remains in the position described in section I. of the drill without arms, except that the right of the left hand is turned out, the better to embrace the butt; the thumb alone is to appear in front, the four fingers to be under the butt, and the left elbow a little bent inwards, without being separated from the body, or being more backward or forward than the right one. The firelock is placed in the hand, not on the middle of
of the fingers, and so carried, that it shall not rise, advance, or keep back, one should more than the other. The butt must therefore be forward, and as low as can be permitted without reobra; the fore-part nearly even with that of the thigh, and the hind-part of it pressed by the wrist against the thigh. The piece must be kept steady and firm before the hollow of the shoulder. Should the firelock be drawn back, or attempted to be carried high, in that case, one should be advanced, the other kept back, and the upper part of the body doubled, and not placed square with respect to the limbs. Each recruit must be separately taught the position of shoulder-red arms, and not allowed to proceed until he has acquired it.

II. Motion of the Firelock. The following motions of the firelock will be taught and practiced, until each recruit is perfect in them; being necessary for the ease of the folder in the course of exercise: 1. Supporting arms; 2. Carrying arms; 3. Ordering at eased arms; 4. Standing at ease; 5. Attention; 6. Shouldering; 7. Trailing arms; 8. Shouldering from the trail. The recruit must be accustomed to carry his arms for a considerable time together: it is most essential he should do so, and not be allowed to support them so often as is practiced; under the idea that long carrying them is a portion of too much restraint.

III. Forming the Squad. When the squad, or division, of six or eight files, is ordered to Fall in, each man, with carried arms, will, as quick as possible, take his place in the ranks, beginning from the flank to which he is ordered to form. He will draw himself in line by the rule already given, assume the ordered position of a folder, and stand perfectly still and steady, until ordered to stand at ease, or that some other command be given him. Attention must be paid, that the files are correctly close; that the men in the rear ranks cover well, locking their file leaders in the middle of the neck; that the ranks have their proper dilatation of one pace, or 30 inches, from each other; that all the ranks are equally well drilled; that the men do not turn their heads to the right or left; and that each man has the proper unconstrained attitude of a folder.

IV. Open Order. The recruits being formed in three ranks, at close order, on the caution Rear ranks take open order, the flank men, on the right and left of the centre and rear ranks, liep briskly back, one and two paces respectively, face to the right, and stand covered, to mark the ground on which each rank is to halt, and drill at open order: every other individual remains ready to move. On the word March, the drillers front, and the centre and rear ranks fall back one and two paces, each drilling by the right, the instant it takes its ground.

V. Close Order. On the word Rear ranks take close order, the whole remain perfectly steady. At the word March, the ranks close within one pace, marching one and two paces, and then halting.

VI. The Manual Exercise. The following is the regulation for performing the manual exercise, the recruit standing at the position already described, with his firelock shouldered. The manual is not to be executed by one word, or signal, but each separate word of command is to be loudly and distinctly given by the officer who commands the body performing it. Three seconds are the time allotted between each motion, except that of fixed bayonets, in which a longer time must be given.

Order Arms. Bring the firelock to the trail in two motions; seizing it at the flit at the lower loop, just above the flivell; at the second, bring it down to the right side, the butt within two inches of the ground; at the third, drop the butt on the ground, placing the muzzle against the hollow of the right shoulder, and the hand flat upon the fling.

Fix Bayonets. At the word, fix, place the thumb of the right hand, as quick as possible, behind the barrel, taking a grease of the firelock. As soon as the word of command is fully out, pull the firelock a little forward, at the same time drawing out the bayonet with the left hand, and fixing it with the utmost celerity. The instant this is done, return, as quick as possible to the order as above described, and hand perfectly steady.

Shoulder Arms. As soon as the word shoulder is given, take a grieve of the firelock with the right hand, as fixing bayonets; and at the word, arms, the firelock must be thrown with the right hand, in one motion, and with as little appearance of effort as possible, into its proper position on the left shoulder. The hand crosses the body in doing; but must be instantly withdrawn.

Present Arms. First, fixe the firelock with the right hand, beneath the guard, turning the lock to the front, but without moving it from the shoulder; second, bring it to the poise, seizing it with the left hand, the fingers extended along the fling, the wrist upon the guard, and the point of the left thumb equal in height with the eyes; third, bring down the firelock, with a quick motion, as low as the right hand will admit without constraint, drawing back the right foot at the same instant, so that the hollow of it may touch the left heel. The firelock in this position is to be totally supported in the left hand, the body to rest entirely on the left foot, both knees to be straight.

Shoulder Arms. First, by a turn of the wrist, bring the firelock to its proper position on the shoulder, as described above, the left hand grasping the butt; second, quit the right hand, and bring it briskly down to its place at the side.

Charge Bayonets. First, at one motion throw the firelock from the shoulder across the body, to a low diagonal recovery, a position generally denominated porting arms, or preparing for the charge, in which the lock is to be turned to the front, and on the height of the breast, the muzzle fleeting upwards, so that the barrel may cross opposite the point of the left shoulder, with the butt proportionally depressed. The right hand grasps the small of the butt, and the left holds the piece at the flivell, close to the lower pipe, the thumbs of both hands pointing towards the muzzle; second, make a half face to the right, and bring down the firelock to nearly a horizontal position, with the muzzle inclining a little upwards, and the right wrist reining against the hollow of the thigh, just below the hip. N. B. The first motion of the charge is the position which the folder will, either from the shoulder, or after bring, take, in order to advance on an enemy whom it is intended to attack with bayonets fixed. The word of command, for that purpose, is, Prepare to charge. The second position is that which the front rank takes when arrived at a few yards distance only from the body to be attacked. The third motion of the charge is also that which station is are to take, when challenging any person who approaches their poinets.

Shoulder Arms. First, face to the front, and throw up the piece into its position on the shoulder, by a turn of the right wrist, instantly grasping the butt, as above described, with the left hand; second, quit the firelock briskly with the right hand, bringing it to its proper place by the side.

The men must likewise be taught to support arms at three motions, throwing the first and second nearly into one. First, they seize the small of the butt under the locks with the right hand, bringing the butt in front of the groin, and keeping the lock somewhat turned out; second, they bring their left arm under
under the cock; third, they quit the right hand. In carrying arms, from the support, the motions are exactly reversed. In marching any distance, or in standing at a齐 when supporting, the men are allowed to bring their right hand across the body, to the small of the butt, which latter must, in that case, be thrown still more forward; the fingers of the left hand being uppermost, must be placed between the body and the right elbow. The right hands are to be instantly removed, when the division halts, or is ordered to dress by the right. In regard to the motions of setting, grounding, and trailing, as well as piling arms, it will be sufficient for the followers to be taught to perform them in the quitted and most convenient method. Unfixing bayonets is to be done from the order, in the same manner as fixing them.

Sentries posted with shouldered arms, are permitted afterwards to support, but not to flounce them. On the approach of an officer, they immediately carry their arms, and put themselves into the proper position; not at the instant he passes, but by the time he is within twenty yards of their poll, so that they may be perfectly ready before he comes up. If a field officer, he is entitled to the present arms. Corporals marching with relics, or commanding detachments or divisions, will carry their arms advanced.

VII. The Platoon Exercise. When perfect in the manual, the troops are next to be taught this part of their duties, and the manner in which to execute the several evolutions. The correct flanding at shouldered arms, the first word given is:

*Make Ready. This is done by bringing the firelock to the recover, and instantaneously cocking.*

**Present.** Slip the left hand along the fling as far as the swell of the firelock, and bring the piece down to the present, stepping back about six inches to the rear with the right foot.

**Fire.** Having fired, drop the firelock briskly to the priming position, and half cock.

**Handle Cartridge.** First, draw the cartridge from the pocket; second, bring it to the mouth, holding it between the forefinger and thumb, and bite away the top of it.

**Prime.** First, make a little powder into the pan; second, fling the pan with the three left fingers; third, seize the small of the butt with the same three fingers.

**Load.** First, face to the left on both heels, so that the right toe may point directly to the front, and the body be a very little faced to the left, bringing, at the same time, the firelock round to the left side, without linking it. It should, while in this position, be nearly perpendicular (having the muzzle only a small degree brought forward); and, as soon as it is Ready there, it must instantly be forced down within two inches of the ground, the butt nearly opposite to the left heel, and the firelock itself somewhat sloped, and directly to the front. The right hand at the same instant catches the muzzle in order to steady it; second, fling the powder into the barrel, putting it in after the paper and ball; third, seize the top of the ramrod with the fore-finger and thumb.

**Draw Ram-rods.** First, force the ram-rod half out, and seize it, back-handed, exactly in the middle; second, draw it entirely out, and turning it with the whole hand and arm extended from you, put it one inch into the barrel.

**Ram down Cartridge.** First, pull the ram-rod down, holding it as before, exactly in the middle, till the hand touches the muzzle; second, fling the fore-finger and thumb to the upper end, without letting the ram-rod fall further into the barrel; third, pull the cartridge well down to the bottom; fourth, strike it two very quick strokes with the ram-rod.

**Return Ram-rod.** First, draw the ram-rod half out, catching it back-handed; second, draw it totally out, turning it very briskly from you, with the arm extended, and put it into the loops, forcing it as quick as possible to the bottom; then face to the proper front, the finger and thumb of the right hand holding the ram-rod, as in the position immediately previous to drawing it, and the butt raised two inches from the ground.

**Shoulder Arms.** Strike the top of the muzzle smartly with the right hand, to fix the bayonet and ram-rod more firmly, and at the same time throw it firmly up at the proper motion to the shoulder. N.B. Though the butts are not come to the ground in calling about, as accidents may happen from it, yet they are permitted, while loading, to be loosed; but it must be done without noise, and in a manner imperceptible in the front.

In priming and loading quick, 1st, bring the firelock down in one brisk motion to the priming position. The thumb of the right hand placed against the pan cover or steel, the fingers clenched, and the elbow a little turned out, so that the wrist may be clear of the cock. 2d. Open and advance the pan by throwing up the drill with a strong motion of the right arm, turning the elbow in, and keeping the firelock steady in the left hand. 3d. Bring your hand round to the pouch, and draw out the cartridge. The rest as above described; except that in the quick loading, all the motions are to be done with the utmost dispatch possible, the folders taking their time from the finger-man in front, for calling about and shuffling only.

In firing three deep, the priming position for the front rank is the height of the waistband of the breeches; for the centre rank, about the middle of the stomach; and for the rear rank, close to the breast. The firelock in all these positions is to be kept perfectly horizontal.

**As Front Rank kneeling—make ready.** Bring the firelock briskly up to the recover, catching it in the left hand, and, without stopping, sink down with a quick motion on the right knee, keeping the left foot fast, the butt of the firelock at the same moment falling upon the ground. Then cock, and instantly seize the cock and feel together in the right hand, holding the piece firm in the left, about the middle of that part which is between the cock and the swell of the drill; the point of the left thumb to be close to the swell, and pointing upwards. As the body is linking, the right knee is to be thrown so far back, that the left leg may be right up and down, the right foot a little turned out, body stiff, and the head as much up as if shouldered. The firelock must be upright, the butt about four inches to the right of the insole of the left foot.

**Present.** Bring the firelock down firmly to the present, by sliding the left hand to the full extent of the arm along the fling, without letting the motion tell; the right hand at the same time springing up the butt by the cock so high against the right shoulder, that the head may not be too much lowered in taking aim; the right check to be close to the butt, the left eye flat, and the middle finger of the right hand on the trigger. Look along the barrel with the right eye, from the breech-pin to the muzzle, and remain steady.

**Fire.** Pull the trigger strong with the middle finger, and, as soon as fired, springing up nimblly upon the left leg, keeping the body erect, and the left foot fast, and bringing the right heel to the hollow of the left. At the same instant, drop the firelock to the priming position, half cock, handle cartridge, and go on with the loading motions as before described.

**As Centre Rank—make ready.** Springing briskly to the recover. As soon as the left hand seizes it above the lock, raise the right elbow a little, placing the thumb of that hand upon the cock, with the fingers open on the plate of the
the lock, and then, as quick as possible, cock the piece, by dropping the elbow, and forcing down the cock with the thumb. Step at the same time with the right foot a moderate pace to the right, and keeping the left foot, feize the small of the butt with the right hand. The piece must be held in this position perpendicular, and oppose the left side of the face, the butt close to the break, but not prefixed, the butt forward and fall to the front, and the head erect.

Prefet, as in the foregoing explanation.

Firr. Pull the trigger strong with the middle finger; and, as soon as fired, bring the firelock to the proper position. And load as before, with this difference only, that the left foot is to be drawn up to the right, at the same time that the firelock is brought down to the proper position; and that, immediately after the firelock is thrown up to the shoulder, the men spring to the left again, and cover their file leaders.

As Rear Rank—make ready. Recover and cock as before directed for the centre rank. As the firelock is brought to the receiver, it is briskly to the right a full pace, at the same time placing the left heel about six inches before the point of the right foot. The body to be kept straight, and the firelock to be brought as near to the face as possible.

Prefet, as in the foregoing explanation.

Firr. as before; remembering only the difference of the proper position for this rank. After firing and recovering the shoulder, the men file as the centre rank does.

In filing with the front rank filing, that rank makes ready, &c. as mentioned in the first part of the platoon exercise. The platoon exercise is always to be performed with ranks closed, except at the drill.

VIII. Firings. When the recruits have acquired the management of their arms, and are perfect in the motions of the manual and platoon exercises, they will be instructed in closed ranks, at firing, viz. direct to their front; 2dly, obliquely to the right and left; and, 3dly, by files.

IX. Marching to the front and rear. The division, or squad, is to be particularly well drilled, files correct, arms carried, the rear ranks covering exactly, and each individual to have his full attitude and position, before the squad is ordered to move. The march will be made by the right or left flank, and a proper trained man will therefore conduct it. The word division may be given as a caution; and at the word march, each man files forward a full pace. The recruit must not turn his head to the hand to which he is drilling, as a turning of the shoulders would undoubtedly follow. His elbows must be kept Ready, without constraint: if they are opened from his body, the next man must be pressed upon; if they are closed, there arises an improper distance, which must be filled up. In either case, waving on the march will take place, and is therefore to be avoided. The going to the right or left about, in march, is not to be at drill practised; but the squad is to halt, front by command, and then march. As the being able to march straight forward is of the utmost consequence, the officer commanding the drill will take every pains to perfect his squad in it. For this purpose he will often go to the rear, pace himself behind the flank file which regulates the march, and take a point or object exactly in front of that file. He will then command, march; and remaining in his place, will direct the advance of the squad. By keeping the flank file always in a line with the object. It is also from behind he will soon perceive the leaning back of a shoulder, or the bringing it forward: faults which ought instantly to be rectified, as productive of the worst consequence in a line, where one man, by bringing forward a shoulder, may change the direction of the march, and oblige the wing of a battalion to run, in order to keep drilled. In short, it is impossible to labour too much at making the soldier march straightforward, keeping always the same front as when he flipped off. This is effected by moving solely from the command, keeping the body steady, the shoulders square, and the head well without difficulty be at tained, on a strict attention to the rules for marching, and a careful observance of an equal length of step, and an equal cadence or time of march.

Changing from ordinary to quick time, and from quick to ordinary, must always be preceded by a halt. Although this may not appear essential for the movements of a division or battalion, it is absolutely so for those of a larger body, and is therefore required in small ones. Turning on the march, in order to continue it, though inaccurate and improper for a large body, is necessary, and must often be allowed, in the movements of small divisions in file or front, when connected with others in line or column. As helps for fixing the true cadence of the march, the plume must often be referred to. The words left, right, may when necessary, be repeated; flaws for ordinary, and more rapidly for quick time. Strong taps of the drum, regulated by the plume, may be allowed to be given immediately before the word march, to imprint the required measure on the mind of the recruit; but they are on no account, or in any situation, to be given during the march.

X. Open and close Order, on March. The squad, when moving to the front in ordinary time, receives the word, Rear ranks take open order; on which the front rank continues its march without altering the pace, and the centre and rear ranks mark the time, viz. the centre once, and flaps off at the second pace; the rear rank moving forward on the third. On the word Rear ranks take close order, the centre and rear ranks flaps numbly up to close order, and instantly resume the pace at which the first rank has continued to march.

XL March in File to a Flank. The accuracy of the march in file is of essential in all deployments into line, and in the internal movements of the divisions of the battalion, that the flank cannot be too much exercised to it. The whole battalion, as well as its divisions, is required to make this flank movement, without the least opening out, or lengthening of the file, and in perfect cadence and equality of step. After facing, and at the word march, the whole squad files off at the same instant, each replacing, or rather overlapping the foot of the man before him, i.e. the right foot of the second man comes within the left foot of the first, and thus of every one; more or less overlapping, according to the closeness or openness of the files, and the length of step. The front rank will march straight along the given line, each folder of that rank looking along the necks of those before him; over to the right or left; otherwise a waving of the march will take place, and of course the lufs and extension of line and distance, whenever the body returns to its proper front. The centre and rear ranks must look to, and regulate themselves by their leaders of the front rank, and always drill in their file. Although file marching is generally in quick, yet it must also be practised in ordinary time. The lower portion of feet takes place in all marching in front, where the ranks are close and locked up. With a little attention and practice, this mode of marching, apparently so difficult, will be found by every soldier to be easier than the common method of marching by files, when, on every halt, the rear must run up to gain the ground it has unnecessarily lost.

XII. Marching in File. The squad, when marching in file, must be accustomed to wheel its head to either flank; each
each file following in succession, without losing or increasing distance. On this occasion, each file makes its separate wheel, on a pivot moveable in a very small degree, but without altering its time of march, or the eyes of the rear ranks being turned from their front rank. The front rank men, whether pivot-men or not, must keep to their distance; and the wheeling men must take a very extended step, and lose no time in moving on.

XIII. Oblique Marching in Front. When the squad is marching in front, and receives the word to the right oblique, each man, in his line, as his right foot rises, will, instead of throwing it straight forward, carry it to the diagonal direction, as has been already explained in § 8. of the drill without arms, taking care not to alter the position of his body, head or head. The greatest attention is to be paid to the shoulders of every man in the squad, that they remain parallel to the line on which they first were placed, and that the right shoulders do not fall to the rear, which they are very apt to do in obliqueing to the right, and which immediately changes the direction of the front. On the word forward, the incline eases, and the whole march forward. In obliqueing to the left, the same rules are to be observed, with the difference of the left leg going to the left, and attention to keeping up the left shoulder. The time instructions that are given for ordinary time, serve also for quick time; but this movement, though it may be made by a small division, cannot be required from a larger body. Obliqueing to the right is sometimes to be practiced with eyes to the left, and obliqueing to the left, with eyes to the right; as being absolutely necessary on many occasions: for if one of the battalions of a line in advancing be ordered to oblique to the right or to the left, the eyes must still continue turned towards its centre.

XIV. Oblique Marching in File. In obliqueing to the right or left by files, the centre and rear rank men will continue looking to their leaders of the front rank. Each file is to consider itself as a rank entire, and is to preserve the same front, and position of the shoulders, during the oblique, as before it began. This being a very useful movement, recruits are to be often practiced in it.

XV. Wheeling forward from the Halts. The directions already given for the wheeling of a single rank, are to be strictly attended to in this wheel of the squad. On the word right, or left wheel, the rear ranks, if at one pace distance,轮 up. At the word march, the whole file together in the quickest time, and the rear ranks, during the wheel, incline so as to cover their proper front rank men. At the word halt, the whole remain perfectly steady.

XVI. Wheeling backward. The squad must be much practiced in wheeling backward in the quickest time. In this wheel the rear ranks may preserve their distance of one pace from each other. Great attention should be paid to prevent the recruits from closing their eyes on the ground.

XVII. Wheeling from the March. The directions for wheeling on at halt and on a moveable pivot, have already been given under the drill without arms. The squad should now be practiced in both, until thoroughly confirmed in those movements.

XVIII. Stepping out, etc. The squad must likewise be practiced in stepping out, stepping short, marking time, changing the feet, the sole step, and stepping back; the instructions for which have been fully detailed in the first part of the drill.

It can neither be too strongly inculcated, nor too often remembered, that upon the correct equality of march, established and practised by all the troops of the same army, every just movement and manoeuvre depend. If this is not attended to, diffusion and confusion will necessarily take place on the junction of several battalions in corps; although, taken individually, each may be in its drill fitly and well trained. It is in the original instruction of the recruit and squad, that this great point is to be laboured at and attended. The time and length of step, on all occasions, are prescribed. The time is intantly altered by the frequent corrections of the plumelet, which, when supplied, will from time to time give each man that habitual measure to which he is accustomed. Every drill must therefore have it at hand; and, as already observed, before any squad or larger body is put in march, five or six long taps of the drum may be given, in exact time, as regulated by the plumelet, which will imprint the true measure on each car, and prepare for taking an accurate step at the word march. The length of step is only to be acquired by repeated trial; and therefore, before the recruit is put in motion, each instructor should ascertain the space on which he is to drill his men; he will therefore (supposing that he himself is accurate in his pace, and that there is ground for that purpose) mark out an oblong square of sixty paces by twenty or thirty, the corners of which will be established by halberts, flones, or any other visible manner. Along the sides of this figure he will march the pivot flank of his squad, making correct wheels and halts at the angles. The time of march being exactly ascertained, he will then see that the sides of the oblong are gone over at the known number of steps; and if there be any inaccuracy, he will caution or shorten the step, till the squad marches with the utmost precision, every man preserving his just position, and all the other indispensable attentions in marching being strictly observed. Where there is a sufficiency of ground, the squads will occasionally march over larger spaces: but the distances should in the same manner be exactly determined, so that there may be no doubt as to the true length of the step. In proportion to the length of squads or drills, one or more must be led in to keep company each, to march on the flank, give distances, and in other points regulate the motions of the drill.

Formation and Exercise of the Platoon, or Company. The recruit being thorough grounded in all the preceeding parts of the drill, he now is to be instructed in the movements of the platoon, as a more immediate preparation for his joining the battalion. For this purpose, from ten to twenty files are to be assembled, formed, and told off in the following manner, as company in the battalion.

I. The platoon falls in three ranks, in close order, with shouldered arms; the files lightly touching, but without crowding. Each man will then occupy a space of about 22 inches. The commander of the platoon takes post on the right of the front rank, covered by a sergeant in the rear rank. The other sergeants will form a fourth, or perpendicular rank, three paces from the rear rank. The platoon will be told off into sub-divisions, and, if of sufficient length, into four sections; but as a section should never be less than five files, it will often happen that, for the purposes of march, three sections only can be formed. The four best-trained soldiers are to be placed in the front rank, on the right and left of each subdivision. When thus formed, the platoon will be practiced in opening and closing of ranks; dehiscing to the front, to the rear, or in an oblique direction, by the right or left; and exercised in the several motions of the firelock. Close order is the chief and ordinary order in which the battalion and its parts at all times affile and form. Open order is only regarded as an exception from it, and occasionally used in situations of parade and review. In close order, the rear ranks are closed up to within one pace; the length of which is to be taken from the
the heels of one rank to those of the next. At open order they are two paces distant from each other.

11. Marching to the Front. In the drill of the platoon, the person instructing must always consider it as a company in battalions, and regulate all movements upon that principle. He will therefore, before he puts it in motion to front or rear, indicate which flank is to direct, by giving the word Eyes Right, or Eyes Left, and then March. Should the right be the directing flank, the commander of the platoon himself will fix on objects to march upon, in a line truly perpendicular to the front of his corps. When the left flank is ordered to direct, he and his covering sergeant will shift to the left of the front rank, and take such objects to march upon. To march on one object only, and to prefer a straight line, it is an operation not to be depended upon. The commander of the platoon therefore, before the word to march is given, will endeavour to remark some distinct object on the ground in his own front, and perpendicular to the directing flank. He will then observe some nearer and intermediate point in the same line, such as a stone, tuft of grass, &c. These he will move upon with accuracy; and as he approaches the nearest of those points, he must from time to time choose fresh ones, in the original direction, which he will by this means prefer, never having fewer than two such points to move upon. If no object in the true line can be ascertained, his own squares or parts of persons must determine the direction of the march. A person placed in the rear of a body can, more readily than if posted in its front, determine the line which is perpendicular to that front; and, could we suppose ranks and files perfectly correct, the prolongation of each file would be a perpendicular to the front of the body. As the march of every corps, except in the case of inclining, is made on lines perpendicular to its then front, each individual composing that corps, must in his person be placed and remain perfectly square to the given line; otherwise he will naturally and inevitably move in a direction perpendicular to his own person, and thereby open out or close in according to the manner in which he is turned from the true point of his march. If the distortion of a single file (and all turnings of the head do dislodge) operates in this manner, it may easily be imagined what that of several will occasion, each of whom is marching on a different front, and whose lines of direction are crossing each other. Accuracy and squares is position, the equality of cadence and file, the light touch of the files which is never to be relinquished, just distances, and true lines of movement, will give, without apparent constraint, the head being turned, or the lead trouble taken in dressing, the most decisive exactness in the marches and operations of the largest bodies.

The platoon, during its march in line, will occasionally be ordered to step out, mark time, open and close ranks, and oblique, as already described.

111. Side Step. The side or closing step must also be frequently practised. It is very necessary and useful on many occasions, when halted, and when a very small distance is to be moved to either flank; for instance to open or close files; to join one division to, or open it from, another; to regain an interval in line; to move a whole battalion or parade twenty or thirty paces to a flank; to regulate distances between close co umns, before deploying, &c. Alterations made in this manner are imperceptible from the front, and better made than by facing and file-marching. The words of command must be decided and strong. When the whole platoon is to close; at the word, to Right—Close, the platoon officer takes one step to the front, and instantly faces about, the covering sergeant replacing him. On the word March, the whole more together. On the Halt, the platoon officer resumes his place, having leaped in the same manner as the men, but fronting them, and thereby affixed in their view the direction of the division.

IV. Quick Step. The platoon must be accustomed, at the halt on the words Back Step—March, to leap back any ordered number of paces in the ordinary time and length, as it is an operation that may be sometimes required from a battalion.

V. File Marching. In marching by files, the commander of the platoon may lead the front rank. If therefore the movement is by the left, on the word to the Left—Face, he and his covering sergeant will instantly shift to the left flank of the division. At the word Quick—March, the whole files off together; and on the Halt, Front, the leader and his sergeant will return to their posts on the right.

VI. Wheeling from a Halt. In wheeling, whether forward or backward, from a halt, the commander of the platoon, on the word Right or Left Wheel, moves out, and places himself one pace in front of the centre of his platoon. During the wheel, he turns towards his men, and inclines towards that flank which has been named as the directing or pivot one; giving the word Halt—Dress, when his wheeling man has just completed the required degree of wheel. He then squares his platoon, but without moving what was the flanking flank, and takes his post on the now directing flank.

VII. Wheeling forward by Subdivisions from Line. On the word By Subdivisions—to the Right, Wheel, the commander of the platoon places himself one pace in front of the centre of the right subdivision; at the same time, the men on the right of the front rank of each subdivision face to the right. At the word March, each subdivision files off in wheeling time, observing the directions above given for wheeling forward. The commander of the platoon, turning towards the men of the leading subdivision, and inclining to its left (the proper pivot flank), gives the word Halt—Dress, for both subdivisions, as his wheeling man is taking the last step that finishes the wheel square; and instantly posts himself on the left, the pivot flank. The covering sergeant, during the wheel, goes round by the rear, and takes post on the pivot flank of the second subdivision. It is to be observed, that the commander of the platoon invariably takes post with the leading subdivision; therefore, when the platoon wheels by subdivisions to the left, the commander of the platoon moves out to the centre of the left subdivision, and during the wheel, inclines towards the right, row become the proper pivot flanks of the subdivisions. The proper pivot flank in column, is that which, when wheeled up to, preserves the divisions of the line in the natural order, and to their proper front; the other is denominated the reverse flank. In column, divisions cover and dres to the proper pivot flank; to the left when the right is in front, and to the right when the left is in front.

VIII. Wheeling backward by Subdivisions from Line. The platoon will also break into open column of subdivisions by wheeling backwards. When the right is intended to be in front; at the word, By Subdivisions, on your left backwards Wheel, the commander of the platoon moves out briskly, and places himself in front of the centre of the right subdivision; the man on the left of the front rank of each subdivision at the same time faces to the right. On the word March, each subdivision wheels backward in quickstep time. During the wheel, the commander of the platoon turns towards his men, inclining at the same time to the left, or pivot flank; and on completing the wheel, gives the word Halt—Dress, to both divisions. He and his covering
covering sergeant then place themselves on the left flanks of their subdivisions. It may be considered as a rule almost general (the reasons for which are subsequently given), that all wheels of the battalion or line (when halted, and when the divisions do not exceed sixteen or eighteen files) into column, should be backward; and all wheels from column into line, forward. The only necessary exceptions seem to be in narrow ground where there is not room for such wheels.

IX. Marching on an Alignment, in open Column of Subdivisions. The platoon having wheeled backwards by subdivisions from line, as just stated, and a distinct marked object in the prolongation of the two pivot flanks being taken, the commander of the platoon, who is now on the pivot flank of the leading subdivision, immediately fixes on his intermediate points to march on. On the word March, both subdivisions step off at the same instant; the leader of the foremost corps marching with the utmost readiness and equality of pace on the points he has taken; and the commander of the second division preserving the leader of the first in an exact line with the distant object, at the same time he keeps the distance necessary for forming from the preceding division, which distance is to be taken from the front rank. These objects are in themselves sufficient to occupy the whole attention of the leaders of the two divisions; therefore they must not look to, nor endeavour to correct, the march of their men, which care must be entirely left to the non-commissioned officers of the supernumerary rank.

X. Wheeling into Line from open Column of Subdivisions. The platoon being in open column of subdivisions, marching at the ordinary step on the alignment, receives the word Halt from the instructor of the drill. Both subdivisions instantly halt, and the instructor fees that the leaders of the divisions are correct on the line in which they have moved. He then gives the word (supposing the right of the platoon to be in front), By Subdivisions, to the left wheel into Line. On this the commander of the platoon goes to the centre of his subdivision; the two pivot men face to their left, exactly square with the alignment, and a sergeant runs out and places himself in a line with them, so as to mark the precise point at which the right flank of the leading subdivision is to halt, when it shall have completed its wheel. At the word March, the whole wheel up in quickest time. During the wheel, the whole platoon remains under the direction of the commander, who inclines to the wheeling flank, and gives the word Halt—Drifts, the moment the wheel of the division is completing. He also, if necessary, corrects the internal drizzling of the platoon on the sergeant and pivot-men. This drizzling must be quickly made; and when done, the commander of the platoon gives the word Eyes Front, in a moderate tone of voice, and resumes his poll in line. In all wheels of the divisions of a column (either from the halt or from the march) that are made on a halted pivot, the flank firelock of the front rank on the hand wheeled to, is such pivot; not the officer who may be on that flank, and whose business is to conform to it. All wheels by subdivisions or columns from line into column, or from column into line, are performed on the word given by the commander of a battalion, when the whole of a battalion is at the same instant to wheel; or on the word given by the captain of the company, when companies singly, or successively, so wheel. They are not to be repeated by the leaders of its divisions.

XI. In Open Column of Subdivisions, wheeling into a new Direction on a moveable Pivot. The commander of the leading subdivision, when at a due distance from the intended new direction, will give the word Right or Left Shoulders Forward; and he himself carefully preferring the rate of march, without the least alteration of step or time, will begin to circle in his own person from the end into the new direction, so as not to make an abrupt wheel, or that other flank shall be stationary. The rear of his division, on the principle of drifting, will conform to the direction he is giving them; when this is effected, he will give the word Forward. The leader of the second subdivision, when he arrives at the ground on which the first began to wheel, will in this manner follow the exact tract of the first, always preferring his proper distance from him. Thus, without the constraint of formal wheels, a column, when not confined to its flanks, may be conducted in all kinds of winding and changeable directions: for, if the changes be made gradual and circling, and that the pivot leaders of subdivisions...
Battalion.

divisions pursue their proper path, at the same uniform equal pace, the true distances will be preferred, which is the great regulation object on this occasion, and to which every other must give way.

XIII. Countermarch by Files. The platoon, when it is to countermarch, must always be considered as a division of a battalion in column. The instructor of the drill will therefore, previous to giving the command to countermarch, signify whether the right or left is supposed to be in front, that the commander of the platoon and his covering sergeant may be placed on the pivot flank, before such command is given; as it is an invariable rule in the countermarch of the divisions of a column by files, that the facing he made from the flank, then the pivot one, to the one which is to become front. On the word To the Right or Left Face, the platoon faces; the commander of it immediately goes to the other flank; and his covering sergeant, advancing to the front which he has quitted, faces to the right about. At the word Quick March, the whole, except the sergeant coverer, files off together: the platoon officer wheeling short round the rear rank (viz. to his right, if he has fluted to the right of the platoon, or to his left, if he remains on the left of it); and proceeds, followed by the platoon in file, till he has conducted his pivot from one rank man close to his sergeant, who has remained immovable. He then gives the words Halt — Front — Drills; squares, and closes his platoon on his sergeant, and then replaces him. All countermarches by files necessarily tend to an extension of the files. Unity of step is therefore absolutely indispensible, and the greatest care must be taken, that the wheel of each file be made close, quick, and at an increased length of step of the wheeling man, so as not to retard or lengthen out the march of the whole.

XIV. Wheeling on the Centre of the Platoon. The platoon must be accustomed to wheel upon its centre, half backward, half forward, and to be liable into every shape which circumstances can require of it; but always in order, and by a decided command. The words of command are, Platoon — to your Centre, to the Right Wheel, to the Left Wheel; to the Right about wheel; &c. When the wheel is to be made to the right, or right about, the right half platoon is the one to wheel backward, and the left forward. The reverse will take place when the wheel is to be made to the left, or to the left about. On the word March, the whole move together in the quickest time, regulating by the two flank men, who, during the wheel, preserve themselves in a line with the centre of the platoon. As soon as the required degree of wheel is performed, the commander of the platoon gives the word Halt — Drills, and instantly squares it from that flank on which he himself is to take post.

XV. Oblique Marching. The instructor of the drill will have the oblique march frequently practised in platoon, in subdivisions, and in file. He will make it, when in divisions, that the rear ranks look well up, and cover exactly; when in file, that the exact distances are preferred between the files; and in both cases, that the platoon, during its march, continues parallel to the position from which it commenced obliquing.

XVI. Increasing and diminishing the Front of an Open Column on the March. 1. Increasing: The platoon marching at the ordinary time in open column of subdivisions (supposing the right in front), receives from the instructor of the drill the cautionary command Form Platoon. The commander of the platoon instantly gives the word Left oblique — Quick March, on which the rear subdivision oblique to the left, and as soon as its right flank is open, receives the word Forward. When it gets up to the first subdivision, which has continued to march with the utmost steadiness at the ordinary pace, the commander of the platoon gives the word Halt — March, and takes post on the pivot flank. 2. Diminishing: When the instructor of the drill gives the caution to form subdivisions, the commander of the platoon immediately orders, Left Subdivision; Mark Time. This it does till the right one, which continues its march readily at the ordinary pace, has cleared its flank. He then orders the left subdivision, Quick oblique; and when he perceives that it has doubled properly behind the right one, he gives the word Forward, on which it takes up the ordinary march, and follows at its due distance. The same directions that apply to increasing or diminishing by subdivisions, apply equally to increasing or diminishing by file, which individually repeat the same operations. The words for the subdivisions or sections increasing or diminishing the front of a column, are given by the commander of a company, and not repeated by those of its divisions. Increasing and reducing the front of a column is an operation that will frequently occur in the march of large bodies: and it is of the utmost importance that it be performed with exactness. The instructor of the drill must therefore be particularly attentive, that the transition from one situation to the other be made as quick as possible; that the leading division continues its march at the regular time and length of pace; and that the exact distances between the divisions be accurately preserved. During the operation, the ranks must be well closed; arms carried, and the greatest attention required from each individual.

XVIII. The
BATTALION.

XVIII. The Platoon in open Column of Subdivisions to pass a short Defile by breaking off Files. We suppose the platoon in open column of subdivisions, with the right in front, marching in ordinary time. When the leading division is arrived within a few paces of the defile, it receives from the instructor of the drill an order to break off a certain number of the files (suppose three); the commander of the leading division instantly gives the words, Three Files on the Left, Right turn. The named files immediately turn to their right, and wheel out in rear of the three adjoining files. The commander of the subdivision himself closes the flank of the part formed. When the second subdivision comes to the spot where the first division contracted its front, it will receive the same words of command from its own leader, and will proceed in like manner. Should it be required to diminish the front of the column one or two files more, the commander of the leading division will, as before, order the desired number of files to turn; on which those already in the rear will incline to their right, so as to cover the files now ordered to break off, and which are wheeling out in the manner already prescribed. In this movement, the files in the rear of the subdivisions must look well up, so as not to impede the march of the preceding division. At the defile widens, or the instructor of the drill shall direct, the commander of the leading subdivision will order files to move up to the front, by giving the word One, two, or three Files to the Front; on which the named files turn to their front, the left, and lengthening their pace, march up, file by file, to the front of their subdivision, and immediately resume the ordinary pace. Those files which are to continue in the rear, will oblique to the left, lengthening also their step, till they cover, and are closed up to the three files on the left flank of their subdivision.

XIX. Marching in quick Time. The platoon must frequently be practiced to march in quick time, particularly in file, until the men have acquired the utmost precision in this movement, which is essential in all deployments from close column. The platoon will also occasionally be marched in front at the same step, as it may be sometimes required from small bodies.

XX. Forming to the Front from File. The platoon, when marching in file, may form to its front, either in sections, subdivisions, or in platoon. The right flank being supposed to lead, on the word halt, front, the platoon instantly halts, and faces to its left. The word is then given, by sections, subdivisions, or platoon, on your left backwards wheel; and at the word march, the wheel ordered is performed in the manner already directed in sect. xvii. But in situations where it may have been necessary to order an extension of files (such as will sometimes occur in marching through the streets of a town), a body thus moving, in order to avoid incorrect distances between the divisions, may form to the front in the following manner, either by platoon, subdivisions, or sections. On the word to the front form platoon, the front rank man of the leading file halts alone, and is instantly covered by his centre and rear rank men. Every other file of the platoon makes a half face to the left, and successively moving up, drefs on the right file. When the commander of the platoon feels it is properly dresed, he gives the word eyes left, and places himself on the pivot flank. Should the order have been, to the front form sections or subdivisions, the leading subdivision or section will proceed in the manner already detailed for the platoon. The succeeding subdivisions or sections will each continue moving on, until its front file arrives at the proper forming distance from the division in its front; when it will receive from its commander the word to the front form, and will instantly form up by files in the manner already described.

XXI. Forming from File to either Flank. The platoon marching in file, suppose from the right, has only to halt and front to be formed to the left flank. To form to the right, it will receive the word to the right form. The front rank man of the leading file instantly turns to his right, and halts; his centre and rear rank men move round and cover him. All the other files of the platoon make a half turn to their left, and move round successively in a line with the right hand file; the centre and rear rank men of each file keeping closed well up to their file leaders.

XXII. To form to either Flank from open Column of Subdivisions or Sections. The platoon marching in the ordinary time in open column of subdivisions or sections, to form to its left receives the words halt, left column, and form, march, &c., and proceeds as has already been shown in sect. x. To form the platoon to its right flank, the instructor of the drill gives the cautionary word of command, to the right form platoon; on which the commanders of the several divisions shift to the other flank, and the commander of the leading subdivision or section instantly gives the word to his division, right column; and when it has wheel'd square, he orders halt, right drefs; gores to the right flank of his division, and dreses it on the intended line of formation. The commander of the other subdivisions or sections, on the leading one being ordered to wheel, gives the word to the left column, and gradually inclines so as to be able to march clear of the rear rank of the division forming. This being effected, the word forward will be given to each division, and they move on in the rear of the one formed. When the second subdivision or section is arrived at the left flank of the first, its commander gives the word right wheel, then halt, drefs up; on which the division moves up into the line with the one formed; and its commander instantly places himself two or three files from the left of his first division, and dreses his own on it as quickly and as accurately as possible. Thus each succeeding section should proceed, until the whole be formed.

XXIII. The Platoon moving to the Front to gain Ground to a Flank, by a March in Echelon by Sections. In the drill of the platoon, when the column is completely formed, he may be taught to march in echelon by sections. This is a very useful movement for a battalion or larger body moving in line, that is required to gain ground to a flank, and may be substituted instead of the oblique march. It will be performed in the following manner; the platoon marching to the front in the ordinary time, receives the word by sections to the right. The right hand men of the front rank of each section turning in a small degree to their right, mark the time for three paces, during which the sections are wheeling in ordinary time on their pivot men. At the fourth pace, and at the word forward, the whole move on direct to the front that each section has now acquired, and the commander of each section having taken post on the right of his division, the platoon continues its march in echelon. On the word form platoon, the pivot men mark the time for three paces, turning back in a small degree to the left, their original front; and the sections instantly wheel backward into line. At the fourth pace, the whole move forward. When the platoon is in two ranks only, two paces instead of three will be sufficient to mark time, and to step off at the third instead of the fourth pace.

XXIV. From three Ranks, forming into two. The platoon halted, is ordered form two deep. The rear rank men of the left sub-division instantly step back one pace. On the word left face, the rear rank of each sub-division face.

5 M
BATTALION.

The word *quick march* is then given, on which the men of the rear rank of the left sub-division step short, until those of the right get up to them; they then move on with them in file. As their rear is clearing the left flank of the platoon, the commander, who has shifted to this flank during the movement, gives the word *halt, front, drefs up,* instantly dreses them on the standing part of his platoon, and refumes his post on the right. One third or more sub-division is thus added to the front of the company, which is here suppos'd standing as one in a battalion column.

XXV. *From two Ranks, forming into three.* The platoon being halted, and told off into three sections, it receives the word *form three deep,* on which the third section instantly steps back one pace. The word *right face* is then given, and the man on the right of its front rank, on facing, disengages a little to his right. On the word *quick march,* the front rank men of the third section step off, those of the other mark the time, till they have passed, and then follow. When the leading man has got to the right of the platoon, the commander gives the word *halt front,* on which, each man halts, faces to his left, and instantly covers his proper file leader.

In pursuance of the foregoing instructions, and on the principles they contain, every company of a battalion must be frequently exercised by its own officers, each superintending a rank, or an allotted part of the whole. On a space of seventy or eighty yards square, every circumstance can be practised that is necessary to qualify it for the operations of the battalion. That space being pointed out by under officers, or other marks, as directed at the latter end of the drill with arms, the company will practise, both at open and close files, without and with arms.

By ranks, 1st, March in single file, by successive ranks, along the four sides of the square; the same by twos. 2d, March and wheel by ranks of fours; file off singly and double up, preserving proper distances, and not quickening on the wheel. 3d, March and wheel by sub-divisions of ranks. 4th, March and wheel by whole ranks. 5th, March to front and to rear, ranks at ten paces alreadv. 6th, March the company in a single rank to front and to rear, by a flank and by the centre. 7th, Oblique, by ranks. 8th, Open and close files, and intervals, by the file (rep. 9th, March in file to either flank. 10th, Ranks successively advance fix or eight paces, halt, and drefs ; ranks successively fall back the fame number of paces, halt and dres. 11th, Advance or retire two or three flank men, the ranks dres to them. 12th, Open and close ranks.

At close ranks and files. 13th, March and wheel in all directions, by sub-divisions and by company; shorten filep, and lengthen it; the march to be made both in ordinary and quick time; the wheels to be made in wheeling time. 14th, Advance and retire two or three flank files, and dres to them. 15th, Open and close to the flank by the file (rep. 16th, Change front by the countermarch by files. 17th, March in file to the flanks, close, and without opening out, form to the front, or to either flank. 18th, March oblique. 19th, Sub-divisions double on the march, and again form up by obliquing. 20th, Wheel backwards by sub-divisions, March along the line to prolong it; form to the flank by wheeling up, or to the front by obliquing. 21th, File from the flank of company to the rear, as in the passage of lines; halt front, close into pivot files, wheel up as in forming file. 22d, From three deep, form two deep. 23d, From two deep, form three deep. 24th, Exercise of the firelock, manual and platoon, by ranks and company. 25th, Firings by Files, sub-divisions, and company.

The necessary pauses and formations between these movements in order to connect them, must of course be made. They may be practised in whatever succession that shall at the same time be found proper. The greatest precision must be required and observed in their execution, according to the rules already laid down.

Every officer must be instructed in each individual circumstance required of a recruit, or a folder; also in the exercise of the sword; and accustomed to give words of command with that energy and precision which is to be essential. Every officer, on first joining a regiment, is to be examined by the commanding officer; and if he is found imperfect in the knowledge of the movements required from a folder, he must be ordered to be exercised, that he may learn their just execution. Till he is master of those parts, and capable of instructing the men under his command, he is not to be permitted to take the command of a platoon in the battalion. Squads of officers must be formed, and exercised by a field officer. They must be marched in all directions; to the front, oblique, and to the flank. They must be marched in line, at platoon distance, and marched as in open column. They must change direction, as in file, and cover anew in column. In thefe, and other similar movements, the pace and the distances are the great objects to be maintained. From the number of files in division, they must learn accurately to judge the ground necessary for each, and to extend that knowledge to the front of greater bodies. They must acquire the habit of readily adapting, by the eye, perpendiculars of march, and the squarings of the wheel. An officer must not only know the post which he should occupy in all charges of situation, the commands which he should give, and the general intention of the required movement; but he must be master of the principles on which each is made, and of the faults which may be committed, in order to avoid them himself, and to instruct others.

These principles are in themselves so simple, that moderate reflection, habit, and attention, will soon move them to the eye, and fix them in the mind; and individuals, from time to time, when qualified, must be ordered to exercise the battalion, or its parts. The complete instruction of an officer enlarges with his situation, and at last takes in the whole circle of military science. From the variety of knowledge required of him, his exertion must be unceasing, every one driving to make himself master of his own part. Besides the instruction peculiar to the non-commissioned officers, they should be exercised in the same manner as the officers are, as they are frequently called on to replace them. The necessity also of order, readiness, silence, and of executing every thing deliberately, and without hurry, should be strongly inculcated on the infantry folder.

Formation of the Company.

The company is always to be fixed from flanks to centre. It is formed three deep. The files lightly touch, when firelocks are shouldered and carried, but without crowding, and each man will occupy a space of about twenty-two inches.

Close order is the chief and primary order, in which the battalion and its parts at all times assemble and form. Open order is only regarded as an exception from it, and occasionally used in situations of parade and fight. In close order, the officers are in the ranks, and the rear ranks are closed up within one pace. In open order, the officers are advanced three paces, and the ranks are two paces distant from each other. Each company is a platoon. Each company forms two sub-divisions, and also four sections. But as sections should never be left than five files, it will happen where
BATTALION.

where the companies are weak, that they can only, for the
purpose of marching, or three sections.

When the company is fully formed, the captain is on the
right, the ensign on the left, of the front rank, each covered by a
fifer, and a fifer is rear. The lieutenant is in the
rear, as also the drummer and pioneers in a fourth rank, at
two paces distance. The left of the front rank of each
subdivision is marked by a corporal. The right of the left
subdivision may be marked by another corporal. When neces-
sary, the places of absent officers may be supplied by fer-
jeants; those of fifers by corporals, and those of corporals
by intelligent men. When the company is to join others, and
the battalion, or part of it, to be formed, the ensign
and his covering fifer quitt the flank, and fall into the
fourth rank, until otherwise placed.

When the company is to take open order from close order,
on the command Rear Ranks—take open Order, the flank
men on the right and left of the rear ranks, step back to
the ground on which each rank respectively is to halt
and dref at open distance. They face to the right, and
stand covered. Every other individual remains ready to
move at the word of command March, the rear rank
drill front, and the rear ranks fall back one and two
paces; each drill by the right the infants it arrives on its
ground. The officers move out in front three paces, and
divide their ground. One fifer is on each flank of the
front rank. The pioneer remains behind the centre of
the rear rank. The drummer places himself on the right
of the right fifer.

When the company is to take close order from open
order, at the word of command Rear Ranks take close Order,
the officers, fifers, and drummer, face to the right. On
the word March, the ranks close within one pace, marching
one and two paces, and then halting. The officers move
round the flanks of the company to their respective posts:
The fifers and drummers fall back, and each individual
returns his place, as in the original close order. The above
regards the company when fingle; but when united in the
battalion, other posts are allotted to the drummer and
pioneer.

Formation and Order of the Battalion.

A perfect uniformity in the formation and arrangement of
all companies and battalions is indispensably for the execution
of just and combined movements. The strength of the
battalion is ten companies: one grenadier, eight battalion,
and one of light infantry, containing most commonly of
three officers, three fifers, three corporals, two drummers,
and fifty-seven privates. When these companies join, and the
battalion is formed, there is to be no interval between any
of them, grenadier, light company, or other; but every
part of the front of the battalion should be equally strong.
Each company which makes a part of the face line, and is
to act in it, must be formed and arranged in the same manner.
The companies will draw up as follows, from right to
left. Grenadiers, first and third captains; fifth and sixth
captains; eighth and fifth captains; second and fourth
captains, light infantry. The four eldest captains are on the
right of the grand divisions. Officers commanding com-
panies or platoons are all on the right of the front rank of
their respective companies. The eight battalion companies
will compose four grand divisions, eight companies or
platoons, six even subdivisions, and thirty-two sections, when
sufficiently strong to be divided, otherwise twenty-four,
for the purposes of march. The battalion is also divided
into right and left wings. When the battalion is on a war
establishment, each company is to be divided into two
platoons. When the ten companies are with the battalion,
they may then, for the purposes of firing or deploying, be
divided into five grand divisions, from right to left. The
battalion companies will be numbered from the right to the
left, 1, 2, 3, 4, 5, 6, 7, 8, the subdivisions will be numbered
1, 2, each; the sections will be numbered 1, 2, 3, 4, of
each. The files of companies will also be numbered 1, 2, 3,
4, &c. The grenadier and light companies will be numbered
separately in the same manner, and with the addition of
to those divisions. The several appellations will be preferred,
whether faced to front or rear.

The companies must be equalized in point of numbers, at
all times when the battalion is formed for field movements;
and could the battalions of a line also be equalized, the
greatest advantages would arise. But though from the
differing strengths of the battalions, this cannot take place,
yet the first requisite always must, and is indispensable.

Pil. III. fig. 2. When the battalion is formed in close
order, ranks are at the distance of one pace, except the
fourth or supernumerary rank, which has three paces. All
the field officers, and the adjutant, are mounted. The com-
manding officer is the only officer advanced in front, for the
general purpose of exercise, when the battalion is single; but
in the march in line, and in the firing, he is in the rear of
the colours. The lieutenant colonel is behind the colours,
and their advance guard. The major and adjutant are
in the rear of the third and fifth companies. The
chaplains are on the right of the front rank of each company
or platoon, and one on the left of the battalion. All these
are covered in the rear rank by their respective fifers, and
the remaining officers and fifers are in a fourth rank be-
hind their companies. It is to be observed, that there are no
covers in the centre rank to the officers or colours.

The colours, which in most regiments are carried by the
two youngest figers, are placed between the fourth and fifth
battalion companies both in the front rank, and each covered
by a non-commissioned officer or steady man in the rear rank.
One fifer is in the front rank, between the colours; he is
covered by a second fifer in the rear rank, and he is by a
third in the supernumerary rank. The fole function of the
third fifer is, when the battalion moves in line to ad-
vance and direct the march. The place of the fift of these
fifers, when they do move out, is preferred by a named
non-commissioned officer, who moves up from the super-
numerary rank for that purpose. Of the officers appointed
to carry the colours, the eldest carries the king's, the young-
est, the regimental colour. Whenever the right wing advances
or retires, the king's colour accompanies it on its flank,
and to it the men's eyes are directed as their point of de-
velop. In the same manner, the regimental colour accom-
plices the left wing.

The fourth rank is at three paces distance when halted,
or marching in line. When marching in column, it must close
up to the distance of the other ranks. The essential use of
the fourth rank is to keep the others closed up to the front
during the attack, and to prevent any break beginning in the
rear. On this important service too many officers and
non-commissioned officers cannot be employed. The pioneers
are assembled behind the centre, formed two deep, and nine
paces from the third rank. The drummers of the eight
battalion companies are assembled in two divisions, six paces
behind the third rank of their second and seventh companies.
The grenadier and light infantry drummers and fifers are
six paces behind their respective companies. The
musicians are at three paces behind the pioneers in a single
rank, and at all

The half of chaplain, furgeon, quarter-master, and furgeon's
aid,
affendant, are three paces behind the music. Officers in general remain posted with their proper companies; but commanding officers will occasionally make such changes as they may find necessary. Whenever the officers move out of the front rank, in parade, marching in column, wheeling into line, or otherwise, their places are taken by their lieu-tenant coverers, and preferred until the officers again resume them. When the line is halted, and especially during the firing when engaged, the freijant coverers fall back into the fourth rank, and observe their platoons.

Pl. III. Fig. 4. When the battalion is to take open order, at the word of command Rear Ranks take open Order, the flank men on the right of the rear ranks of each company step briskly back to mark the ground on which each rank respectively is to halt. They face to the right, and cover as pivots, being regulated and dressed by the Adjutant or freijant major on the right. Every other individual remains ready to move. At the word March, the flank dress face to the front, and the whole move as follows:—The rear ranks fall back two and two spaces, each dressing by the right the instant it arrives on the ground. The officers in the front rank, as also the colours, move out three paces. Those in the rear, together with the music, move through the intervals left open by the front rank officers, and divide themselves, viz. the captains covering the second file from the right; the lieutenants the second file from the left; and the ensigns opposite the centre of their respective companies. The music form between the colours and the front rank. The freijant coverers move up to the front rank, to preserve the intervals left by the officers. The pioneers fall back to six paces distance behind the centre of the rear rank. The drummers take the same distance behind their divisions. The major moves to the right of the line of officers. The adjutant to the left of the front rank. The staff place themselves on the right of the front rank of the grenadiers. The lieutenant colonel and the colonel (dismounted) advance before the colours, two and four paces. The whole being arrived at their several posts, the words Halt—Dress are given to the respective companies, and the battalion remains formed for parade in the order in which it should receive a superior officer. When the battalion is reviewed singly, then in order to make more room, the division of drummers may be moved up, and form the two deep on each flank of the line. The pioneers may form two deep, on the right of the drummers of the right; and the half may draw up on the right of the whole.

When the battalion is to resume close order, the words Rear Ranks take close Order is given. The lieutenant-colonel, officers, colours, flag, and music face to the right. The drummers and pioneers, if on the flanks, face to the centre. The freijants, it in the front rank, face to the right. At the word March, the rear ranks close within one pace, moving one up and two spaces, and then halting. The music marches through the centre interval. The freijants, drummers, pioneers, &c. resume their places, each as in the original formation of the battalion in close order. The officers move through and into their respective intervals, and each individual arrives, and places himself properly at his post, in close order.

On particular occasions, and when necessary, officers commanding platoons, who in line are on the right of their platoons, shift to the left to conduct the heads of files, or the pivot flanks of their divisions, in echeelon, or in column. When the battalion wheels by companies, or sub-divisions, to either flank into column, both colours, and the file of directing freijants always wheel to the proper front, and place themselves behind the third file of the new pivot.

There is no separate colour referee, the pioneers, music, &c. sufficiently strengthen the centre; but in the flanks, the two files on each side of the colours may be ordered to receive their fire.

The constant order of the light company, when formed in line, and united with the battalion, is at the same close file as the battalion. Their extended order is an occasional exception. When the light company is detached, and the grenadier company remains, it will be undivided on one flank of its battalion, whenever there are several battalions in line; when the battalion is single, it is permitted to be occasionally divided on each flank. When the grenadier or light companies are detached, and make no part of the line, they may be formed two deep, if it is found proper.

With a very few obvious alterations, these general rules take place when a company or battalion is permitted or ordered to form in two ranks only; and which, on the low establishment of our battalions, may often be done for the purposes of exercise or movement on a more considerable front. It is also evident that they generally apply, whether the companies are strong or weak, and whether a greater or lesser number of them compose the battalion.

We shall now proceed to give an abstract of the most essential general attentions required in the movements of the battalion, and which may be found more fully detailed in the rules and regulations for the battalion and the line, as published by his majesty's command.

I. Attentions of the Soldier.

Quick time is in general confined to wheelings and filings. The other movements of the platoon or battalion are made in ordinary time. It is seldom that they will, or ought to be, required at quick time. All wheelings, forward or backward, are made quick. Eyes are turned to the wheeling flank, at the word March, and not before. The wheeling flank man steps out firm at a pace of thirty-three inches, till he receives the word Halt. It is the business of the rest of the rank to keep up to him. Eyes remain in all cafes to the wheeling hand, till a new order is given by the commanding officer. All filings are made quick, close, and at the lock step. Files are at no time to open out, on occasions of exercise, parade, or manœuvre; but they will often be permitted and ordered, when marching in the streets; or in common route marching, when the march by divisions cannot be conveniently take place. All filings must be accurately made on the left heel. Pivot men must cover carefully and exactly. In wheeling backward, the flanking man faces the opposite way to that he does in wheeling forward. Pivots, whether in wheeling into column, or in wheeling into battalion, when once filled are to remain immovable and do not alter their position in consequence of platoon dressing, nor on any account, but by order of the commanding officer of the battalion, when he finds it necessary to require a more correct dressing from the whole.

The great observance of the soldier in the ranks, and under arms, is the squareness of the shoulders and body, the head to the front, and eyes only glanced to the point of dressing. When the battalion is halted, and a more accurate dressing is ordered, the head may be a little turned during that operation only, and each man should just dilate towards the lower part of the face of the second man from him. Whether in movement, or halted, each man is just to touch, without crowding, his neighbour's arm, towards which he drefles, to depend on that chiefly for his line, and at no time to separate from him. At the word March, the flamp of the foot is not to be made, but the thill flaps is to be taken as firm and long as any other, and the body of each man, if in his true position under arms, is prepared for it by an inclination forward.
forward. On the perfect execution of this depends much of the accuracy of march. On the word March, the first step in all situations is taken with the left foot. When the command- ing officer of the battalion gives the word, the whole file off, whether in line or in column. When he gives the word Halts, the whole halts. The right word March are directed to the pivot flank, if in column; or to the head of the file, if filing; to the colours, if marching in column; and in general to that point by which they are conducted. At the word Halts, the foot in the air finishes its step, and the other is brought up to it.

Eyes remain directed to the pivot flank if marching in column; to the colours, in line; or to the wheeling flank, if wheeling; and in general to the point to which they were turned when in movement, until a new order commands a new drilling. Whenever the word Draw is given by platoon officers to their platoons, eyes are turned to the pivot where the officer is, and from whence he corrects them upon a distant object. In marching in line, each man must preserve his body perfectly square, and just feel the touch of his neighbour, March's nearer than himself to the directing point. The rear ranks are to be well locked up, particularly when firing. In marching in battalion, or when halted, rear ranks will be locked up; but in marching in column, they may in general be at one pace distance. The files are to be taken firm, and marked.

All alterations in carrying, supporting arms, &c. are done by the whole battalion at once, whether in line or column, and not by the divisions of it separately. The commanding officer gives the word, and not the platoon officers; and no such change is at any time made, but in consequence of his command. The men therefore, in all cases, wheel halt, march, draw, &c., with their arms carried, supported, trailed, or flapped, according as the last given command directed them. The same is to be observed whenever the battalion, moving in line or in column, changes its time of march.

In column, when the right of the battalion is in front, the left is the pivot flank; and when the left is in front, the right is the pivot. In marching in column, the pivot files of men next to the officers must have great attention in covering, when the movement is made in a straight line, as they are points on which the formation is made; and therefore for that purpose, they must remain close to their pivot officers, who in that situation cover and give distance.

Supported arms should only be allowed when halted in line, or when moving in column. But the march in line, and in general all wheelings up in line, and all formations of the line or drilling it, should be made with carried arms, as the only situation which preserves the true distance of files, or can give an accurate line.

II. Covering Platoon Sergeants.

The covering sergeant accompanies and assists the platoon officer in all his movements, and prefers his place in line, or on the pivot flank in column, whenever the officer's duty requires him occasionally to quit it. In battalion, he covers in the rear rank. At open order he moves into the officer's place in the front rank. At close order, he leaves it for the officer to take it. In the march in echelon, lie is on the outward flank of the front rank. When the battalion breaks into column to the right or left, the sergeant falls back two paces; and when the wheel is finished, he covers his officer on the pivot flank. When the column marches, if the officer is in front of the platoon, the sergeant is on the pivot of the front rank, and is answerable for the platoon distance; if the officer remains on the pivot flank, the sergeant then falls behind the rear rank, and covers the second file from the pivot. When from column the right in front platoons wheel up to the left into line, the sergeant at the word Wheel, goes to the right of the front rank of the platoon, and wheels up with it, thereby preferring the officer's place. If the wheel is to the right, the sergeant is behind the right file, ready to move up to the officer's place at the conclusion of the wheeling. On all occasions, when any particular order is given to the sergeant on the right, to prefer the place of his officer, who may be employed in dressing his platoon.

When the platoons wheel either into line or into column, the sergeant of the leading platoon runs out, and marks the point in the line of the pivot where its flank is to halt. When platoons countermarch in column, the sergeant moves into the officer's place on his quitting it to lead in line, faces to the right about, stands fast, and becomes the pivot point for the front rank leader to close to after the countermarch is finished, and its place is occupied by the officer after dressing his division. When the platoons from column files, in order to take a new line either to the front or rear; the sergeant of each successively, as it arrives within thirty yards of that line, and no longer, runs out, takes distance, places himself upon it, and remains as a point to which his officer is to bring and clothe in the pivot flank man of his platoon, and as a point which the officer himself is afterwards to occupy. Whenever the battalion halts to fire, the sergeants fall back, and in concert with the supernumerary rank, keep the rear ranks well locked up and attentive to their duty. When the battalion again moves, sergeants resume their places. When the battalion is in column of subdivisions, if the officer is ordered to march in front of his platoon, the sergeant is on the pivot of the leading subdivision. If the officer is on the flank of his leading subdivision, the sergeant takes the flank of the second. In column of sections, the sergeant also takes the flank of the second section. In close column, the sergeant is on the flank of the rear rank, behind the officer; and in forming line after the Halt, Front, of the platoon, he remains on its outward flank, and marches up with it.

The pioneers, in column of march, are in front; in line, they are formed two deep behind the centre, and nine paces from the rear rank. Drummers, in column of march or close column, are with their companies, and on the flank not the pivot one. In line, the grenadier and light drummers are fix paces behind the rear rank of their companies. The battalion drummers are in two divisions, and formed fix paces behind the third and seventh companies. In parade, at open order, the drummers preserve their fix paces from the rear rank. Whenever the platoon is cautioned to wheel forward or backward any named number of paces, the sergeant immediately posts himself before or behind the eighth file from the flank, and takes the ordered number of paces; when his platoon has conformed, he places himself on its outward flank. The mute, in open or close column, are on the flank which is not the pivot one; in line, they are in single line behind the centre, twelve paces from the rear rank. On parade, at open order, they are between the colours and the front rank. Drummers, mutes, pioneers, &c. will take care not to impede the flank movements of the close column, nor its formation into line, but will get into the rear of their respective battalions, as soon as they are detached from each other.

III. Attentions in Platoon Officers.

When the battalion is formed in line, company or platoon officers are all on the right of their platoons. In column, they are on the pivot flank, unless particularly ordered into the front of each platoon, if a march for any considerable distance is to be made. When on the pivot flanks, they are
are answerable in their own persons for distances and covering. When in front, their sergeants, under their direction, preserve the ordered distance.

In wheeling from line to column, each moves out, and places himself one pace before the centre of his platoon. Each turns towards his men during the wheel, and inclines to his pivot flank. Each gives his word, 

**Hal—Draf**, when his wheeling man has just completed his degree of wheel. Each squires his platoon, but without moving what was the flanking flank. Each then places himself on the proper pivot flank. After the wheel into column is completed, no one is to cause his platoon to shift, by way of covering on the pivot flank, unless so ordered by the commanding officer, or that in the course of marching a straight line is gradually taken up. In wheeling from column into line, the officer places himself one pace before the centre of his platoon, turns towards his men during the wheel (inclining towards the pivot of his preceding platoon), and gives the word 

**Hal—Draf**, when his wheeling man, on whom his eye is fixed, is just arrived at the next flanking pivot man. He then, from that pivot man correcting the interior of his platoon upon his own pivot man, takes his place, and remains steady on the right of his platoon.

If the column is in movement, and platoons are successively to wheel into a new direction, each officer, to whatever hand he is to wheel, gives the word from the point he is then placed at, whether in front or on the flank. If on the wheeling flank, he conducts it; if on the flanking flank, he steps out two or three paces, the better to see that his platoon wheels quick, with a proper step, and that he may time his word 

**Hal**. This done he is to fall back to his place on the pivot flank, no longer to look to his platoon, but having his eye fixed on the officer of the preceding platoon, he is to give his word 

**March** to the infant officer that officer is then taking the last step which establishes the proper distance between the platoons. When an officer is marching on the pivot flank, he is to be answerable for distance and covering. These circumstances alone must solely engage his attention: he can only occasionally give a glance of his eye towards his platoon, which must drest to him of course, and without any particular direction.

When platoons in column are each to countermarch on its own ground, the officer, when his platoon faces, goes to that flank which is to become the pivot flank, conducts his platoon in file, and closes his leader to the serjeant, who has remained to mark the pivot, 

**Halts, Fronts, and Drests it square.** He then places himself where the serjeant stands.

When the battalion marches in line, officers then become individuals, equally attentive as the soldier; nor can officers then be attentive to any thing but to the correctness of their own personal march. Every operation then depends on the word from the commanding officer, who moves, halts, and drests the battalions. Whenever the battalion is in line, officers give no commands except in fringes.

When the platoons of a column file separately to a flank, the officer conducts the head; and when he arrives within thirty paces of the new position in which he is to form, he detaches his serjeant to mark the point at which he is to place his pivot front rank man, either in filing to front or rear. The officer files at that serjeant, and halts, fronts, and drests his platoon close to the serjeant. He then himself, after correcting his platoon, replaces the serjeant, who falls back to the rear rank. In filing, distances and dresting are taken from that hand to which, by a face of the platoons, the whole will stand fronted in column, and the line breaks into column towards the dresting point. The leaders of the third, fourth, &c. platoons from the directing flank are never to overpass the straight line which joins the heads of the first and second, but are, if any thing, to be behind it, till they arrive and halt exactly in the new line. In movements to the rear, distances and dresting are always taken from the same point to which they would be made, if the movement was to the front; that is, from the left in going to the rear, if it should be from the right in going to the front.

On the leading platoon officer of the column much of the precision of march depends. He must lead at an equal, steady pace, and on two objects either given to him, or which he himself takes up on every alteration of position. This demands his utmost attention; nor must he allow it to be diverted by looking at his platoon, the care of whose regularity depends on the other officers and non-commissioned officers belonging to it. The second platoon officer must also be shown, and known, the points on which the first leads. He is always to keep that first officer and those points in a line; and those two officers, together with the placed mounted officers, thus become a direction for the other pivot officers to cover. In marching in open column, the covering serjeants are placed behind the second file from the pivot officers, that the officers may the more correctly see and cover each other in column. In the column of march, after the word **Halts** is given, no one is to move, and pivots particularly must remain where they are then placed. In this situation, when ordered to form, each platoon wheels up to its adjoining pivot; the whole then perhaps, as in the case of marching upon a road, along the different turnings of a height, &c. &c. be on a winding line, and must not attempt to get into a straight line, unless so ordered by the commanding officer to answer some particular object. When the platoon wheels **backwards** from line into column, the situation and business of the officer are the same as when wheeling forwards; and he halts and drests from his pivot flank, which he gains during the wheel.

In close column, division officers are on the pivot flanks. In forming line, before the divisions face, they are shifted to the leading flank, if necessary. The officer of each file in his own person, when the division nearer to the forming point than himself, receives the word 

**Halts, Fronts**, allows his serjeant to proceed with the division; at the due instant gives his word 

**Halts, Fronts—Drests**, and as soon as the front of his division is clear, the word 

**March**, conducting it into line. Before the division arrives within three or four paces of its ground, the officer will have stepped out nimbly to the flank of the preceding division, and will be thus ready to give the word 

**Halts—Drests** at the instant his inward flank man joins the preceding division. The men drest from the formed part of the line, and the officer corrects them on the known distance point. He then resumes his platoon place, which has been preserved by a serjeant. When the close column, or part of it, forms line on a rear division, the officer of each, when the one behind him halts, fronts, will step nimbly round the rear, and without impeding his division, allow his serjeant to proceed. From hence he can better judge the proper moment of giving his words 

**Halts, Fronts, to his division.** He then places himself on his inward flank, and marches up when his front is clear. The officer of one of the centre platoons is always in open column, to preserve distance for the colour files. The colours wheel up into column, with the leading centre platoon, and place themselves behind the third file of men from its pivot flank. When the line forms, they close in to that flank.

When officers march in front of their divisions, they must in their own persons keep close to the preceding ones, as not to hinder the flank of their own division from preserving
ing its proper distance. When the head of a column of march changes its direction, and that marching in an alignment is not in question, instead of making regular wheels on fixed points, the officer who conducts the leading division will often be directed to bring it gradually round into the new direction, by the turn of the outward shoulder, making both its flanks continue movable; but each succeeding division, without the formality of command or hint, does the same thing, the whole attention retiring on each pivot flanks, which at no rate must inhere its distance, but during this operation preserves the same equality of time and length of Rep at which it was before moving. On all occasions of forming in line, either by wheeling up from open column, or in moving up from close column, or in marching up from echelon, &c. the conducting officer moves nimbly to his point of appui, some paces before the arrival of his division in the line, and from thence gives his word to Halt, and instantly dreses it.

Officers and SERjeants of the supernumerary rank are in the rear of their respective companies. When the battalion is halted, or marching in line, they are three paces from the rear rank. In open column, they are within one pace of the rear rank. In close column, they go on the flank of their division which is not the pivot. Their great attention during movements is, that files are correct, ranks kept up, and that perfect order is preserved among the soldiers; circumstices in which they greatly affix the platoon officer, who has the more important objects of distance and the covering of pivots to observe, cannot in such situation he giving minute directions to his platoon, without loosens his more material duties. During the frigings, the supernumerary rank, affixed by the platoon SERjeants, are to keep the rear ranks well closed up to the front, and to prevent any break beginning in the rear.

The staff (adjutant excepted), in line, are three paces behind the music; in parade, at open ranks, they are on the right of the grenadier front rank. It is the particular busines of the adjutant at all times to ascertain the direction on which the column is to move, or on which the formation of the line is to be made. For this purpose he is mounted; otherwise he could not properly discharge this important duty; and he can be much affixed in doing it, by having two or three camp colour men, or non commissioned officers, properly trained to line themselves quickly with any two given points. He is to take care that the point where the battalion in column enters an alignment is ascertained to it; when it is moving in that alignment, that two points ahead of the column are always prepared; when it wheels up into line, that a point beyond each flank of that line is ascertained; when the line is to be prolonged, and has wheeled backward by divisions, that two points in the exit line of the pivots are ready for its march; when the close column is to form in line, that a point to each flank is given; when the battalion changes position, either by files, or by the diagonal march of divisions, that there are points given on which the pivots of files will cover, and can dres their divisions upon from their several points of appui; short, that upon all occasions, fixed points of forming, drafting, and march, are given, except in advancing in line, where the ascertaining such points does not depend on the adjutant.

When the battalion changes position, by the echelon march, the named division wheals its eighth file into the new direction. The other divisions wheel their eighth file half the number of paces as the named one. The SERjeant is on the outward flank, the officer on the inward flank of each division. At the word March, they move on, preferring their relative distance, and covering of pivots from before them, and just before the inward flank of each division arrives at the outward flank of its preceding one, which is already halted in line, its officer places himself before that flank; and when his inward man touches it, he gives his word Halt,—Dress up, if the movement is to the front, and dreses his division on the distant prepared flank point, to that his division is steadied before the arrival of the next one. When the change is made to the rear, the retiring part faces about before the division wheels are made, proceeds as above, and each officer gives the word Halt, FRONT, Dress—

BACK, to his division when its inward man touches the preceding formed one.

IV. Attention of Commanding Officers of Battalions.

The battalion may be considered with respect to the line, what the platoon is to the battalion.

Commanding and field-officers are always to be mounted, and unless they are active on horseback, it is impossible for them to see, to correct, to prevent mistakes, or to move with that dispatch which is necessary from one point to another. Whatever operation is to be performed by the whole of the battalion at once, is done upon the word from the commanding officer, without any repetition being made by platoon officers. He puts it in motion, and halts it, whether in line or in column. He wheels it from line into column, and from column into line. He orders arms to be carried, supported, &c. He dreses it from the centre, when it has marched in line, and halts; and from what was the leading flank when it has wheeled up from column into line.

Before the column marches, the commanding officer ascertains points to the leading officer; and when he intends to change the direction of the march, he gives new points, and he watches over the just leading of the column. He takes care that all wheels of platoons are made at the identical point where the leading platoon wheeled; that all doublings of subdivisions are made successively in the same manner and at the same point; and that forming up to platoons is made at the spot where the first forming up is made; that in all diminutions of the front, the natural order of the column is preferred, whether the right or left of the battalion leads; that a column of half platoons occupies no more space than a column of whole platoons, viz. just enough to wheel up into battalion.

When the open column marching in an alignment is to form in a straight line, and for that purpose halts; the instant that it does halt, the commanding officer from the head of the battalion corrects the pivot files of men (which ought not to be necessary) in the true line, and upon a rear point. But if the march is making in a winding direction, and that the intention is not to form, or not to take up a straight line, the platoons remain on the ground on which they halt, and do not move in any shape, until they receive a further order, either to form in line, or first to cover, and then to form or continue the march. The commanding officer always conducts the head of his battalion column to the point at which it is to enter a new line, and he takes care in time to dispatch a mounted officer to ascertain that point. When the platoons wheeled up into line, he immediately, if necessary, corrects the Dressing of the battalion from the flank which led when in column, and that generally upon a point by yond the other flank.

When acting in line with others, the commanding officer of each battalion conforms to the movements of the regulating one, and he repeats, and rapidly repeats, his words of Halt, Wheel, March, &c.; and the least delay in repeating any of these words must undoubtedly disordered the line in proportion to that delay, for the whole of a line should march or halt at the same instant. In line, the commanding officer
BATTALION.

The officer is in the rear of the colours. From thence, by marked
cautions, he makes his battalion step out, or step short, or
march, as is necessary to preserve its place in the general line.
His great care is to see and prevent the beginning of faults,
and not wait till they have had effect. By watching and regu-
lating his advanced serjeants, he keeps regulates his battalion. The
regularities of the march, the compacts of the files, and the equality of
step, are the great objects he is to have in view. The other mounted
officers are behind the wings, and can assist much in preventing faults,
and in correcting them.

All the battalions of a line must halt at the same instant
in conformance of that word, repeated by commanding
officers, whether they are then correct, or not in line. Each
battalion from its own colour, and the men looking to
it, will be immediately dreeled on the colours of the next
adjacent battalion. By this means a general continued line
will be obtained, or, at any rate, a straight line between each
two colours; and if all the colours halt truly halted
in one line, the whole corps will be completely formed in a
straight line. But if the halt is not justly made, and that
a better line must be obtained, the colours of the defective
battalions will be brought into the general line; the platoon
officers will quickly arrange themselves, eyes will be or-
tered to the right, and the men will in an instant move
up. Too much celerity cannot be used in completing this
operation.

A single battalion, when it halts, is dreeled on its right or
left centre company, and is therefore in a straight line.
Two battalions dree each from its centre on each other's
colours, their outward wings conforming, and are therefore
in a straight line. Three or more battalions dree from the
centre of each, on their next colour; and therefore if all the
colours halt in a line, the line of the whole will be straight;
if they are not so halted, the general line will not be dreeled,
till a special correction is made, but no flank will be thrown
out of the general direction. When a battalion retires and
halts, it ought never to remain in that situation, but be im-
mEDIATELY about, and dreeled to the proper front. The
first fault that a battalion in line can make, is increasing its
interval. But dreeing may be remedied without danger,
but a false distance presents a weak part to the enemy, and
is not to be closed without a hazardous movement, and great
operation of the line. Commanding officers cannot take
too much precaution to ascertain true points in the line in
whem they are to form, before the arrival of their battalions
in it. When a battalion is exerting fittingly, a commanding
officer may have two camp colour bellers behind each flank,
properly trained, and ready to run out to that flank, to give
points of marching, forming, or dreeing upon the true line;
in doing which, one flank of the battalion is generally con-
sidered as in that line, and often both.

Words of command cannot be specified for all the variety
of circumstances and situations that occur, but commanding
officers, being themselves clear in what is to be done, should
by distinct and explicit orders, which they divide and adapt
for the occasion, lead their battalions through all the points
of execution with precision. This will always be found
the shortest path, nor on any account should any operation,
more especially the correction of an error or mistake, when
once a battalion is assembled under arms, be performed in a
careless or flabby manner, which will always be the case if
the commander's orders be not pointed, loud, and sufficiently
explanatory.

A battalion close column forms in line on its front division,
on a rear division, or on a central one, according as circum-
stances require; and in all cases the line formed upon is that
on which the head of the column or columns is halted before
the formation begins. Therefore the division on which each
battalion halts may at any time form, move up at their own
halt, and halts on that line. When several close battalion's stand-
ning on the line, are to extend and form, the regulating and
named battalion only can be obliged to form on a central
division. Each of the others will form on its front or rear
division, viz. on that which first arrives at its ground where
it halts, fronts, and occupies its proper place, while the others
move on, and successively come up to it. In forming
line from close column, points must be given beyond both
fronts in the direction of the line, and a mounted officer
halts, and fronts each division, which is especially necessary
for those that form upon a rear one, although left fo for
those that form upon a front one. The dreeing and cor-
rection of the line is from the first formed division towards
the other flank, and all the eyes of the battalion are of course
turned to that first formed division.

The same number of points are required for the march
into an alignment, and wheeling up into line of an open col-
umn of one battalion, as for that of several battalions; viz:
one where the line is entered, and always two beyond the
head of the column. Therefore, although these precautions
may appear formal for the movements of the battalion when
single, yet they are necessary in all its exercises, when it is
recollected, that such battalion is in the place of, and must
consider itself as the leading one of the column, on whose
correct position that of every following one depends. The
same exactness is required in every extension from close
column into line, and in every forming and change of posi-
tion that the battalion makes. In line, in order to qualify
the battalion for acting in the general line, it must at its
single exercises work on points fixed and relative, and make
no chance and accidental movements or formations. Al-
though on most occasions of movement and formation, and
at all times in instruction, determined points marked by de-
tached and mounted officers are given; yet such helps can-
not be expended or depended upon, when the line is ad-
vancing on an enemy, when a corps is harassed in its retreat,
and when it is unsafe to send out officers, &c. In such situ-
ations every thing will depend on the eye and judgment of
conducting officers, who must preserve their direction of
movement, and seize such accidental points as present them-
seives, and lead to the object which is to be accomplished.

In whatever phase a battalion is moving, the commanding
officer is never to lose sight of this great principle, that the
battalion should at no time cover more ground than its proper
extent when formed in line. Therefore if he is marching in
line, he must take care that his files do not open; if in co-

dumn, his great attention should be, that his divisions do not
open. For this purpose his march must be just and compa-

tic, his wheels quick, and all doublings up, or back, which
alter the extent of front, must be made so as not to impede
the general movements of the column, or to change its
distances. When the front is to be diminished, he must see
that the doubling division slackens its pace, and when dis-
genengaged from the other division, that it inclines well up,
quick, and covers, so as not to impede the division in its rear.
When the front is to be increased, the moving up division
does it quick, and by a bilque marching.

The commanding officer must recollect, in the winding
motions of the open column of march, that the wheeling
distances must be just; that the pivots are to follow on
the exact track which the leading one has traced out; that the
whole, when ordered, halt on the precise ground they then
occupy; and that when they wheel up, in form, the line
will not then be a continued, but probably an irregular curved
one.
Battalion.

Regiments should have an attention to give their commands in such manner as not to produce an alteration in those points that are not meant to be influenced by them at that instant.

Where a large body is marching in column or columns, through a narrow ground, and when its parts are to be assembled beyond the defile in several lines, in a compact manner behind each other, such parts are not to begin to advance when the leading one does, but the head of each line is successively first to come up to the ground on which it is to stand, and when it there stands, its proper followers, and not before, move into line with it; thus not impeding the divisions that are behind them in the defile, and are to perform the same operation.

Precision of movement depends altogether on the instant circulation of commands of execution and on the attention of officers to the point they may be expected to come from. Unless the whole of a body, however large, is put in motion at the same instant, a column will be extended badly, and a line will be ill drested, and with false intervals.

Officers must particularly attend to the difference between changes of direction made by wheel, and by shoulders forward.

In the first case, one flank remains fixed, while the other is on the wheel; in the second, both flanks are in motion. Shoulders forward applies to a small front, and to a column of march, where the change of direction is to be made gradually without an alteration of the pace. In proportion to the front of the body to changing, must be the degree of sweep made by both flanks; and in all cases, the reverse flank conforms to the pace of the pivot flank. In no case can it be made short and quick, otherwise it becomes a wheel.

Regulations in Firing.

1. The advance of the battalion should instantly succeed the forming of the line, and when it arrives and halts at the point where it is to fire, the firing ought instantaneously to commence at the word Halé, for the battalion having been aprized, during the march, of the nature of the required firing, no improper delay need therefore be made. The greatest care should be taken by the officers and non-commissioned officers in the rear (whole principal attention this is) that the rear ranks are well locked up in the firings, and that in loading they do not fall back.

2. The pause between each of the firing words Make ready—Present—Fire, is the same as the ordinary time, viz. the 7th part of a minute, and no other pause is to be made between the words.

3. In firing wings by companies, each wing carries on its fire independent, and without regard to the other wing, whether it fires from the centre to the flanks, or from the flanks to the centre. If there are five companies in the wing, two pauses will be made between the fire of each and the make ready of the succeeding one. If there are four companies in the wing, three pauses will be made in the same interval. This will allow sufficient time for the first company to have again loaded, and shouldered at the time the last company fires, and will establish proper intervals between each. In firing by wings, one wing will make ready the instant the other is shouldering. The commanding officer of the battalion fires the wings.

4. In firing by grand divisions, three pauses will be made between the fire of each division and the make ready of the succeeding one. In platoon firing, two pauses will be made. In firing by subdivisions, when once fires, the next presents; when one presents, the next is ready; thus keeping up an incessant fire.

5. In firing companies by files, each company fires inde-
pendently; when the right files present, the left make ready, and so on. After the first fire, each man as he loads comes to a recover, and the file again fires without waiting for any other. The rear rank men are to have their eyes on their front rank man, and be guided by, and present with them.

5. In general, after the march in front, and halt of the battalion company, or platoon firing, should begin from the centre, and not from the flanks. In other cases, and in successive formations, it may begin from whatever division first arrives, and halts on the ground.

6. The line, if retreating, Halt, fronts, at one command, and infantry begins firing, from the centre and not from the flanks.

Observe of Fire.

I. Against Cavalry. The chief object of the fire against cavalry is to keep them at a distance, and to deter them from the attack. As their movements are rapid, a reserve is always kept up. But when the fire commences against infantry, it cannot, consistent with order, and other circumstances, be too heavy or too quick, while it lasts, which should be till the enemy is beaten or routed, or till the contest becomes too unequal. The fire of three ranks standing, is barely, with our present arms, to be required, especially if the front should be broken, and the flanks loaded with their knapsacks. The fire of the rear rank, therefore, is generally reserved.

II. Defensive Fire. Where infantry are posted upon heights that are to be defended by the fire of musquetry, the front rank will kneel, that one third of the fire that may be given should not be lost; otherwise the rear rank in such a situation could not sufficiently incine their pieces to raise the slope. As soldiers generally present too high, and as fire is of the greatest consequence to troops that are on the defensive, and who are posted in such positions; the habitual mode of firing should therefore be rather at a low level than a high one; and the fire of the front rank kneeling being the most efficacious, as being the most rapid, should not be despised with when it can be safely and usefully employed.

III. In Line advancing. When infantry marches in line to attack an enemy, and in advancing makes use of its fire, it is preferable to fire the two first ranks only standing, than to oblige the front rank to kneel, thus firing the whole. But volleys, fired at a considerable distance, or on a retreating enemy, may be given by the three ranks, the front one kneeling.

IV. Platoon Firing. A line posted, or arriving at a fixed situation, will fire by platoons, each battalion independent, and such firing generally commencing from the centre of each. The first fire of each battalion will be regular, and establish intervals. After the first, each platoon shall continue to fire as soon as it is loaded, independent of any other, and as quick as it can, till the battalion or line is ordered to cease.

V. Independent, or File Firing. If behind a parapet, hedge, or abattis, the two first ranks only can fire, and such firing may be file firing, and may be made deliberate and cool, the two men of the file, always firing together. It may begin from the right or left of platoons, and should be taught in situations adapted to it, not in open ground. Should the parapet, hedge, or abattis be but little raised, platoon firing may be used.

VI. Running Fire. Troops should be often practised in executing the billebands, or running fire. This should begin on the flank files, and when once commenced, continued without the soldier being subject to any other rules than keeping silence. This sort of firing is the only one which infantry should make use of in engagements. It is the most lively, and more dangering than any. It enflames and warms the soldier, and renders him incendiary to danger. The grand point is to accustom troops to leave it off when a signal is given, and afterwards remain silent.

VII. Oblique Firing. Oblique firing by battalions is advantageous in many occasions. As when attacked in an oblique direction; when time does not allow to give an obliquity to a greater part of the line; and when their fire can in this manner be thrown again the opening of a defile, the flanks of a column, or against cavalry or infantry that direct their attack on some particular battalion or portion of the line.

VIII. Regularity of Firing. As long as the fire by battalions is oblique, wings, or by platoons, can be kept up regular, it is highly advantageous, and can at any time be stopped; but should filing be allowed, and one begun, unless troops are exceeding cool and well disciplined, it will be difficult to make it listen, and to make them advance and charge in order. When a line halts at its point of firing, no time is to be lost in keeping division, and the fire is to be commenced, but a line is kept back, and is not to fire, or when its firing ceases after the halt, it may immediately be ordered to descend from colour to colours.

IX. Street Firing. It is so called from being obliged to engage in a street, highway, lane, or narrow passageway, where no more than 10, 12, 16, or 20 files can march abreast; so that, according to the breadth of the place, the platoons must be stronger or weaker. When the column is in motion, and arrived where the firing is to begin, the commanding officer from the rear, gives the word Halt. The officer commanding the platoon instantly gives the words ready, present, fire; recover arms, outwards, quick march. At the word recover arms, the platoon immediately in the rear of the one that has fired, recover their arms also, and march, and when their front is open by the march of the others down their flanks, they march on with recovered arms, until they receive from their officer the words halt, present, fire, &c. As soon as the platoon has got down the flanks, it must form instantly in the rear, and immediately prime and load again without halting, keeping always their exact distance from the division before them, which would not be the case if they halted to load and shoulder.

When this is to be put in practice on real service, the front of the platoons must not be equal to the breadth of the place they are to engage in; but there must be a small space of ground, or interval, left on the flanks, for those who have fired to have room to march back, and form in the rear. It is in this manner, when there is not time to raise a breast-work, that a paf, bridge, road, or street to be maintained against the enemy, by the platoons advancing one another, and firing in their turn, which may be continued as long as there is occasion, almost without interruption, by one battalion only. In firing as above described, the colours, &c. must at the first be placed in the rear, and kept thereby the subdivisions, as they come down the flanks after firing, forming confiderably in their front, till the whole business is over.

There are, however, different methods, of retiring the platoons from the front to the rear. Some are instructed, after the word fire, to recover their arms, and wheel out the platoon by subdivisions from right to left, load, and remain in that position till the last platoon paffes them, when they wheel back, and form. Another method is, supposing the street to be filled by the platoon, and no room left on the flanks, then by throwing back or retiring a centre section of
of each platoon, the retiring division may pass through the centre of the column to the rear. It looks well, and has a good effect on a day of parade; but it is too complicated to be attempted with Lifity in the presence of an enemy.

**General Directions.**

There is no doubt but that the fire of the musketry may be reduced to a theory; but far from that being the case, the soldier has no principle given him, for at the distance or situation of the objects, be they what they may, he fires at random. It is principally owing to the exercise of the target being so little practised, that this ignorance and deficiency of principle are so frequently felt.

In our firings, the soldier is instructed always to fire low, yet no reason is given him why it should be so, but that the ball rises. To consider this a moment; the line of level [The line of level is the straight line by which is seen the object on which the ball should be carried to.] and the line of fire [The line of the fire is a straight line which represents the axis of the musquet.] are by no means parallel; for according to the different weights of metal which the barrel has at its breeching, and at its aperture, so do they describe an angle more or less acute beyond the tube. As the eye seeks its aim from the length of the line of level, it is therefore fixed at the exterior of the barrel. But entirely different to this principle, the motional body, the bullet, is impelled from the interior part of the instrument, and the length of the line of fire; therefore the line of fire and the line of level cut each other. From the law of attraction imparted on all bodies obliquely thrown, at its delivery from the mouth of the cylinder, the bullet or ball describes a curve, which rising from the muzzle, cuts the line of level at a small distance from the mouth of the barrel. It will, at about the distance of 62 toises, or 360 feet, be found to be at a foot and a half or two feet, its greatest elevation above the line of level. From thence drawn to the earth by that gravitation to which all bodies are subject, it again inclines to the former line, and at the distance of about 120 toises, cuts it a second time. It is this second point of intersection which is called the musquet shot, or point blank, after which the bullet diminishes its paraHra to the end of its fall. What is here said is a common property to all arms.

It follows, that to make the ball arrive at the mark intended, the fire must not be always precisely levelled at that mark. Suppose a mark six feet high, divided into three equal parts, if the distance from it is 50 or 60 toises, or 360 feet, then to strike the upper dimension aim must be taken at the middle one, two feet under the mark. If meant to strike the middle, aim must be taken at the lower dimension, &c.

If at 100 toises, aim must be taken one foot below the mark in order to hit it. If the distance is more than 120 toises, to strike any of the dimensions, aim must be taken above the mark, and so keep raising in proportion to the distance.

Suppose a battalion of the enemy in front; if at 300 toises distance, aim should be taken three feet over the battalion. If at 200 toises, about a foot and a half. If at 150, aim should be taken at their hats. If at 100, at the middle of the body, &c. Although the horizontal shot of a musquet may be computed at 180 toises, yet, where the fire of a line of infantry can have effect, it is seldom more than 80 toises, or 460 yards.

I shall close this article with some account of the form of a review of a battalion of infantry, and the method of performing the eighteen manoeuvres, as practised by his majesty's forces.

**Reviewing the General.**

At the time appointed for the review, the battalion will, as directed above, draw up in open order. Four camp colours are to be placed to as to form a square, round the angles of which the wheelings are to be made. A fifth camp colour is to be placed eighty or a hundred paces in front of the centre of the battalion, where the general is supposed to take his station; and a sixth at the time distance, in the rear of the battalion, and opposite to the one in the front; but although the general may choose to quit that position, still the colour is to be considered as the point to which all movements and formations are relative. The colour must beropped, that the right flank of the division, when marching pull in review, shall be about four yards distant from the general.

When the reviewing general is within fifty or sixty paces of the centre, he will be received with a general salute of the colonel, with his back to the regiment, gives the word **present arms.** The men present arms, and the officers salute: the music will play, and the drums beat. The officers, in filing, take their time from the flag man; as he comes to the **Joise,** they bring their swords to the **receiver,** as he sinks his firelock to the left motion of the **present,** they drop the points of their swords; when he comes to the fifth officer, they bring their swords to the **receiver,** and then, taking their time from the colonel, bring them precisely under their bodies to the point, and remain perfectly steady and square to the front. The colours only salute such persons, as from their rank, and by regulation, are entitled to it.

The colonel then gives the word **shoulder arms.** While the general is going round the battalion, every person remains perfectly steady: no compliment is paid. The music will play, and the drums beat, but they will cease as soon as the general has returned to the right flank of the battalion. While the general is proceeding to place himself in the front, the colonel turns to the regiment, and gives the word **rear ranks take left ord.—march.** He will then, as also the lieutenant-colonel, mount on horseback in the rear of the centre, giving the words **companies, on the left back wards order. quick march.** Pioneers and music are ordered to the head of the column. Officers commanding companies must be very attentive when they give the words **halt.—drill,** to see that they are well obeyed.

**Column.—March.** The companies wheel successively at the front and second angles of the ground. When the leading company has made the second wheel, it brings them on the line on which they pass the general. Each leader of a company, when he has advanced fix paces from the wheeling point, changes quickly by the rear to the right flank of his company, and gives the words **eyes right,** thence **rear ranks take open order.** The music begins to play, the officers move three paces in front of the company, dividing the ground equally, the captain on the right, the lieutenant on the left, and the ensign in the centre. The captain's place is supplied on the right flank by his covering fireman, who is responsible for keeping the company at the proper wheeling distance from the one preceding it. The colonel is at the head of the general, or leading company, with the major a little behind him on his left. The music are in two ranks, six pieces before the colonel. The pioneers are in two ranks, six pieces before the music, having a corporal on their head to lead them. The drummers and fifers are on the left flank of their respective companies, and the supernumerary fifers three paces in the rear of their several divisions. The lieutenant-colonel is in the rear of the right company, the adjutant a little behind him on his left. The colours are three.
three paces behind the fourth battalion company, covered by
their ferrjeants. Staff officers do not march palt.

The officers, when within fix paces of the general, prepare
to salute, by recovering their swords. They drop them
when in a line with the general, and recover them when ten
paces from him, bringing them afterwards to the port, with-out
in the least altering the rate of march, or impeding the
front ranks of their companies. The commanding officer,
when he has saluted at the head of the column, places him-\self near the general, and remains there till the rear has
marched palt. The drummers give a roll each, when the
officers of their own companies salute. The officers of the
commanding companies will each successively, when he has
passed the general by thirty paces, give the words rear ranks,
take close order, and will immediately shift to the left, the
proper pivot. Officers bring their swords to the advance,
and each individual of the company refurns the port which
he held when the column was first put in motion.

When the third wheel is completed by all the compa-

dies, and the leading company is near to where the left of
the battalion stood in its original position, the colonel gives
the word halt. The whole halt, and the mufie ceaules, At the words support arms—quick march, the whole march

The colonel makes several wheels; viz. at the point where the left of the batta-

When the head of the column approaches to the left
of the ground on which it originally stood, the mufie will cease. The

When at the point on the left of the alignment, each officer gives the words halt, left wheel, halt dress, march. It is

When the line is formed, the colonel then cautions the
battalion, that it will perform the manual and platoon exer-
cises. He immediately goes to the rear, and the major, ad-

rear ranks take open order, march—order arms—wnts baysmets—
shoulder arms—officers take port in the rear. The officers
receive their swords, and face to the right. On the word
march, they, as well as the colours, etc. march through the
several intervals occupied by the ferrjeants, three paces beyond
the rear rank. At the word front, they face about, and
bring their swords to the port. The colonel, lieutenant colonel,
adjutant, ferrjeants, mufie, supernumerary ferrjeants, drummers
and fifers, are at their posts in the rear, as when the battalion
is formed at close order, where they remain per-
fectly ready.
The major proceeds with the manual as directed by regu-
lation. Obeying only the front rank comes down to the
left position of the charge baysmets, the others remaining
posted. The ferrjeants who pre-feze in the front rank the
places of the platoon officers, remain tlee freely during the
whole of the manual, except that they charge their pikes at
the same time as the baysmets. When the manual is over,
the major gives the words rear ranks take close order, march,
on which officers, ferrjeants, colours, and every other individ-
ual, take their places as when the battalion is at close order.
The major then gives the word platoon exercise, and proceeds
with it, according to regulation. When finif-ched, the major
goes to his post, the colonel comes into the front, and gives
the word with cartridge—prime and lead. The corps is now
ready to commence the selected motion. The flagel
man stands opposite the centre of the battalion, with his
back to the general, and goes through the motions as directed for
the manual exercise, etc. Of course he is not to per-
form any of what are called the flangle motions.

Method of performing the Eighteen Maneuvres.

First Maneuvre. Close Column on a Rear Division.
The colonel gives the word the battalion will form close
column of companies, in rear of the grenadiers. Remaining compa-

dies—right, face. All the companies, except the grena-
diers, face to the right. The captains and their covering
ferrjeants put themselves at the head of their files, ready to
lead. Two or three leading files of each company disengage
a little to the right. The captain of the grenadier company,
with his covering ferrjeant, shifts to the left of his company,
the pivot flank. The colonel then gives the word quick
march. All the companies, except the grenadiers, slip off
at once, and till the on in file till they come near the com-

The chief column of the fifth company halts one pace in
the rear of the covering ferrjeant of the grenadier company,
carefully covering him, and standing perfectly square in his
own person. His own captain also halts close to him, and
allows his company to move on in the rear of the ferrjeant,
taking care that the right hand, or leading file of the com-
paany, does not pass beyond, but mark time when it comes
up to the right hand file of the grenadiers. As soon, there-
fore, as the captain sees that the left hand file of his com-
paany is in with his covering ferrjeant, he instantly gives the
word halt, front, eyes left; and having dismissed his company

The clofe column being now formed, with the right in
front, the colonel gives the word, form column of grand
divisions.
diplomas. At this caution, all supernumeraries, but not the colours, go to the rear of the columns, not there already. Left companies, left face. The left companies immediately face, always to the pivot flank, and their captains take one file deep to the right, so as to be clear of their rank. At the word march, the captain flanks fall, the sergeants conduct the division, and the captain of each, when he has cleared the flanking division, gives the word batt. front, deft. He then steps numbly to the third file of the flanking company, and from that gives the word march, batt, deft. The captains commanding the right companies are now on the right of each grand division. The captains commanding the left companies move to the left flanks of the grand division, their intervals being kept by their serjeants. The colonel now gives the word, the column will close to the front, march. All the divisions step off, except the front one, and each, when within one pace of the division in its front, gets the word batt, deft, from the pivot captain of each division. The close column of grand divisions is now formed, and ready to deploy. The colours are with their proper division in the column, and that division must, of course, out-flank on the hand, not the pivot. To obviate this inconvenience, some regiments leave a space between the third and fourth grand divisions, for the colours.

The colonel then gives the word, the column will take ground to the right, and on its march deploy on the rear grand division. At this caution, a serjeant immediately steps out from the rear division, and places himself on the pivot flank of the front grand division, following it in file. When the rear grand division is halted, this serjeant halts also, and instantly fronts, remaining perfectly steady to mark the ground for the rear grand division to march up to. The colonel gives the word right face, quick march, and when the column, in obedience to these orders, has marched as far as he fees necessary, generally twenty or thirty paces, he gives the word rear grand division, batt, front, and when he feels that the division immediately before the rear one has cleared its front, he gives the word, fourth grand division, batt, front. As soon as the rear division, which has halted and fronted, finds its flank free by the batt, front, of the division that was immediately before it, at that instant the captain on the left gives it the word march. The grand division marches readily till it places its pivot flank; the left, to the serjeant, who had stepped out to mark the ground for it. Then it receives the word batt, deft, from the captain on the left. He draws his grand division, from the flanking serjeant (the point of appui) to the camp colour (the point of formation) on the right. As soon as the deploying is finished, he shifts to the right of his company. The rear grand division being dreeled, the fourth is marched up, and dreeled on it, exactly as the rear one had dreeled on the flanking serjeant, and the third, second, and first, till all are in line. If the deployment be correctly made, the first grand division has only to batt, front, as it is already in the true line. Much of the exactness of this, and every deployment of the same kind, must depend on the accuracy of the mounted officer, who halts and fronts each grand division. For this purpose he must be in the rear of the column. If he is confounded all will be deranged. Supernumerary officers and serjeants, drums, music, and pioneers, halt with their respective grand divisions, and as they are halted and dreeled, take their proper stations in the rear. The line is now formed to the general’s left.

Observe, when the column deploys on the rear division, it faces from the pivot flank, which then becomes the following one.

SECOND MANOEUVRE.—Close Column on a Front Division.

The colonel gives the word, the battalion will form close column of companies in front of the right infantry; remaining companies—left, face. The captains and their covering serjeants post themselves at the head of their leading files. Heads of files engage. At the word quick—march, the covering serjeant of the right company files briskly forward till he comes in front of the right infantry captain, and three paces from him he faces him. Then, being certain that he is in a true line with him, he immediately faces to the right about, and stands perfectly steady, and square to his front. The captain of the right company leads on his company till he places his pivot man close to the serjeant. He then gives the word batt, front, deft, replaces his serjeant (who immediately covers him), and gives the word eyes front. In this manner, each succeeding company proceeds, till the column is completely formed, with the prendrers in front. The colours move in rear of the fifth company.

The column of grand divisions is then formed, and closed up exactly as directed in the first manoeuvre.

The colonel then gives the words, the column will take ground to the left, and on its march deploy on the front grand division, left, face—quick, march. When the column has marched thirty or forty paces, or as many paces as the colonel fees necessary, he gives successively, and in due time, to each grand division the words batt, front, till all are halted, beginning with the front division. The inward captain of each grand division (that is, the captain on the right,) when it has halted and fronted, gives his words, deft, march, batt, deft, and the outward captain (the captain on the left) remains on the flank of the division in the line, till the succeeding captain, having so dreeled his grand division, comes to replace him. He then replaces his covering serjeant on the right of his proper company. In this manner, grand division after grand division comes up till the whole are in line, and the supernumeraries also take their places gradually in the rear.

Observe,—When the column deploys on a front division, it faces to the pivot flank, which then becomes the leading one.

THIRD MANOEUVRE.—Close Column on a central Division, facing to the Rear.

The colonel gives the word, the battalion will form close column on the right centre company, facing to the rear. Right centre company, right, face. Right counter-march, quick march. The captain at the head of his company, which has faced immediately on receiving the order, turns short to file to his right hand, and leads his company till he places his front rank in line with the rear rank of the fifth and third companies. He next gives the word batt, front, and then deft, from the right of his company, where he remains. The colours and centre serjeants counter-march with this company. At the word remaining companies, outwards face, the companies on the right of the right centre companies face to the right, thole on the left face to the left. Captains and their covering serjeants move to the heads of files. On the word to the left counter-march—quick march, the captains lead the files; the whole step off at once. The companies of the left wing, No. 5, 6, 7, 8, and light infantry, file one after another in the front of the right centre company. The right wing, No. 3, 2, 1, and grenadiers, file one after another into the rear of the right centre company. The serjeants must be very careful to follow the instructions, as in the first and second manoeuvre. Each company, as it completes its counter-march, receive the word, batt, front, deft.
The colonel gives the word *column march*. The column marches thirty or forty paces in its proper line. The adjutant having been apprized by the commanding officer, that the battalion is to change its direction to the left, and having the spot pointed out to him where the change is to commence, and also the direction which the column is to take, will immediately move forward, and place a camp colour at the spot where the leading company is to wheel. He will place a second colour as the point of direction on which the leading flank of the column is to move in the new alignment; and he will place a third camp colour, the point of formation, oblique to the right of the column, covering exactly the other two colours, so that a line drawn from the second colour to the first, and continued to the third, will be a right line, which line will be oblique to, and cut the original line on which the column was marching at the point where the leading company begins its wheel, which point is on the new alignment. These matters being all quickly arranged, when the colonel feels that the leading company is near the point of wheeling, he will give the words *wheel.*

The column will change its direction to the left. The captain of the leading company, on the principle of the movable pivot, gives the words *right shoulders forward,* and when the company has made the required wheel, he gives the word *forward,* and keeps his eyes fixed on the distant camp colour, to which he steadily marches. Each company, as it approaches the wheeling point, (the first camp colour,) conforms exactly to what has been done by the leading company. When the colonel sees as many companies wheeled into the new direction as he judges to be sufficient, generally three, he gives the word *halt.* The leading companies, and such others as have already wheeled into the alignment, being now at their proper points, remain so.

The rear companies will file into the new alignment. *Rear companies right, face.* At this word, all the companies who are right in the old direction face to the right, i.e. to the flank which conducts to their place in the new line. Captains and their covering serjeants shift to the heads of files, to lead them. At the word *quick march,* the serjeants step briskly forward, to mark their points in the line where the pivot flanks are to be placed. Each captain leads his company to his covering serjeant, where he halts, and lets his company pass in rear of the serjeant, till its left flank is in with him, and then he gives the word *halt.* When he gives the word *halt,* the serjeant of the right company moves quickly to the right, and places himself in line with the pivot. The rest of the covering serjeants go as usual to their right flanks, to keep the place for their captains. When the wheel is completed, the captains give the word *halt,* from the file on their right to the camp colour on the left, and immediately replace their covering serjeants.

**Fifth Manoeuvre.**—*Wheel thrown back.*

The colonel gives the following words of command; the *left company will wheel four paces backwards on its left.* The remaining companies will go to the right about, and wheel two paces to their right. The covering serjeant of the left company, now on the circle, wheels to the rear, and on the eighth file from the pivot marches the named number of paces, and comes to the right about, lining himself with the camp colour, placed by the adjutant on the right, to mark the new line, which is to be parallel to the original line of formation. The command is then given, *left company, four paces on the left backwards wheel, quick march.* The company’s serjeant halts the company in a low tone of voice, and the captain accurately drifts it on the colour to the right. At the
the word, remaining companies, to the right about face, they face accordingly. On that of, two pace to the right side, march, each covering serjeant steps out two wheeling paces on the circumference of the circle, and when the men wheel up to him, he halts them in a low tone of voice. The captain directs the company. The battalion now stands in echelon, with its rear ranks in front, the captains having shifted to the inner flanks of their several companies, and the rear covering serjeants to the outside flanks.

The battalion will march in echelon, and form line on the left company, march. The companies march with their rear rank in front. The captain of the company next to the left, gives the word left flankers forward, and then having directed himself from his own, the moment his leading flank man or his (now) front rank, touches the flank of the company that is already formed, he will give the word, but front, draw back on which his company fronts, and, without hurry, draws back on him and the formed part of the line, he correcting them on the more distant given point, the camp colour on the right, which having done, he goes to his post, the right of his company. Every other captain does the same, till the line is formed. It is then parallel to its original line of formation, but more retired by the length of four companies, supposing that three wheeled into the oblique alignment. The battalion is now to the general's left. It is to be observed, that the greatest activity must be used by each captain in this dressing, otherwise the point of appui will not be ready for the next company, and the distant point will be obscured; whereas it must be left open and distinct, so that the direction of the line may run at the distance of one file from the given object of dressing.

To follow the plan as laid down in the rules and regulations, the battalion should now go to the right about, retire fifty or sixty paces, and then halt, front.

Sixth Manoeuvre.—Counter-march, solid square, and change of position.

On the word, battalion, by companies on the left, backward wheel, quick march, the battalion breaks into open column of companies, the right in front. The colonel then gives the word, the column will change its front by the counter march of companies to the right, companies, right face. At this word, the whole face to the right. Each captain will immediately quit the pivot, and place himself on the right of his company, and his covering serjeant will advance to the spot which he has quitted, and face to the right about. At the word, right counter-march, quick march, the whole move. Each captain wheels short round to the right, and proceeds followed by his files of men till he has placed his pivot front rank man close to his serjeant, who remains immovable. Each captain instantly gives the words, halts, front, draws, to his company, so as to have it squared, and closed to the right, which is now the pivot flank. The captain replaces his serjeant, who falls back behind the rear rank. The column now stands to its former rear, with the left in front.

Column march. The column marches thirty or forty paces. At the word column will close to the front, the leading company immediately halts, and the remaining companies each halt within one pace of the company in its front. Captains must be very careful to halt draws their companies correctly, as this is preparatory to forming the solid square. Observe, that the column may be closed at the option of the chief, either in this manner, or by the head division continuing its march, and the rear ones being ordered to march quick into close column, and successively to resume the ordinary march.

Form solid square. All the companies composing the front half of the column, i.e. the left wing, take one pace forward, except the light infantry which stands left. The two left companies close up one and two paces to the company before them. At the word, solid formation, one pace to the right and left, march the whole companies make an interval of two paces in the centre, by their subdivisions taking each one pace to the flanks. Two captains, with their serjeants, place the serjeants on each of the front and rear intervals. Two captains, with their serjeants, also take post on each of the intervals in the centre of the files. A serjeant takes the place of each flank front rank man of the third division, and of each flank rear rank man of the last division. All the other officers, serjeants, the four displaced men, drummers, &c. assemble behind the centre of the companies which are to form the flank faces.

N. B. The remainder of this manœuvre cannot be correctly performed, unless each company consists of at least twelve files formed three deep.

Four files, outwards, face. The two rear companies face to the right about, and four files on each flank of all the companies, except the grenadiers and light infantry, face outwards, the whole lining with the flanks of the front company, and dressing in ranks from front to rear. On the word quick march, the fifth file from each flank of all the companies, except the first and left, followed by the front rank man of the sixth file, move up to right and left, and respectively fill up the interval between their own and the preceding division. The remainder of the men of the file divisions arrange themselves to their right and left, forming close in the rear of their own divisions respectively. The whole thus stand faced outwards, and formed in at least four deep, with two officers and their serjeants in the middle of each face to command. The captians may fill the intervals as follows: The grenadier and fifth company in the rear face; the light infantry and eighth company in the front face; second and third in the right face; fourth and fifth in the left face; each covered by his serjeant. All the other officers, as well as serjeants, displaced men, the colours, &c. are in the void space in the centre, behind their companies; and the files of the captains in the faces may be completed by serjeants, &c. from the interior, in such manner as the chief may direct. The mounted officers pass into the centre of the square by the rear face. Whatever is the strength of the companies which compose the flank files, the whole of them will face outwards, except their four centre files, which are always reserved for filling up the intervals.

Prepare for firing. The two fire ranks all round kneel, and slope their bayonets. The two next ranks fire flanking, and the others, if any, remain in reserve. The file covers behind each captain in the files give back, and enable the captains to stand in the third rank. They are replaced by their serjeants, who, with the serjeants in the angle, slope forward their pikes, at the same time that the men slope their bayonets. The colonel then gives the word command independent firing, and on the close of the preparative, the two flanking ranks commence file firing from the right of each face. This ceases on the beat of the general, and the colonel gives the word, kneeling ranks, present, fire. If ordered, the kneeling ranks may load again without rising up. Otherwise they immediately recover their feet after firing, and the word present and load is given.

When the colonel keeps it proper to reduce the square, he gives the words form close column. The files that faced outward, come to their proper front. Those in the intervals, i.e. the fifth file, and front rank man of the sixth, face about. At the word quick march, the front company takes one
one pace forward, and the two rear companies, i.e. the grenadiers and left company, one and two paces forward, and then face about. The files from the intervals take their proper places. Officers, serjeants, and men, &c. will quit the interior, move to their several flanks, and the companies that composed the flank faces will be completed. Now, if the word of command, the bait method to close the subdivisions, &c. is to move the column immediately, by giving the word, column, march, either in quick or ordinary time, as the colonel thinks proper.

When the column has marched as far as the commanding officer judges necessary, he gives the words, column will open from the rear, on which the captain commanding the rear company gives the word to his company, grenadiers, halt, and immediately the caution first company, to the company in his front. When he has exactly at a proper wheeling distance from him, he gives it the word halt. The captain of the first company, when he has halted, gives the same caution and command to the second; the second to the third, and so on in succession, till the column is opened out.

The colonel now gives the word, column will change its head by the counter-march of companies from the rear. Right swing, to the front. The grenadier captain gives the word, grenadiers, left face. He and his covering serjeant immediately swing to the left, and lead the files. He then gives the word halt, front, march (in ordinary time) close by the left flank of the first company. The captain of that company, while the other is approaching, gives the word, left, face; and as soon as the grenadiers have cleared his flank, quick march, leading his company into the rear of the now leading one. He gives the word halt, front, when he covers, and march, when at the due wheeling distance. All the other companies successively perform the same operation; and when the light company has taken its place in the rear, the whole column is in perfect order.

Column, halt, left wheel into line, quick, march. When the battalion has wheeled into line, it is considerably to the general's right, and with its rear to him. Observe, That some regiments at review, in this counter-march from the rear to the front, face their companies to the right, and bring them out on that side, contrary to the general principle. The divisions which advance come out always on the side to which front is to be made, and on which the enemy is placed; because then, with the divisions that are free, he can be opposed, while the others are moving behind the line.

Seventh Manoeuvre.—Counter-march by Files on the Centre of the Battalion.

This brings back the battalion to its original front. The colonel gives the following words; the battalion will counter-march from its centre, and on its centre, by files, swings, into place. The colonel faces his company into the line, remains to mark each flank of the battalion. The word is given, swings, three files to the right—march; if the battalion is only two deep, two paces to the right is sufficient. Each wing takes the named number of paces to its flank, that they may be difengaged from each other. At the second word march, or quick, march, the whole move on, and each file wheels successively into the centre, as it arrives at and beyond the colours. As soon as each company is in the line from the colour to the flank serjeant, the captain fronts it. When the whole is formed, the colours countermarch, and if necessary, the dressing of the line is corrected.

Battalion.

Eighth Manoeuvre.—March in open Column. The battalion will form open column in rear of the left company. Remaining companies on the right backwards wheel—quick march. All the companies wheel backwards on their right, except the right infantry, which fall in. On the word left face, they all face to the left, except the light company; and the captains place themselves to lead the files. At the word quick march, the whole will lead to the rear, and the covering serjeants will successively, as before, take up their points on the new line. The captain conducting each platoon, when he arrives at his serjeant, will stop directly before him, allow his platoon to move on behind the serjeant till the rear file comes close to, but beyond him. The captain will then halt, front, and desea his platoon, with his front rank closed in to the serjeant. He will himself take the place of the serjeant, and remain ready on the pivot flank.

As soon as the third company has taken its place in the column, the colonel gives the word march. The head of the column moves on in ordinary time, and the remaining companies follow, preferring the proper wheeling distance between each. When the leading companies arrive at the necessary points of the column, the colonel will give a loud caution, that the subdivisions are to double, either by companies successively, or the whole battalion at once. If at once, as is ordered in this manoeuvre, then he gives the words form column of subdivisions—right subdivisions—mark time. Each right hand subdivision marks time, till its left hand subdivision, which marches on steadily, has opened or cleared its flank. At the words quick oblique, or left oblique, the right divisions immediately oblique to the left, and cover the left ones correctly. The captains move to the right flank of the left subdivisions. Their covering serjeants lead the right subdivisions.

When the column of subdivisions has marched as many paces as the colonel deems proper, he gives the word form companies, right subdivisions—quick oblique. As soon as each right subdivision has cleared the right flanks of the left, by the quick oblique, it immediately receives the word forward, and when in line with the left subdivision, each receives the word ordinary from the captain, who had shifted to its right. It may be observed that the above is in conformity to the general rule, whether the column be halted or in motion, that the subdivision or section on the reverse flank is the one behind which the other subdivision or section doubles. But in this case, were the left subdivisions to double in front of the right ones, the pivots would be better discharged, as the right subdivisions, which were marching correctly in the alignment, would not be discomposed. The colonel gives the words column halt—right wheel into line—quick march.

Ninth Manoeuvre.—Echelon Change of Position.

The colonel gives the words, companies on the right backwards wheel—quick march. The battalion breaks into open column, the left in front, every company getting the halt—drifts from its own captain, as usual. The colonel commands; The seventh company (the third, reckoning from the left) will wheel four paces, the remaining companies fix places, on the left backwards—quick march. The companies are drefled by their captains, who are now on the infiles flanks of the echelon. The colonel orders right and light company right about face. Two camp colours are sent to the right and left in a correct line with the seventh company. At the word the column will march in echelon, and form line on the seventh company—march, the captain of the seventh company shifts to its right flank. Each company on the right of the seventh, viz. Nos. 6, 5, 4, 3, 2, 1, and grenadiers, as it comes successively into line, receives from its captain the word halt—drifts.
Battalion.

—dres on the camp colour to the right. The captain then shifts to the right of his company. The companies on the left of the seventh, viz. No. 5, and the light infantry, receive the words from their captains halts, fronts, dres up. They are dres on the camp colour to the left.

Tenth Manoeuvre.—Echelon Change of Position.

The colonel gives the words the light infantry will wheel four paces, the remaining companies two paces to the left. When the covering serjeants have taken the named number of paces from the front of the eighth file from the left of their companies, the colonel gives the word quick—march. The captain commanding the light infantry immediately shifts to its left flank. When the company has wheeled up, he gives the word halt, dres, dres it correctly on the camp colour, which the adjutant had previously sent to the right for this purpose. The captain, when his company is correctly dres, gives the word eyes front, and resumes his place on the right of his company, taking care that his men stand perfectly steady, and with carried arms, until the next company has dres on them; his right flank being the point of appui. When the colonel sees that every division is ready, he gives the words the battalion will march in echelon, and form line on the left company—march. All the companies march in ordinary time. As they arrive in line successively, they are dres by their captains from their standing companies to the camp colour on the right. Each captain, when he has so dres his company, gives the word eyes front, and then shifts to the right of his division. The whole are now formed in line, parallel to their original front, and considerably to the general's right.

Eleventh Manoeuvre.—Change of Position.

The colonel gives the words the battalion will form open column of companies in the march—right face—march. When the battalion has marched in file as far as is judged necessary, he gives the word form companies. The files instantly make a half face, each marching up quick and diagonally to their respective leading men, who do not alter their pace. As the pivots are in the rear of companies, when they come up, the companies dres to them by their captain giving the word eyes left; and they take up as they form, the ordinary step. The column marches; and when the colours are opposite to the general, the colonel gives the word halt, and then to the left wheel into line, quick march.

Twelfth Manoeuvre.—Retreat in Line.

The colonel gives the word the battalion will retire—right about face—march. It marches fifty or fifty paces in ordinary time dres by its centre. No music plays during the retreat of the battalion. The colonel gives the word halt front, and directly after the battalion will fire twice by companies, from centre to flanks. On the left stroke of the preparative, the captains on the right of companies step out one pace, and give the word of command platoon, ready—present—fire—load. When the first part of the general is beat, the captain falls back into the front rank. The colonel then gives the word, the battalion will retire by alternate companies—right companies, right about face—march. After marching in ordinary time about fifty paces, they receive the word halt, front. In marching, one colour remains on the flank of its proper company in each line. The King's colour with the right centre, and the other colour with the left centre company. A serjeant will advance six paces before each colour during the march. Each line directs its movements by its colour; distances are preferred from that colour, and to it the men's eyes are turned during the march. Each line has a commander. Captains are ordered to be on the inward flanks of their companies, but this makes a perpetual shifting of positions, and is better omitted.

The colonel gives the word left companies, make ready—present—fire. Immediately after firing, the men come to the recover, half cock, and shoulder arms. At the word right about face—march, the left companies march steadily on, dres by their colour. They pass through the intervals of the right companies, and continue marching until they receive the word from the colonel halt front—prize and load. If the chief fires the left companies, the next in command fires the right companies, exactly as the left companies were fired. They retire in the same manner through the intervals of the left companies. The colonel then fires the left companies, and retires them as before, and so on till he thinks it expedient to form line.

The left companies will form line on the right companies—march. When they have marched and filled up the intervals, the word halt is given by the colonel, and dres by the captain of each company. The right companies may form line on the left in the same manner. Sometimes the right companies are fired in battalion previous to their retiring. The words of command are the same as if they had been separated from the left companies. The light infantry may be divided in the intervals of the first line, retire with it, and charge to the other line, whenever it becomes the advanced one. In this situation, they cover the retreat, and may occasionally fire; and when the line is formed, they resume their pivot on the left. Unless, however, the battalion is very strong, the light infantry remain in their usual position as a company. When the line is formed, the colonel gives the word the battalion will retire in line—right about face—march. When it has retired as far as he chuses, he gives the word halt, front.

Thirteenth Manoeuvre.—March to a Flank in Echelon.

The colonel gives the word the battalion, by companies four paces to the right wheel, and form echelon. Covering serjeants take the named number of paces as usual. The pivots make a half face to the right, the serjeants dres by them. On the word quick march, captains on the right of their companies give the word halt, dres. Covering serjeants go to the reverse flank. The colonel then gives the word the battalion will advance in echelon—march. The whole advance to the flank in echelon about two hundred and fifty paces. At the word wheel back into line, the three centre serjeants instantly step out into the front, and mark the time for the battalion. The pivot mark time, gradually turning to their proper front, while the rest of the divisions wheel back the four paces they had advanced. When the fourth pace is completed, the colonel gives the word forward; and the whole, dres by the centre, step out their full pace, till they receive the word halt. The line is then considerably to the general's left, and parallel to its original front. In this situation, the colonel commands fire three roundly by companies from centre to flank. Each captain gives the words platoon, ready, present, fire, load.

Fourteenth Manoeuvre.—The Hollow Square, and its Movements.

The colonel gives the word the battalion will form a hollow square on the three centre companies (viz. the fourth, fifth, a sixth), remaining companies—four paces on the right and left backwheels wheel—quick march. The companies on the right each wheel back the eighth of the circle on their left, and the companies on the left wheel the same number of places backward on the right. The colours, at the same time that the companies are forming their echelons, move back, three paces into the rear. The fourth company by the side...
BATTALION.

The column then gives the words, in echelon, march, to form square—march. Two serjeants or camp colours should be placed in the rear, in a perpendicular line with the outside flanks of the front face, marking out a perfect square. The companies now march in echelon, and by the turning of the left shoulders of the right companies, and the right shoulders of the left companies, they wheel in to form square. Their captains halt and front them in a correct line. The first company will wheel round the serjeant placed to mark the angle, and the grenadiers round the proper right of the first company; the light infantry at the same time wheeling round the serjeant on the opposite angle, till their right flank touches that of the grenadiers. They then, as also the first company, get the words halt, front, drefs, from their captains. They have then formed the rear face of the square, and in this manner the proper front rank of the rear face will be outward. The square is now perfectly formed, and composed of four faces. The front face consists of the fourth, fifth, and sixth companies; the right face of the third and second; the left face of the seventh and eighth; and the rear face of the first company, the grenadiers, and light infantry. The mounted officers, colours, music, drummers, &c. and the battalion guns, are all within the square.

The colonel then gives the words the square will march by the right angle of the front face, left and rear faces—right about face. The two sides that form the right angle, that is, the front face and the right face, stand fall; the other two sides, viz. left face, and rear face, go to the right about. At the word by subdivisions, four faces to the right and left wheel—march, the whole by subdivisions wheel up one eighth of the circle, two sides to the right and two sides to the left, and are thus parallel to each other, and perpendicular to the direction in which they are to move. The pivot flanks are in this manner placed on the sides of the square, each side being thus in echelon, and the colours behind the leading angle. At the word march, captains, who are on the inward flank of their leading subdivisions, carefully preserve the distances they wheeled at, and from the flanks to which they wheeled. At the words halt, front square, or reform square, the whole wheel back into square; and the two sides that require it, that is, the left and rear faces, go to the right about. Captains dres their divisions as usual, in the same manner as is described for the square. The directions given for the march described, the right angle of the front face, will equally apply, should it be found necessary to march the square by any of its other angles.

The colonel then gives the words the square will march by the right face. The colours move up behind the centre of the named face, as do the mounted officers, &c. At the word front and rear faces, by subdivisions to the right and left wheel—quick march, the opposite side, that is, the left face, faces about; and the two flank sides wheel up by subdivisions, so as to flank each in open column. At the word by right face—march, the square marches two sides in line and by their centre, and two sides in open column, which cover and dres to their inward flanks on which they wheeled up carefully preferring their distances. The same directions that are given for marching by the right face, will apply to the march by any of the other faces. The colonel, when the square has marched as far as he sees necessary, gives the word halt, reform square. The square halts, the subdivisions in column immediately wheel back, and form their sides, and the side which faced about again faces outward. The captains give the words halt, dres.

On the word prepare for firing, the front rank kneel and present their bayonets sloped. The square is then ordered to fire in whatever manner may be judged proper; the two rear ranks to fire standing; or companies by ranks successively; or by companies independent of each other; or by subdivisions, one firing when the other has loaded; or companies by files; as ordered. The front rank remains as a referee. Should the battalion be formed only two deep, the front rank will remain kneeling, and the other rank will fire by files. The word is now given square will fire by companies, beginning on the right. When the firing by companies has ceased, the command is given by the colonel kneeling ranks, make ready, present, fire (the men rise up after firing), prime and load. The word is then given the square will form line on the three centre companies—side and rear faces—by companies, for faces to the right and left wheel, quick march. The captains, as usual, halt—dres their companies. The words are then given in echelon march and form line, march. The whole march in echelon, except the three centre companies, the outward companies taking care not to impede the inner ones, which must form before them. This may be done by the facing and filing of each division from its inward flank to its point in the new line, where it will form up. Captains halt—dres their companies, as in the third manœuvre.

If the square is composed of the eight battalion companies only, then the grenadier and light company may be placed as a referee in the rear, ready to be applied according to circumstances. In marching the square by any of its faces, some regiments have been instructed to march two sides in file instead of open column; and if the men march tolerably in file, there can be no question but that it is the best method.

FIFTEENTH MANOEUVRE.—Retiring and filing to the Rear.

When the battalion is to retire, it ought to be previously dresed with the same exactness as when it is to advance, and the same care in ascertaining the direction of its march must be taken. Therefore, before the retreat is to begin, an officer or serjeant will have placed himself thirty paces in the rear, so as to stand perpendicular to the front directing serjeant; and of course he will be in the line, or nearly so, of the directing serjeant. Whenever the battalion marches to the rear, it must cover its proper extent of ground. The rear must therefore avoid closing their files more than usually. In some cases, the front rank men, who are in general larger, will be crowded in their rank. Music, drummers, supernumerary officers, &c. will take care to march with exactness, and not to interrupt, but rather assist the battalion.

The colonel gives the words the battalion will retire. As soon as this caution is given, the three directing serjeants face about. The same centre serjeant that directs to the front, directs also to the rear. He moves on in the line of the advanced officer, six paces beyond the rear rank, and halts. The two other serjeants move up on each side of him. When the line is retiring, music is never to play. On the word right about faces, the whole face; and the supernumerary officer, who had replaced the directing serjeant, moves up into the leading rank. A mounted field officer passes through to the rear, and the directing serjeant in the interior prolongs his line, and takes his object between the feet of the polled officer. Immediately after facing about the word march is given by the colonel. The whole battalion instantly sets off. The replacing officer between the colours prefers, during the movement, his exact distance
of six paces from the advanced ferjeant, and is the guide of the Battalion, the directing ferjeant conducting on his points under the correction of the colonel, who is ten or twelve paces behind the centre of the battalion. In this retreat, if the light infantry act separate, and not as a company of the battalion, at the word march they move quickly round by the flanks, and form in the rear of the centre, extending far to cover it during the retreat, and following at the distance of fifty or sixty paces.

The colonel gives the word: the battalion will, from the proper right of companies, file to the rear—pass companies by files. Each captain instantaneously gives the word left, turn—quick march, and wheels out his leading file, the rest of the files following in succession. The heads of companies must observe the proper distance from each other, and are regulated from the left. Circumstances may require that the companies should pass from their proper left, instead of the right, in which case the leaders will shift and conduct such left until the line is formed, when they will again resume their proper places. When the companies in files have marched as far as is necessary, the colonel gives the word halt, front. The whole now stand in open column of companies, the right in front. When the column is ordered to halt, the light infantry passes quickly through it, and takes post thirty paces in the rear of the intended line. On the word by companies, left, wheel into line—quick march, captains, as usual, halt, dress their companies. When the line is formed, its centre is opposite to the general.

Sixteenth Manoeuvre.—Filing, advancing, and charging to the Front.

The colonel, having previously placed himself ten or twelve paces behind the exact line of the directing ferjeant, will remark the line of its prolongation, and thus ascertain the direction in which it should march, and in doing this, he will not at once look out for a distant object, but will hit on it by prolonging the line, from the perilon of the directing ferjeant to the front. Or he will order the covering ferjeant to run out twenty paces, and will place him in the line in which he thinks the battalion ought to advance. The directing ferjeant then takes his direction along the line which passes from himself, betwixt the heels of the advanced ferjeants, and remarking the object, proceeds with twice the line in advancing. The colonel then gives the words the battalion will advance. Before the line so advances, the light company quickly forms, in extended order, thirty paces before the centre, and prefers that distance in advancing. The front directing ferjeant of the battalion moves fix accurate and exact paces in ordinary time, and halts. The two other ferjeants that were behind him, move up on each side of him, and an officer from the rear replaces in the front rank the leading ferjeant. The centre ferjeant, in moving out, marches and halts on his own observed point, and the two other ferjeants dress and square themselves exactly by him. The directing ferjeant, after being assured that he himself is perfectly and squarely placed in the rank, by calling his eyes down the centre of his body, from the junction of his two heels, and by repeated trials to take up or prolong a line perpendicular to himself and to the battalion, will observe and take up any accidental small spot on the ground, and within 100 or 150 paces, intermediate ones cannot be wanting, nor the renewal of such as he afterwards successively approaches to in his march. In this manner he is prepared, under the future correction of the colonel from behind, to conduct the march.

The line of direction being thus ascertained, the colonel gives the word march. The whole instantaneously step off, and without turning the head, eyes are glanced towards the colours in the front rank. The replacing officer between the colours preserves, during the movement, the exact distance of six paces from the advanced ferjeant, and is the guide of the battalion. The centre advanced ferjeant is answerable for the direction, and the equal cadence or length of step. To these objects he alone attends, while the other two, fervently conforming to his position, maintain their parallelism to the front of the battalion, and thereby present an object to which it ought to move square. They are to allow no other consideration to attract their attention, and will notice and conform to the direction of the commander only. If any small alteration in their position is ordered, it must be gradually and coolly made. When the battalion is advancing in line for any considerable distance, the music may be allowed at intervals to play for a few seconds only, and the drums in two divisions to roll; but it is the wind instruments only which play. The large drum, or any other instrument whatever, which marks time by the stroke, is not permitted.

When the battalion advances fifty paces, the colonel gives the words the battalion will file from the right of companies—paix files to the front. Each captain immediately gives the word right, turn—quick march, wheels out his leading file, and passes on direct to the front, preferring a relative distance from the left, as being the head of the column, or from the other flank, if particularly so ordered. When the column has marched fifty paces, the colonel gives the words halt, front. The whole now stands in open column, the left in front. The light company passes quick to the rear, assembles half of it behind each flank, and moves relatively with the flank companies.

The words now given in succession are columns, right, wheel into line, quick, march. The battalion will advance—march. The battalion marches fifty paces. The battalion will advance by alternate wings, and fire four times—left wing, halt. The left wing halts, and the right wing continues to move on fifteen paces. Left wing, march. Left wing, halt, ready, present, fire, load, march. The left wing marches past them till the right wing, being loaded and shouldered, receives the order to march. Left wing—halt, ready, &c. as directed for the right wing, and thus they alternately proceed, till each wing has fired twice. The left wing will form line on the right—right wing, halt. When the line is formed, the battalion will advance, march. After marching fifty paces, halt. The battalion will fire a volley—front rank kneeling, make ready, present, fire, prime and load. The battalion will advance—march. When it has advanced twenty paces, it receives the command halt. The battalion will fire a volley—front rank standing, present, fire, prime and load. The battalion will advance—march. When it has advanced fifty paces, halt; the front rank comes down to the charging position. Shoulder arms—prime and load. The light company, lying down behind the flanks, pursues, return, and assemble and join on the left of the battalion. The battalion is now advanced near the general, and with its centre opposite him.

If the battalion is not very strong, the light infantry should not act as such, but only as a company in battalion. In firing by wings, that is, by half battalions, the colonel generally fires the right wing, and the next in command the left. When the battalion has charged bayonets, they may be ordered to move forward on the charge at a very quick step; but by no means to run. A very few paces only can be necessary. Care must be taken that the battalion moves in perfect dress, which it cannot do if it run. The flugel man gives the time for each wing to call about, and shoulder.
BATTLE.

SEVENTEENTH MANOEUVRE.—Retiring in Line.

The colonel gives the words the battalion will retire—right about, face—march. While it is retiring, he gives the signal the battalion will fire twice; by alternate wings—the two left ranks, flanking. He then gives the words right wing—halts, from. The light infantry are not ordered by the rules and regulations for the infantry formation, to cover the right flank of the regiment; but it appearing to be as requisite as in advancing, they will be formed separately. On the halt of the right wing, they file round the left flank, and cover the left wing at six paces in front, firing and retreating till they occupy the ground quitted by the left wing, dresling by the right. When the left wing has gained fifteen paces, it receives the word from the lieutenant-colonel, halts, front. The light infantry cease firing. The colonel orders right wing—ready, present, fire (the men after firing immediately come to the port, or to the recover, as may be ordered). The light infantry face to the right, and cover the right wing at six paces. On the words right about, face—march, the light infantry fire retiring, till they come into line with the left wing by which they dres, and continue firing. When the right wing has marched fifteen paces beyond the left, it receives the words, halts, from—prime and load. When loaded, the signal founds for the light infantry to cease firing. The infant receives the colours of the right wing has fronted, he immediately gives the word of command, which conforms in every particular to what the right wing has done. The light infantry face to the left, and cover the left wing as they did the right, dresling by the right. In this manner each wing alternately proceeds, every due dispatch being made in reloading. When the wings have each fired twice, the colonel gives the words the left wing will form line on the right wing—march, halts, front—prime and load. When loaded, the light infantry ceases firing, and the signal is given by the bugle for it to form company in the rear of the centre. The colonel gives the word the line will retire; and when it has marched a hundred paces or more, covered by the light infantry, who file round the flanks, halts, from. The light infantry, upon signal, form company in the rear of the centre and afterwards resume their post on the left of the battalion.

In retiring by alternate wings, one colour remains on the inward flank of each half battalion, to which the men continue to look when they move, by which they dres, and before which a directing sergeant advances six paces. The make ready—present—fire of the advanced wing is instantly to succeed the march of the other advancing wing or the halt, front, of the retiring one. In the half battalion firing, advancing, and retreating, if formed two deep, both ranks will fire flanking. If formed three deep, the front and centre ranks will fire flanking, and the rear rank will remain shoulder in reserve.

EIGHTEENTH MANOEUVRE.—Advancing in Line.

The colonel gives the word the battalion will advance—march. It marches a hundred paces, and receives the halt. At the words fire a volley obliquely to the right, the men of the front rank turn one-eighth of a circle to the right; those of the rear ranks take a pace to the left, and cover their proper file leaders. The words are then given make ready, present, fire, load. Fire a volley obliquely to the left—make ready, present, fire, load (the ranks execute the reverse of what is directed in the firing to the right). The battalion will advance—march. When it has advanced a hundred paces, halt. Fire two volleys to the front—after the left, the men will port arms, and half cock. Battalion—ready, present, fire, load. Battalion—ready, present, fire, load. Shoulder arms—front paces—rear ranks, take open order—march. The colonel and lieutenant-colonel now dismount, and come through the centre into the front, as do the nuice. Every one takes his station exactly as they had been placed when receiving the general. The colonel, with his back to the regiment, gives the words the battalion will advance—march. The nuice plays, and when the line has advanced within fifty paces of the general, the colonel gives the words halt—general salute—present arms. The nuice plays God save the King, and the drummers beat a march. When the nuice ceases, the colonel, turning the battalion, gives the words shoulder arms—rear ranks, take close order—march, and the review is ended.

Light infantry. The following is the method usually observed by the light infantry when required to form in extended order, as commenced at the twelfth manœuvre. Previous to the retreat in line, the colonel directs the horn to sound the signal for their forming company, when the officer commanding it gives the words right face—quick march (in double quick time, to ten paces in the rear of the supernumerary rank, its centre covering the colours)—halts, front—order arms—unfix bayonets—form two deep (the left subdvision of the rear rank steps back one pace) rear rank to the left face—quick march (its left subdivision arrives between it and the centre rank, when the whole moves forward)—halts, front, dres, is then given by the senior supernumerary officer. The light infantry being divided into subdivisions, the right is commanded by the captain, and led by his covering sergeant; the left by the senior lieutenant, and led by the second sergeant; the second lieutenant attends the right subdivision. On the retreat of the line, at signal from the horn, the subdivisions face outward, and file, in quick time, round the flanks of the line, forming (when the retreat is made by alternate companies) at ten paces in front. The right subdivision covering at equal distance the right wing, except the grenadiers, and the other the left wing in the same manner, dresling to the centre. When the word march is given to the line, the light company, at the sound of the bugle, commence firing for the left round from centre to flanks. Each man, when he has fired, retires the ordered number of paces, generally four, by the left of his file, commands, and reloads. On the fronting of the battalion, they form companies as before mentioned, round the flanks, in rear of the line, where they divide into fections. The two fections of the right subdivision form in rear of the first and third companies those of the left in the rear of the fifth and seventh. All the fections are faced to the left, and on the retreat of the alternate companies, suppose the left move instantly into the intervals, and form as much extended as is necessary, in line with the right companies, who still remain stationary, firing independently till the companies in line receive the order to make ready. When the right companies retreat, the light infantry move to the right, cover them as they had before done the left, and fire retiring till they arrive at the intervals between the left companies, upon whom they dres. Thus they alternately continue to occupy the intervals, till the line being formed, they wheel round the respective flanks, form subdivisions in rear of the second and seventh companies, form again in front on the retreat of the whole line, in extended order, and at its halt, assemble again in company behind the centre. In advancing in line, and by wings, the movements are similar to those already explained in the seventeenth manœuvre, with this difference, that the company moves forward instead of retiring. To re-form three deep, when re-assembled in company behind the centre of the line, the officer gives the words form three deep (the third fection, or the whole of the proper rear rank, steps back one pace) rear ranks, to the right face—quick march (the right—present—fire, load. The words are then given make ready, present, fire, load. Fire a volley obliquely to the left—make ready, present, fire, load (the ranks execute the reverse of what is directed in the firing to the right). The battalion will advance—march. When it has advanced a hundred paces, halt. Fire two volleys to the front—after the left, the men will port arms, and half cock. Battalion—ready, present, fire, load.
rear rank of the section marks time till the front rank has passed it, and then moves on.) At the word halt, front, they cover the centre rank correctly, at one pace distant from it. The company then fixes bayonets, faces to the left and resumes the proper position in line.

Observations.

The number of paces mentioned in the several movements are not to be positively prescribed, but are supposed to be nearly such as will give the intended relative situations. If the ground allows the marches to the rear and front to be longer, it will be so much the better.

The colonel should give all his commands from the rear of the battalion. No commanding officer should attempt, in the face of the general, to put the regiment through any of the maneuvers without being himself perfectly and minutely acquainted with the principles on which each is performed. He will thus avoid the disgrace of calling to his adjutant for instruction, or galloping full speed to the flank of the battalion by way of rectifying a mistake which his ignorance and temerity have brought him into, and which he cannot remedy but by recurring for advice either to the other mounted officers, or to the sergeant-major in the rear.

When the reviewing general has seen the battalion go through each of the ordered manoeuvres as he judges necessary, he will, that he may be able to report on the merits of its performance, among other circumstances, particularly observe and specify, whether or not the original formation of the battalion is according to orders.

The marches are made with accuracy, at the required time and length of step, and on such objects as are given. The proper distances in column and echelon are at all times preferred. The wheelings are made just, and in the manner prescribed. The formations in line are made true, without false openings, or necessity of correction. The officers are alert in their changes of situation, exact in their own personal movements, and loud, decided, and pointed in their words of command. The march in line is uniformly steady, without floating, opening, or closing. The march in file close, firm, and without lengthening out. The officers and supernumeraries give the aids required of them with due quickness and precision. Hurry and unnecessary delay in the movements are equally to be avoided. In the firings, the loading is quick, the levelling just, the officers animated and exact in their commands.

Form of finding for, and lodging the colours. The battalion being in line, the commanding officer orders the grenadier drummers to beat the drummer’s call; on which the two youngest ensigns recover their swords, face to the right, and march between the line of officers and the front rank, till they come to the head of the grenadiers, where they halt, front, and bring their swords to the port. The drum-major, with a party of drummers and fifers, will likewise face to the right, and march to the head of the grenadiers, placing themselves between the ensigns and the front rank. The grenadier captain then makes his company take close order, and will either wheel them by subdivisions, or march them in one file. If by subdivisions, he places himself on the pivot flank of the file, the eldest lieutenant on that of the second, and the other lieutenant in the supernumerary rank of the file; but if the company is marched in one division, the two lieutenants are in the supernumerary rank. The company then marches, in ordinary time, to the quarters where the colours are lodged, when it halts, and rear ranks take open order. The drum-major unfurls the colours, and gives them out of a window to the ensigns, who on halting had sheathed their swords. The captain then orders his men to present arms. Officers salute, and the drummers beat a point of war, which finished, he shoulders arms, cloths the ranks, and marches them off in ordinary time, the drummers beating the grenadier’s march. On arriving at the left flank of the regiment, the company faces to the right, the ensigns with the colours march in front of the line of officers, the grenadier officers between them and the front rank, as also the drums and fifes, and the grenadiers in files, between the other ranks. The commanding officer of the regiment, as soon as the colours arrive on the left flank, orders the battalion to present arms, the officers salute; the fifes play God save the king, and the drummers beat the troop. On the colours arriving in the centre of the battalion, the ensign halts and fronts, and, when the grenadiers have taken post on the right, the battalion is ordered to shoulder arms.

When the colours are to be lodged, on the drummer’s call being beat, the ensigns, the drum-major, and a party of drummers and fifers, march and take post in the front of the grenadiers. The battalion presents arms, officers salute, music plays, and drums beat. On the captain of grenadiers marching off with the colours, drummers beat the troop. When they arrive at the house, or place where they are to be lodged, the drum-major receives them at a window, the grenadiers present arms, officers salute, and drummers beat a point of war. The ensigns on quitting the colours, draw their swords, and salute with the other officers. The captain will either march his company back, or dismiss them, as he may be ordered by the commanding officer.

When the colours are not to be received, or lodged in form, the sergeant-major, with four sergeants in the centre of the battalion, will take the colours called, from, or to the place where they are kept, in the following manner. Sergeant-major, the two front rank serjeants carrying the colours on their shoulders, covered in the rear by two other serjeants and the drum-major, is to receive them when they arrive at the place of their destination. No compliment is paid by the battalion in this cafe, and they are generally set away when the ranks are closed. When the regiment is ordered for a field day, the colours should never be received or lodged in form, as it takes up too much time.

The following is at present the detail of the battalion. Field officers—one colonel, one lieutenant-colonel, one major, (by a late regulation field officers have no companies,) ten captains, twelve lieutenants, and eight ensigns. There is no captain-lieutenant. Staff officers—one adjutant, one pay-master, one quarter-master, one surgeon, one adjutant-surgeon. Non-commissioned officers—one serjeant-major, one serjeant-major, thirty serjeants, thirty corporals. Drums—one drum-major, twenty-one drummers and fifers. Privates—five hundred and seventy.

Rules and regulations for his Majesty’s forces. Ruffell’s Instructions for the Drill, London, 1803, &c. &c.

BATTARDEAUX, in bridge-building. See Cofferdams.

BATTATA, in Botany. See Dioscorea.

BATTATAS. See Helianthus.

BATTAWAY, in Geography, a town of Africa, on the Grain Coast, as far known at sea by two large rocks, two miles distant from the shore to the west, and also by some high mountains behind the town. This is one of the best built places on the coast; populous and rich, and trade extensively in pepper and ivory. The people however are addicted to thieving.

BATTLE. See Bataile.

BATTLES, in Geography, Law &c. See Battle.

BATTEN, in Carpentry, a name which the workmen give to a scantling of wooden stuff from two to four inches broad, and
and about an inch thick; the length being pretty consider-able, but undetermined.

The term is chiefly used in speaking of doors, &c. which are not framed of whole deal, &c. with files, rails, and pan-nels like wainscot, but are made to appear as if they were, by means of these pieces, or battens, bradded on the plain board round the edges, and sometimes crofs them, and up and down.

Hence batten doors, or windows, are such as feem to be wainscot ones, but are not. There are faid to be either fingle or double, as the battens are fitted on to one fide, or to both.

BATTENS of the hatches, in Sea-language, are nailed along the tarpaulings, and ferve to keep their edges close down to the hatches, in order to prevent the water which wafhes over the deck from penetrating into the lower apartments of the ship.

BATTEN, in Geography, a town of Germany, in the circle of the Upper Rhine, and principality of Upper Hesse; 16 miles south west of Waldeck, and 16 north west of Marburg.

BATTENBURG. See Batenburg.

BATTEN Kill, a small river of America, which rises in Vermont, and after running north and north-westward about 30 miles, falls into Hudson, near Saratoga.

BATTERBURY, or Batterby bay, lies on the west coast of Ireland, about two miles north east from Connit islands. It has a narrow entrance, but is above 4 miles broad. N. lat. 53° 19'. W. long. 10° 22'.

BATTERIE, a French term in Music, for that kind of arpeggio, or breaking of chords in a distinct and detached manner, different from common arpeggios, in the execution of which on keyed-instruments, no finger is taken off till the note assigned it is again wanted; and when, on the violin, the notes of a chord are not, as usual, swept up and down in one bow, but either all to be bowed or separated by a tremulous motion of the bow.

In this article of the Encyc. Meth. after the definition of the term Batterie, and a necessary addition by M. Framery, are inserted, the Abbé Peyton takes the pen, and in treating the subject metaphorically, manifests deep reflexion and science in the theory of sound; but with a total disregard to the præcife of the greatest composers and performers, who have produced pleasing effects by the very means which he prohibits.

BATTERING-RAM. See Aries.

BATTERING-Ram, in Heraldry, a bearing or coat of arms reembling the military engine of the same name.

Battering, the attacking a place, work, or the like, with heavy artillery. See Battery.

To Batter in Breach, battre en breche, is to play furiously on a work, as the angle of a half moon, in order to demolish and make a gap or breach in it.

In this, they obferve never to fire a fingle piece againft the top of the wall, but all towards the bottom, from three to fix feet from the ground; they also fire par camarade, all together, till they perceive the earth fall from behind the lining of the rampart.

BATTERING Pieces, or pieces of battery. See Cannon.

BATTEREROW, in Geography, lies on the west coast of Africa, 2 leagues from Disscore, and 5 leagues more from Cape Three points to the north of the eait.

BATTERSEA, a village and parish near London, in the county of Surry; where above 300 acres of land are occupied by the market gardeners, of whom there are about twenty, who rent from 5 or 6 to nearly 60 acres each. The gardens at Battersea pay seven shillings and sixpence per acre for tythes to their vicar. Lytton's Environ of London, vol. 1. p. 27.

END OF VOL. III.