L.

LA, in the Italian muſic, a ſyllable by which *Guido* denominated the laſt ſound in each hexachord, if it begins in C it anſwers to our *a*, if in G to *e*, if in F to *d*.

LABADISTS, a ſect of religioniſts, followers of the opinion of Jean de Labadie, who lived in the laſt century, and was cotemporary with Mad^lle Bourignon.

Some of his tenets were, that 1. God could and did deceive men. 2. That in reading the ſcriptures greater attention ſhould be given to the internal inſpiration of the holy Spirit than to the words of the text. 3. That baptiſm ought to be deferred till mature age. 4. That the good and the wicked entered equally into the old alliance, providing they deſcended from Abraham, but that the new admitted only ſpiritual men. 5. That the obſervation of Sunday was a matter of indifference. 6. That Chriſt would come and reign a thouſand years on earth. 7. That the eucharift was only a commemoration of the death of Chriſt, and that tho' the ſymbols were nothing in themſelves, yet that Chriſt was ſpiritually received by thoſe who partook of them in a due manner. 8. That a contemplative life was a ſtate of grace, and of divine union during this life, the ſummit of perfection, &c. 9. That the man whoſe heart was perfectly content and calm, half enjoys God, has familiar entertainments with him, and ſees all things in him. 10. That this ſtate was to be come at by an entire ſelf-abnegation, by the mortification of the ſenſes and their objects, and by the exerciſe of mental prayer. See Journ. des Scavans for Oct. 1727, where we have ſome account of Labadie and his followers, which were moſtly women; and with ſome of which, it has been ſaid, he took criminal liberties. See *Baſnage*, Annales des Provinces Unies, Tom. 2. cited in Journ. des Scav. l. c.

LABARIFERI, among the Romans, ſtandard-bearers, who carried the *labarum*. *Danet*, in voc. *Signa*. See LABARUM, *Cycl.*

LABDACISM Λαβδακισμὸς, in rhetoric, the too frequent repetition of the letter L, as *ſol et luna luce lucebant*, and *alba levi lactea*. *Voſſ.* Rhet. l. 4. p. 45.

LABDANUM, in the materia medica. See LADANUM, *Cycl.*

LABELLED *line*, in heraldry, a term uſed by ſome to expreſs the line in certain old arms, called more uſually urdee or champagne. Others apply the ſame word to expreſs the patee or dovetail line, called alſo the inclave line by Morgan. It ſomewhat reſembles the joint called a dovetail by our joiners, and its points, as they proceed from the ordinary, whether chief or feſs, reſemble the ends of labels. See URDEE and PATEE.

LABEO, in ichthyology, a name given by the old Latin writers to the fiſh, uſually called *cheilon* and *chelon*. See the article CHELON.

LABER, a word found in Serapion, and uſed there as the name of an aromatic drug. The commentators have been much perplexed, to find the reaſon or etymology of the word, as it appears no where elſe in the writings of the antients. It ſeems to be no other than a wrong ſpelling of the word *faber* or *febar*, ſometimes alſo written by the Arabians *cebar*, which is a name of the lignum aloes.

LABERINTH. See LABYRINTH.

LABIATED *flowers*, in botany, a term for a very large ſeries of flowers; the diſtinctions of which are, that they are monopetalous, and are in their lower part formed into a pipe or narrow tube, and in their upper become widened into one or two lips. The cup of theſe flowers conſiſts of one leaf, and is uſually tubular, and reſembles a paper cone; and their piſtil is ſurrounded with four embryos, which ripen into a fruit, compoſed of four ſeeds, and kept incloſed in the cup; by this they are diſtinguiſhed from the perſonated flowers, whoſe fruit is an oblong capſule; and they differ from the rotated flowers of borrage, and the like, in that they have ſome ſort of reſemblance to the opening of a mouth of ſome animal. See Tab. 1. of Botany, Claſs 1. *Tourn.* Inſt. p. 177.

A BIATED *leaf*. See LEAF.

LABINÆ, in natural hiſtory, a term uſed by the authors, who have written of Swiſſerland, and other mountainous countries, to expreſs thoſe vaſt maſſes of ſnow, which ſometimes fall from the hills, and bury houſes, or even whole towns; and when hardened by the froſts, as is often the caſe, into ſolid ſubſtances, they overthrow woods, villages, and whatever ſtands in the way of their courſe, as they roll down the ſteep ſides of the precipices in their way. Some authors have alſo extended the word to a larger ſenſe, and made it expreſs the falling of vaſt rocks, or parts of mountains, and their rolling down in the ſame manner into the flat country: this is a miſchief very frequent in the ſame places, after froſts, and often very fatal. *Wagner*'s Hiſt. Helvet.

LABIUM *ſuperius attollens*, in anatomy, a name given by Spigelius to the muſcle, called by Albinus, Winſlow, and others, *zygomaticus major*.

LABORANT, in chemiſtry, the perſon that attends on and works under a chemiſt, while he is about any proceſs or experiment.

LABORATORY *(Cycl.)*—Dr. Shaw, who has taken great pains to bring the ſtudy of chemiſtry more into uſe in England, than it has hitherto been, has explained the eaſyneſs of its operations in general, and attempted a means of making its practice leſs expenſive, by introducing in the place of that vaſt number of furnaces, and other contrivances, figured and deſcribed by the generality of writers on the ſubject, a *portable laboratory*, by means of which alone all the chemical operations may be commodiouſly performed. This *laboratory*, fitted for its ſeveral purpoſes, is figured in the plate of chemical furnaces and veſſels, to which we refer the reader. See Tab. of Chemiſtry, N° 31. *ſeq.*

Its contrivance is ſuch, that not only compleat courſes of chemical experiments and operations may be commodiouſly performed by its means; but all the medicines may be prepared, in ſuch quantities, as to ſupply not only the demands of a family, but of an apothecary's ſhop, in moderate buſineſs. The firſt perſon who planned out this ſort of furnace was Beccher, and the ſcheme executed by Dr. Shaw is an improvement on that attempt. This *laboratory* conſiſts of two parts beſide the furnace: theſe are the apparatus and the materia chemica, which are deſcribed under the heads APPARATUS *chemicus*, and MATERIA *chemica*.

The furnace has four principal parts. 1. The cover. 2. The ring. 3. The body, and 4. The foot. The general office and uſe of the cover is to check, ſuppreſs, and throw back the heat and flame, that the fuel may not waſte itſelf too faſt, as it otherwiſe would do to very little purpoſe in many of the operations; for the action of the fire being not momentary but ſucceſſive, the more it is kept in, and directed upon the ſubject, the more it is able to perform its effect, and that with the leſs expence or deſtruction of it. In order to increaſe the draught to the fire, and ſqueeze the air the more forcibly through the body of the fuel, there is a moveable funnel or chimney, which may occaſionally be fixed to the orifice, in the top of the cover left for that and many other uſes. See the Figure, *ubi ſupra*.

The ring is the place or ſeat of many operations. The body to be worked upon by the fire is frequently lodged in it; and, in other caſes, it helps to enlarge the furnace, and renders it capable of operations it could not otherwiſe perform. The body of the furnace ſerves to contain the fuel, and is the common ſeat of the operations by the fire, in the running metals from their ores; and in theſe and many other the like caſes, it performs the office of a crucible as well as fire place, and contains the ſubject mixed along with the fuel, as is practiſed at the ſmelting houſes. To this body there belong three ſeveral grates, which may be placed at different heights therein, according to the nature of the operation, and the diſtance required between the ſubject and the fire. Laſtly, the foot is of two kinds, and is not only of uſe in ſupporting the reſt of the parts, but it receives the aſhes of the fuel, and the melted matter that may, in any of the operations, run down from the ores of metals; or, on other the like occaſions, when the fire liquates any thing above. The more immediate appurtenances of this furnace are fuel and bellows. The general fuel is to be charcoal; or, as there is a contrivance for a vent or flue in the body of the furnace, common ſea-coal may be employed, and the ſmoak directed up the chimney of the room, in which the furnace is to ſtand. The ſtructure of this furnace is alſo very well fitted for a lamp, which is a ſort of heat, highly convenient for ſome curious digeſtions and calcinations, and by this means thoſe operations, which would otherwiſe require an athanor, may be conveniently performed, and that in the moſt accurate manner.

The number of chemical proceſſes that may be performed by this furnace is not eaſily reckoned up; but it may not be improper to add an account of the ſeveral ſtates, into which it is to be put for the performing them.

The moſt ſimple ſtate of the furnace is a combination of its two lower parts, the body and the foot. When theſe are put together it is fit for fuſion by the naked fire, where the matter to be melted is to be mixed among the fuel; as for inſtance, in the running the ores of lead, tin, or iron, which may thus, in the quantity of many pounds at a time, be ſeparated from their droſs, and purged for uſe, as exactly as at the mine works, or ſmelting houſes, either with the aſſiſtance of the bellows, or without, as the nature of the ore requires. By barely placing a grate in the middle of the body, the inſtrument becomes a melting furnace for a crucible, wherein all the operations that require a fire of fuſion, animated either by the air, or bellows, are performable with ſuch advantages as cannot be had in the common wind, or blaſt furnaces made for this purpoſe. When only

the body of the furnace with its middle grate is ſet upon the foot, it anſwers all the purpoſes of a ſhop-furnace uſed by the apothecaries for decoction, inſpiſſation, extraction, and the like purpoſes, where a naked fire only is required, and certain diſtillations and ſublimations may alſo be performed conveniently by it.

It may in this ſtate alſo be conveniently made to ſerve the purpoſes of a *balneum mariæ*, an aſh heat, a ſand heat, or a ſtill ſtronger one for digeſtion and ſublimation, by only ſetting on it in this ſtate a veſſel of water, or one filled with aſhes, ſand, or iron filings; and thus ſeveral operations requiring the ſame kind of heat may be carried on at the ſame time.

If inſtead of a common pan or veſſel to hold water, ſand, *&c.* the ring or third part of the furnace, be ſet on furniſhed with its ſet of pots, the whole is then a furnace fitted for that ſort of diſtillation called diſtillation in *capella vacua*, where the retorts are contained in the cavity of the pots, and locked down therein without any viſible medium between. By this means many operations may be performed in the diſtillation and ſeparation of bodies, that could not be worked upon to ſo much advantage by any other method. Particularly the rectification of the ſtrongeſt acid ſpirits, is very eaſily and conveniently performed this way at very little expence.

If an iron pan be placed in the room of the ring juſt mentioned, the inſtrument is then a calcining furnace, where ores of metals may be roaſted, and lead, antimony, and the like bodies may be conveniently reduced to aſhes.

If the loweſt grate be uſed inſtead of the middle one, then either a cold ſtill, or, as it is generally called, a hot one may be put into the body, and worked in the common manner with its head and refrigeratory. Thus all the cordial waters may be made ſpirits, may be rectified, and the eſſential oils diſtilled by the ſame means, as well as by the common fixed ſtills.

The laſt part or cover of the furnace, may ſometimes be applied to the ring, ſometimes only to the body of the furnace without the ring. The inſtrument in this caſe becomes a proper reverberatory furnace, and is uſeful for cæmentation, cupellation, and the eſſaying of ores; and for diſtilling with a fire of ſuppreſſion, that is, where the fire is placed above as well as below the ſubject, and the veſſel that contains it.

A furnace of this nature has numerous advantages, not only over all the chemical furnaces in common uſe, but even over thoſe of the moſt celebrated ſtructure and contrivance, deſcribed by authors on particular occaſions, not excepting thoſe of Glauber and Vigani. Thoſe nicely contrived furnaces are generally adapted to ſome few particular purpoſes, and yet this eaſy kind anſwers in experiment thoſe very purpoſes better; and at the ſame time is of general uſe on all the other occaſions of chemiſtry. Experience has ſhewn, that it is better for the various uſes of Glauber's philoſophical furnaces, than thoſe very furnaces themſelves, though made for theſe very purpoſes; and for the higher operations as they are called of metallurgical chemiſtry. For example, to obtain a pure ſpirit of ſalt in plenty, Glauber orders the ſalt to be thrown upon the fire, and has contrivances to catch the riſing vapour; but this is a tedious way, and turns to very little account in practice, nor is the matter much improved by quenching the coals in a brine of ſea ſalt, and afterwards burning them for their fume; but all that can be expected from theſe aukward contrivances, may be had commodiouſly from the furnace here deſcribed, where the fire being animated by bellows, cauſes the fire to burn more free, and the fuel to yield the ſpirit it was impregnated with much more quickly and eaſily, than in the furnace contrived by that author for the purpoſe, while the fuel is ſupplied by the door without any diſturbance to the operation. *Shaw*'s Eſſ. on a Portable Laboratory.

There are many other curious philoſophical experiments, which can be no way ſo well done as with this kind of furnace, and many ſcarce at all without it. It is excellently fitted alſo for enamelling, making of paſtes, ſtaining of glaſs, and making the artificial gems. And beſide theſe and a number of other curious uſes; it is extremely well fitted for all the common purpoſes of fires. Any artizan who requires fire in whatever manner in his buſineſs, may contrive to apply it in this manner as he will; the offices of a common ſtone in a kitchen, may alſo be very well ſupplied by it, and the warming a room or vault, is as well done by it as by any of the common contrivances of ſtoves, ovens, and other things, made purpoſely for that uſe.

The outer caſe of the furnace is to be made of good plate iron of a conſiderable thickneſs, formed in ſeparate pieces of the figures expreſſed in the plate, and its ſize may be ſuch as the operator chuſes; obſerving only a due proportion in its ſeveral parts. The inner ſides of all the parts muſt be lined at leaſt an inch thick with a proper luting, which muſt be carefully laid on and gently dried, the cracks which happen in the drying, being filled up with more of the ſame luting. Windſor loam alone may be uſed to this purpoſe, but the author himſelf recommends the following mixture. Take a buſhel of Windſor loam, four quarts of brickduſt, two quarts of powdered green glaſs, two quarts of iron filings, four handfuls of cow-hair, and eight handfuls of horſe-dung, theſe are all to be beat together, and a ſufficient quantity of bullocks blood added, to make the whole into a ſtiff and uniform paſte, which is to be carefully ſpread over every part of the furnace that the fire can touch.

LABOUR, in the ſea language, is uſed when a ſhip rolls and toſſes much.

LABRAX, in zoology, a name given by ſome to the lupus or ſea wolf, called in Engliſh the Baſſe. *Willughby*'s Hiſt. Piſ. p. 272. See the article BASSE.

LABRUS, in ichthyology, the name of a genus of fiſhes, the characters of which are theſe. They are of the acanthopterygious tribe. The branchioſtege membrane on each ſide contains ſix ſlender and flat bones, when the fiſh is full grown; but in the young ones, five only can be counted. The teeth are large, and are placed in the jaws, and on three bones in the fauces, the upper ones hard and two in number, the lower one ſingle, the palate and tongue are ſmooth. There are thick and fleſhy lips covering the teeth. The membrane of the back fin, contains in its fore part double rays ariſing from each baſe of theſe two, the one is prickly, the other ſoft and inoffenſive. The colour is generally beautiful and in moſt of the ſpecies elegantly variegated. The tail is generally undivided; the ſcales are large, ſoft and ſmooth; and there are no appendices to the pylorus. *Artedi* Gen. Piſc. 27.

The ſpecies of this genus enumerated by Artedi are theſe. 1. The *labrus* with the ſnout turning upwards, and with the tail circular at the end. This is the *turdus vulgaris*, and *tinca marina*, or ſea tench of authors, and is called by our people in Cornwall, the wraſſe or old wife fiſh. 2. The green *labrus* with a blue line on each ſide. 3. The black *labrus* called by authors the *merula*. 4. The elegantly variegated *labrus* with the pectoral fins rounded at the ends. This is the *pavo* of Salvian. 5. The oblong green *labrus* with gold coloured iriſes. 6. The blue and yellow *labrus* with very large fore teeth. 7. The four toothed green *labrus* with a forked tail. 8. The ſmall variegated *labrus* with two large teeth in the upper jaw. 9. The *labrus* with the lower jaw longeſt with a forked tail, and variegated with tranſverſe black lines. 10. The *labrus* variegated with purple, blue, yellow, green, and black. This is called by ſome authors the *ſcarus varius*.

The word *labrus* is truly Roman, and is uſed in the ſame ſenſe by Ovid and others, being probably derived from the word *labra*, lips; this fiſh having remarkable thick and prominent lips.

LABRUSCA, in botany, a name uſed by the old authors for black bryony. *Ger.* Emac. Ind. 2.

LABUYO, in natural hiſtory, a name given by the inhabitants of the Philippine iſlands, to a bird very common among them, and called by us the Urogallus. See UROGALLUS.

LABYRINTH (*Cycl.*)—*Labyrinth*, in gardening, is a part of the ground ſo planted and diſpoſed, as to render it difficult when any one is in it to find the way out, and in the attempting to get out, there are to be as many ſtops and diſappointments laid in the way as poſſible; the center alſo is to be made difficult to be found. There are two general ways of making them; the firſt is with ſingle hedges, and this is what has been moſt practiſed in England; and this may be beſt where there is but a ſmall ſpot of ground allowed for the making them, but where there is room enough, the double hedges are greatly the moſt eligible, and theſe are beſt of all when there is a wood-work between them. The walks in *labyrinths* ſhould be gravelled, and ſhould by no means be made too narrow. Theſe are to be ſet with iron beams, and the paliſadoes ought to be twelve or fifteen feet high. *Labyrinths* are only proper for large gardens, and the fineſt in the world is ſaid to be that of Verſailles. *Miller*'s Gard. Dict.

LAC, *milk*. See MILK.

LAC *Lunæ* (*Cycl.*)—Dr. Plot gives this foſſil as a mark of good lime ſtone; but it has been obſerved, that two quarries in Ireland where *lac lunæ* was found, were of building ſtone, but would not burn into lime. Phil. Tranſ. N° 477. Sect. 9. See AGARIC, *Cycl.* and *Suppl.*

LACCA, *Gum Lacc.* The method of obtaining the fine red laque uſed by painters from this ſubſtance, is by the following ſimple proceſs. Boil the ſtick *lacc* in water, filtre the decoction, and evaporate the clear liquor to a dryneſs over a gentle fire. The occaſion of this eaſy ſeparation is, that the beautiful red colour here ſeparated, adheres only ſlightly to the outſides of the ſticks, broke off of the trees along with the *gum lacc*, and readily communicates itſelf to boiling water. Some of this ſticking matter alſo adhering to the *gum* itſelf, it is proper to boil the whole together, for the *gum* does not at all prejudice the colour, nor diſſolve in boiling water. So that after this operation, the *gum* is as fit for making ſealing wax as before; and for all other uſes which do not require its colour. *Shaw*'s Lect. p. 178.

A tincture of *gum lacc* may be thus prepared. Take two ounces of *gum lacc*, reduce it to a fine powder; and make it into a ſtiff paſte with oil of tartar per deliquium; ſet this in an open glaſs to dry by a gentle heat, then remove it to the open air, that it may relent and grow ſoft, then dry it again, and repeat this two or three times, at the

end of which the hard body of this reſin will be found reſolved into a purple liquor. This may yet again be dried, and when dried muſt be reduced to powder, which powder will afford a fine ſtrong tincture to ſpirit of wine, being boiled in it in a tall glaſs in a ſand heat for two or three hours. And by this proceſs ſtrong tinctures may be made from myrrh, amber, gum, juniper, &c. which will yield no tincture of ſtrength to ſpirit of wine alone, if treated in the uſual way. *Shaw*'s Lect. p. 203.

LACCIA, in ichthyology, a name given by Paulus Jovius to the ſhad, or, as we ſometimes call it, the mother of the pilchards. See the articles THRISSA and CLUPEA.

LACCOPEDON, a word uſed by the old medical writers to expreſs the lax part of the ſcrotum.

LACCOS, Λακκος, among the Greeks, a ditch or trench uſed inſtead of an altar, when ſacrifices were to be offered to the ſubterranean or infernal Gods. *Potter*, Archæol. Græc. l. 2. c. 2. Tom. 1. p. 192. See ALTAR.

LACEDÆMONIUM *Marmor*, in the natural hiſtory of the antients, the name of a ſpecies of *marble* very hard, and of a beautiful green colour. It is a very cloſe, even, and compact *marble*; of a fine ſtrong and bright green, and when poliſhed, is the brighteſt of all the green *marbles*, and is remarkable for this, that the colour is not regularly and equally diffuſed through the whole maſs, but leaves in it many ſpots and lines very bright and pale, and ſome much deeper than the general colour, though there is no colour but green, in the whole, only in different ſhades and degrees, ſome parts approaching to black and others to whiteneſs.

It was originally found only in Ægypt, and there not in entire ſtrata, but in large pieces waſhed off from the ſtrata, and ſometimes left on the ſurface, ſometimes buried in the earth, and was greatly valued. It has been ſince found in Italy and Germany, and in England. About five miles from the hot wells at Briſtol there is a ſtratum of it, whence it might be had in conſiderable quantities. Its beauty would ſoon recommend it if it were once known: and though hard to cut, it would make amends for that by the high poliſh it would take. *Hill*'s Hiſt. of Foſ. p. 469.

LACERTA, *the lizard*. See LACERTUS.

LACERTA *Chalcidica*, in zoology, the name of a ſpecies of *lizard*, more uſually known by the name *ſeps*. See SEPS.

LACERTA *Volans*, a ſpecies of *lizard*, which lives on trees, feeding on ants, flies and other inſects, and doing no injury to man or any other large animal. It has membranes on its ſides, which ſerve the office of wings, in carrying it from one tree to another, and has been called by Geſner the dragon or winged ſerpent.

LACERTUS, in ichthyography, the *lizard* fiſh, a name given by ſome writers to a fiſh of the cuculus kind, much reſembling the common mackerel, in ſhape and in taſte, and more uſually called *trachurus*. *Geſner* de Aquat. p. 290. See TRACHURUS.

LACERTUS is alſo uſed for a fiſh of the garfiſh kind, or *acus oppiani*, but larger than the common ſpecies, and called by the Italian fiſhermen *aguglia imperiale*, or the imperial garfiſh, and by the fiſhermen of England, particularly in Cornwall, the *girrock*, in diſtinction from the common kind which they call *ſkipper*. It is thicker in proportion to its length than the common garfiſh, and has a ſhorter and ſharper ſnout, and inſtead of teeth, has only its jaws ſerrated like a file. It is a ſcarce fiſh, but is more firm in its fleſh than the common garfiſh. *Rondelet*. de Piſ. p. 32.

LACERTUS, the *lizard*, in zoology, the name of a large genus of animals, comprehending all thoſe quadrupeds which are oviparous, and have long tails continued from their bodies. The term oviparous is to be underſtood however in a larger ſenſe, expreſſing ſome among theſe, which though they have true and proper eggs within them, yet never depoſit them as ſuch, but keep them in their bodies till they are hatched, and bring forth living young ones. Some of the ſerpents, as well as ſome of the *lizards*, are of this kind, and the obſervation is as old as Ariſtotle, who calls the creatures, whoſe generation is of this kind, *internally oviparous, externally viviparous*. See Tab. of Quadrupeds and Serpents, N° 30. *ſeq.* and *Ray*'s Syn. Quad. p. 261.

LACERTUS *Orbicularis*, in zoology, the name of a very ſingular ſpecies of *lizard*, which is not long and ſlender like the reſt, but broad and rounded. *Hermandez* Lib. 9. c. 46. See the article TOPAYAXIN.

LACERTUS *Squammoſus*, in zoology, a name given by authors to a ſpecies of *lizard*, more eminently ſcaly than any other kind. The general length of this creature is about a yard and half. His head from the noſe end to the fore feet, is not above three inches; he has no neck; his trunck from the fore legs to the hinder, is not above ten inches and a half, but his tail is exceeding long, not meaſuring leſs than a yard and a half quarter; the back part of his head is near two inches over; his noſe about an inch, his body nearly four inches, and his tail very taper, but ending in an obtuſe end; the under part of the tail is flat, the upper part hyperbolic; the fore legs, contrary to what they are in other *lizards*, are longer than the hinder, theſe being not above three inches and a half in length, and thoſe more than four. The claws of the fore feet are alſo longer, thoſe of the hinder being but about half an inch long, thoſe of the fore ones near an inch; there are on each foot four toes and a heel behind. He is all over, except his throat and belly, and the lower part of his fore legs, and the inward part of the hinder ones, covered with ſcales very thick, and in ſolidity equal to the hardeſt bone. The baſes of the ſcales are of blackiſh yellow, the reſt of a pale yellow, like that of old ivory. They are ſtriated from the baſe to the cone, and are diſpoſed alternately in the manner of the ſcales of fiſhes. In the body there are ten or eleven in each rank, and on the tail about five; the largeſt are near two inches broad, but the ſmalleſt, not more than a quarter of an inch. They are flat on the forehead, the back and the fore part of the tail, but on the edges of the tail they are doubled into an acute angle. It is ſaid to be a very tame and inoffenſive animal. *Grew*'s Muſ. Soc. R. p. 46.

The throat and belly of this animal are beſet with hairs, and Mr. Ray ſuppoſes it from that, to belong to the viviparous quadrupeds, notwithſtanding that its ſhape has always made it be ranked among the *lizard* kind. It is preſerved in the muſeums of the curious, but we are not acquainted with the part of the world it lives in. *Ray*'s Syn. Quad. p. 275.

LACERTUS *Subterraneus*, the underground *lizard*, a very diſagreeable and dangerous ſpecies of *lizard*, found in the Antilles iſlands, and ſome other places. They are often met with by the people who dig in marſhy places, and are of a very formidable aſpect; they are about ſeven inches long. Their back is covered with black gloſſy ſcales, with a few grey ones, mixed here and there among them, and they look ſleek and gloſſy as if rubbed over with oil; the belly is no leſs ſcaly than the back, and their ſkin is of a yellowiſh colour. The head is ſmall and ſharp, and the mouth opens very wide, and is armed with very numerous and ſharp teeth; their eyes are very ſmall. As ſoon as they are dug up, and thrown on the ground, they immediately dig their way in again, with their feet, which are prepared for that purpoſe, and armed with ſharp claws; and when they are once in they burrow their way like moles wherever they pleaſe. They do great miſchiefs to the inhabitants in their gardens and plantations, burrowing horizontally at ſmall depths, and deſtroying the roots of every thing they meet with. Their bite is eſteemed as dangerous as that of the moſt poiſonous ſerpent. *Rochefort*, Hiſt. des Antill.

LACERTUS *viridis*, the *green lizard*, a very beautiful creature, which is common in many parts of Italy, and is ſometimes found in Ireland. It is conſiderably larger than our land eft, and of a very beautiful green. See Tab. of Quadrupeds and Serpents, N° 30. and *Ray*'s Syn. Quad. p. 263.

LACERTUS *alter ſphincteris*, in anatomy, a name given by Santorini, and ſome others, to one of the muſcles of the anus, now generally known by the name of the *levator ani*. The *muſculus ſedem attollens* of Veſalius, and *latus* of others. The thin termination of this muſcle, not the whole, is underſtood by this name.

LACERUM *folium*, among botaniſts. See LEAF.

LACHNIS, in natural hiſtory, the name of a genus of foſſils, of the claſs of the *fibrariæ*; the characters of which are, that they are fibroſe bodies, not elaſtic, and compoſed of ſhort and abrupt fibres, or filaments.

The word is derived from the Greek λαχνη, a hair or ſhort capillament or fibre. See Tab. of Foſſils, Claſs 1.

The bodies of this genus are divided into thoſe which are compoſed of larger and broader, and thoſe which are compoſed of ſmaller and narrower filaments. Of the firſt of theſe there are ſix ſpecies known among us; and of the other, four. Thoſe of the firſt are, 1. A pale fleſh coloured very gloſſy kind, found in the marl pits of Derbyſhire, and of little value. 2. A gloſſy greeniſh white kind, found alſo in the ſame county in a greeniſh marl. 3. A greyiſh white with thick filaments, common in the hills of Yorkſhire. 4. A dead looking white one common in Derbyſhire and Leiceſterſhire. 5. A very gloſſy white one in the clay pits of Yorkſhire; and 6. A dull fleſh coloured one in the Derbyſhire marl pits, which, as well as ſome others of theſe, makes a very good gypſum with very little trouble. *Hill*'s Hiſt. of Foſſ. p. 93—98.

Thoſe of the ſecond ſort, or the narrow threaded ones are, 1. A very gloſſy pale red one, found in great plenty on Mendip hills, and burning very freely to fine plaiſter. 2. A blueiſh white one common in the marl pits of Staffordſhire, though not regarded as a thing of any value by the owners of the pits. 3. A gloſſy greeniſh grey one common on the ſhores and in the cliffs of Yorkſhire. And 4. a very bright greeniſh white kind, found in great plenty in Derbyſhire, and frequently uſed for burning into plaiſter. It is very certain, that moſt of the reſt, from the quantities they are found in, might be made a very profitable thing to the owners of the pits where they lie, though they are in moſt places neglected. *Hill*'s Hiſt. of Foſſ. p. 98, 99, 100, 101.

LACINIATED *leaf*, in botany. See LEAF.

LACRYMA *cervina*, in natural hiſtory, a little round and hard bone, ſaid to grow in the great corner of a ſtag's eye after a certain age. Some alſo preſerve under this name a thickened excretion from the inner angle of that creature's eye, in colour and conſiſtence reſembling myrrh, or ear-

wax,

wax, long hardened in the ear. This is of a ſtrong and very diſagreeable ſmell, like the ſweat of the ſame animal, and is affirmed to be ſudorific and alexipharmic. *Grew*'s Muſ. p. 21.

LACRYMA *jobi*, in botany. See DIOSPIROS.

LACTARIA, *milk wort*, a name uſed by ſome botanical authors for the tithymal or ſpurge. This plant has been ſo called on account of its *milk* like juice. *Ger.* Emac. Ind. 2.

LACTEAL *fevers*, a term uſed by medical writers, to expreſs what the women call milk fevers, that is ſuch fevers as attend the difficult ingreſs of milk to the breaſts in lying-in-women.

LACTEUS *lapis*, in natural hiſtory, a name given by ſome authors to the *galactites*. See GALACTITES.

LACTIFEROUS, an epithet applied to ſuch plants as abound with a milk like juice, ſuch as the tithymal, ſow-thiſtle, and many others.

LACTUCA, *lettuce*, in botany, the name of a genus of plants, the characters of which are theſe. The flower is of the ſemi-floſcular kind, being compoſed of a number of ſmall ſemi-floſcules, ſtanding on the embryo ſeeds, and contained in a common oblong and ſlender ſcaly cup. The embryos finally become ſeeds winged with down. To this it may be added, that there is a peculiar appearance, in all the *lettuces*, which eaſily diſtinguiſhes them from all the other genera of the plants with ſemi-floſcular flowers.

The ſpecies of *lettuce* enumerated by Mr. Tournefort are theſe. 1. The common garden *lettuce*. 2. The endive leaved *lettuce*. 3. The *lettuce* with ſpotted leaves. 4. The great variegated, headed and cultivated Auſtrian *lettuce* with a ſweet ſmell, commonly called the clove *lettuce*. 5. The long ſweet *lettuce*, called the Roman *lettuce*. 6. The jagged *lettuce* with curled leaves. 7. The broader leaved curled *lettuce*. 8. The *lettuce* with oblong pointed leaves. 9. The common headed garden *lettuce*. 10. The greater headed garden *lettuce* with duſky green leaves. 11. The wild *lettuce* with thorny ribs to the leaves. 12. The Italian wild *lettuce* with a prickly middle rib and bloody ſpots on the leaves. 13. The great opium ſcented wild *lettuce*. 14. The wild *lettuce* with the ſtalk covered with leaves, called by ſome the *viſcous ſuccory*. 15. The blue flowered dwarf perennial *lettuce*. 16. The white flowered dwarf perennial *lettuce*. 17. The wild *lettuce* with narrow jagged leaves. 18. The prickly, ſhrubby Spaniſh ſea *lettuce*. 19. The dandelion leaved mountain *lettuce*. 20. The blue flowered mountain *lettuce* with broad jagged leaves. 21. The white flowered mountain *lettuce* with broad jagged leaves. 22. The tall broad leaved Canada *lettuce* with a greyiſh flower. 23. The tall narrow leaved Canada *lettuce* with a pale yellowiſh flower. *Tourn.* Inſt. p. 473. See LETTUCE.

LACTUCA *marina*, *ſea lettuce*, in botany, a name uſed by ſome authors for the *lichen marinus*, commonly called oiſter green. Chabræus 572.

LADA, in botany, a name given by ſome authors to the plant which produces the common black pepper. *Piſo*, Mant. arom. p. 492.

LADDERS, in a ſhip, are uſually three.

1. The *entring ladder* is in the *waſte*, and made of wood.

2. The *gallery ladder* made of ropes, is hung over the gallery or ſtern of a ſhip, and ſerves to enter by, out of the boat, when the weather is foul, and the ſea high.

3. The *bolt-ſprit-ladders* are at the beak-head made faſt over the bolt-ſprit, to get upon it, and are only uſed in great ſhips.

Cart-LADDERS. See the article CART.

LADIES *ſmock*. See the article CARDAMINE.

LADIES *ſlipper*, in botany. See CALCEOLUS.

LADLE *of a gun*, the inſtrument wherewith the powder is put into the piece.

It is made of a plate of copper bowed in form of a half cylinder, rounded at one end, the other being fixed upon a long ſtaff; this filled with powder, the gunner carries, with his left hand, under the end of it, to keep the powder from falling out, till he enters it in the muzzle of the piece; when he has carried the powder home to the charged cylinder, he turns the *ladle* that the powder may fall out, and withdraws it.

Ladles are fitted to the bore of each gun, and hold powder ſufficient for the charge.

LADONIS, in the materia medica of the antients, a name given by ſome to the laurus or bay tree. We find the word in a compoſition preſcribed in Galen, from the works of ſome of the empirics of his time, but it never was uſed by the more regular authors.

LADRE, in the manege. See the article DULL.

LÆNA, among the antients, a thick ſhaggy upper garment. See the article CHLÆNA.

LAERTA, in natural hiſtory, a name given by authors to a ſpecies of veſpa or waſp, whoſe ſting is ſaid to be fatal: but this is an erroneous opinion. This waſp is larger and longer bodied than the common kind, but ſmaller than the hornet. It ſeems of a very irritable diſpoſition, attacking animals of any kind that come in its way.

LAGANUM, in natural hiſtory, the name of a genus of the *echini marini*, of the general claſs of the placentæ. The characters of the *lagana* are, that they have their mouth in the center of the baſe, and their aperture for the anus in its third region; that their ſuperficies is whole, and their edges waved. Of this genus there are five known ſpecies. 1. A ſmall very white one, with a ſinuous and fimbriated edge. 2. A larger, with a ſinuous edge, jagged in two places. 3. Rumphius's flat echinus. 4. A ſmaller and thinner than that; and 5. Plot's echinites deſcribed by Liſter, which beſide the fine ſtriæ has an almoſt innumerable ſeries of fine circular rings. *Klein*'s Echinod. p. 31.

LAGINE, in natural hiſtory, a name given by Pliny to a climbing plant, of the nature of that from which ſcammony was obtained, but ſmaller, and thence called by ſome *ſcammonea parva*, the ſmaller ſcammony. The antient Greeks have called this plant *jaſine*; and it appears very probable, that the word *lagine* here mentioned by Pliny is but a corruption of that name.

LAGOCEPHALUS, in zoology, the name of a ſpecies of orbis or globe fiſh. It is about a foot long and half a foot high. Its head is ſomething like a hare's, the forehead plain and almoſt ſquare, an inch and three quarters broad; the eyes round, above three quarters of an inch over and ſtanding high; the noſtrils three quarters of an inch before the eyes, and from theſe to the noſe end is a little above an inch. Each chap is, as it were, divided into two great teeth of three quarters of an inch broad. The fins are five in number; the ſkin membranous and limber on the back, head, upper ſides and breaſt, and round about his tail ſmooth and bald, and on his belly and lower part of his breaſt armed with little ſhort prickles; and there are undulated and crooked lines running along his back and ſides. *Grew*'s Muſeum Soc. Reg. p. 108.

LAGOPUS, in zoology, the name of a bird of the partridge kind, called by many the *rabolane*, and diſtinguiſhed from all other birds of this kind, by the thick covering of its legs and feet; it is a little larger than a tame pigeon; its beak is ſhort, ſtrong, and a little hooked, like that of the other gallinaceous fowls; and over its eyes there are naked ſpaces, of a fine red, and full of fleſhy protuberances. The males have a black line on each ſide the head, which the females have not; all the reſt of the body, the tail only excepted, is as white as the pureſt ſnow. Its tail conſiſts of ſixteen feathers, and is white, variegated with grey and black. Its legs and feet are very thick, covered even to the claws, with a fine, ſoft, and warm feathers; its claws are very long and ſharp, and its toes have a hairyneſs underneath. It ſpends its life on the mountains, in regions which are for the greateſt part of the year covered with ſnow. Its food is vegetable matter, the leaves of heath, whortles, and other ſhrubs. Its fleſh is very delicate and much valued. *Ray*'s Ornithol. p. 127.

LAGOPUS *altera*, in zoology, the name of a bird of the gallinaceous kind, and approaching to the *lagopus* or rabolane in many reſpects, more commonly known by the name of the *gorcock*, *moncock*, or *red game*. Some authors indeed have uſed the name *lagopus altera*, for the otomo, a bird ſeeming not eſſentially to differ from the *lagopus*. *Ray*'s Ornithol. p. 128. See the articles GORCOCK and OTOMO.

LAGOUDI, a name given by the Indians to the tree, which produces the leſſer galangal root of the ſhops. See the article GALANGAL.

LAGRIMOSO, in the Italian muſic, is uſed to ſignify a plaintive manner of ſinging or playing.

LAKES (*Cycl.*)—The *lake* Neſs in Scotland has been commemorated by many writers, but never with any degree of judgment, till Mr. Fraſer gave a perfect account of it to our Royal Society. It never freezes though the winters be ever ſo ſevere, and is full of ſprings in almoſt every part; and its waters, in the time of the ſevereſt froſts, run fluid, and ſmoaking for ſix miles down the river into which they are diſcharged, while every thing is frozen about them. The river runs very ſlowly notwithſtanding, and from this ſmoak of the water there is raiſed a ſort of fog which overſpreads the whole country for ſeveral miles. There is a mountain near the ſide, of two miles perpendicular height from the *lake*; and on the ſummit of this mountain there is another *lake*, which has no ſpring viſibly running into it, nor any outlet, and yet always keeps of the ſame degree of fulneſs, ſummer and winter. Due weſt from the river into which the lower *lake* diſcharges itſelf, there is an opening of ſea or frith of two miles long and ſix miles wide; the middle of this is ſometimes dry, and it is then eaſily ſeen that this was once dry land, and an inhabited country. There are found there large bodies of trees felled, and lying ſtrait along: the wood of theſe is black but it is very ſound, and there are many tumuli, or heaps of ſtones, to be ſeen under water in different parts of the frith, one of which is acceſſible at low water, and there have been found in it urns, which prove that they have been all burying places. Phil. Tranſ. N° 253. p. 231.

As the ſea waſhes away the banks of this frith, there is found in many places a large quantity of wrought timber; beams of fourteen, or more feet long, with the marks of the axe and other inſtruments upon them; and at the depth of

ſixteen feet, in the ſteep banks of the neighbouring river Beuly, there are found oak trees and pieces of burnt timber. We find by this, that the face of the whole country hereabouts is very different from what it was ſome ages ago; and there ſeems ſome reſemblance between the preſent face of things here, and that in the bogs of many parts of England. The trees found buried in theſe were felled by the conquering Romans, and perhaps theſe are of ſome ſuch origin.

We have many ſingularities offering to our view in the *lakes* of our own country: that of their freezing at peculiar ſeaſons is not one of the leaſt. There is a little *lake* in Straherrick in Scotland, which never freezes over before the month of February, though the froſts be ever ſo intenſe; but after the firſt part of this month, one night's trifling froſt will cover it all over with ice, and a ſecond night will induce it to a very conſiderable thickneſs. There are alſo two other *lakes* in the ſame county, the one called *Loch Monar*, which is conſiderably large, yet always keeps up the ſame rule of freezing over in February with every little froſt, but never before that month be the ſeaſon ever ſo rigorous; and the other in Straglaſh, which is as remarkable for a contrary quality. This lies in a ſort of bottom, between the ſides of two very high hills, and is itſelf conſiderably above the level of the reſt of the country. This *lake* freezes continually. It has always ice in the middle, even in the hotteſt ſummer months, though it thaws about the edges. The ſun by reflection from the hills on each ſide of this *lake* gives a very conſiderable heat; and there are many other *lakes* in the ſame ſort of ſituation, in the neighbouring country, which yet have nothing of this phænomenon; ſo that this, and the property of the other *lakes*, muſt be owing to ſomething peculiar to themſelves, not to their ſituation, or other accidents. The herbage about the ſides of this laſt mentioned *lake* is in a ſort of perpetual ſpring all the year round, and is much eſteemed by the country people, being found to fatten cattle more in a week, than the beſt land in the country beſide will do in a fortnight. The *lake* is very deep, and the water does not manifeſt any particular quality. Phil. Tranſ. N° 114.

The ſtrange effect of ſome *lakes* on their water being diſturbed, are recorded by many writers with an air of truth; but are to be examined, with great caution, before they are credited. Wagner, in his hiſtory of Swiſſerland, quotes no leſs than thirty-five authors, who ſay, that a water there called the *lake* of Pilate is of this kind, and that it cauſes tempeſts, rain, thunder, &c. if any thing be caſt into it; but the truth is, that it is a very tame puddle, ſcarce deſerving the name of a *lake*; and it is proved, by experience, that no conſequence at all attends the throwing it into confuſion by any means whatever. *Wagner*'s Hiſt. Helvet.

Subterranean LAKES. That there are in many places immenſe *ſubterranean lakes*, can ſcarce be doubted, becauſe we ſee them in ſome places; but their effects are often perceived where they are not ſeen, and puzzle the people who attempt to account for thoſe effects upon other principles. The famous Zirchnitzer *lake* in Carniola, which fills and empties itſelf, at times, in an impetuous manner, bringing up with its waters fiſh, and even wild fowl, communicates with another immenſe *ſubterranean lake* in the mountain Javornick; and according to its filling or emptying, the upper one is alſo filled and emptied. The grotto *podſpetſchio*, in the ſame country, gives another inſtance of ſuch a *ſubterranean lake*. The people of the neighbouring country enter the ſide of the mountain where this *lake* is by a ſmall opening, through which they go to a cavern of a great width and heighth; and at the end of this is a ſmall opening again, through which they go on to the edge of a vaſt ſubterranean piece of water. They go with torches, and find the water very clear and fine. It is ten cubits deep at the edge, and doubtleſs is much more in the middle. The water runs into this *lake* by a large channel, and runs out of it again by another, falling down a precipice into another *lake*, and that with ſuch a noiſe, that the report of a piſtol cannot be heard near it. Stones thrown in every way are heard to fall into water, and there is great reaſon to ſuppoſe the *lake* a German mile long; for at that diſtance there is another water diſcovered through ſuch another cleft of the rock, which ſtands at the ſame horizontal height as this, and is ſubject to the ſame accidents at the ſame times. This vaſt body of water ſometimes all runs off in a few minutes and leaves the baſon dry, and after ſome weeks it fills again with a frightful noiſe. As theſe accidents always happen to both the waters above-mentioned at the ſame time, they appear very plainly to be only the two ſides of the ſame *lake*. Phil. Tranſ. N° 191.

We have in England many of theſe reſervoirs, the water of which is always remarkably clear and cold, and is ſo loaded with ſpar, that it generally encruſts things very quickly that are put into it; and when raiſed into vapours, as a part of it ſometimes is, by the ſubterranean heat, or carried up with other vapours, ſtops at the cieling of the vaults, and there forms ſtalactitæ and other ſuch concretions. In many of theſe *lakes* alſo are found the round balls of ſpar, called ſtalagnitæ. They are compoſed of ſeveral cruſts gathering round ſome central nucleus, and often exceed the ſize of a ſchool boy's marble. Phil. Tranſ. N° 144.

In Pen-Park hole in Glouceſterſhire there is a remarkable inſtance of this, that ſtrange cavern containing one of the largeſt of the *lakes* in our kingdom. The hole itſelf was accidentally diſcovered by ſome miners, who were digging for lead ore; it is twenty nine fathoms deep from the ſurface, and is a vaſt cavern of the ſhape of a horſe-ſhoe, ſurrounded with rugged rocks and rough walls of earth, containing in the midſt a river or *ſubterranean lake* of twenty fathom broad and eight fathom deep, of the ſame cold and petrifying water with the other reſervoirs of this kind. The people of the country have an opinion that this water ebbs and flows with the tide, but it is an error. The water is higher in winter and lower in ſummer; but the decreaſe is ſlow and gradual at the proper ſeaſon, and ſo is the increaſe, never happening at any other time. There is in one part of the cieling of this cavern a vaſt hole, in at which ſome miners have crept, and ſaid they found lead ore very fine, and in great quantities; but an idle opinion of ſpirits prevents their purſuing the diſcovery. The flooring of this vaſt cavern is all of a white ſparry ſtone, ſpangled over with lead ore; and the rocks, which hang over head, are all glazed, as it were, with ſpars very bright and pellucid, and of very elegant figures. The higheſt part of the roof is nineteen yards above the level of the water, and there are two large rocks in it, all covered with mud at ſuch times as the water is not above them, as in ſummer it never is. The paſſages down into the hole, and the ſide cavities, are all covered with that ſort of ſpar, which uſually attends lead ore, and there is no living creature found in the place except ſome bats. The air in the deepeſt part is clear, and the place leſs damp than might be expected.

LAKE, or LAQUE, a preparation of different ſubſtances into a kind of magiſtery for the uſe of painters. One of the fineſt and firſt invented, of which was that of *gum lacca* or *laque*, from which all the reſt, as made by the ſame proceſs, are called by the common name *laques*.

The method of preparing theſe, in general, may be known by the example of that from the curcuma root of the ſhops, called turmeric root, the proceſs for the making of which is this. Take a pound of turmeric root in fine powder, three pints of water, and an ounce of ſalt of tartar: put all into a glazed earthen veſſel, and let them boil together over a clear gentle fire, till the water appears highly impregnated with the root, and will ſtain a paper to a beautiful yellow. Filtre this liquor, and gradually add to it a ſtrong ſolution of roch alum in water, till the yellow matter is all curdled together and precipitated: after this pour the whole into a filtre of paper, and the water will run off and leave the yellow matter behind. It is to be waſhed many times with freſh water, till the water comes off inſipid, and then is the beautiful yellow, called *laque* of turmeric, and uſed in painting. *Shaw*'s Lectures, p. 178.

In this manner may a *laque* be made of any of the tinging ſubſtances that are of a ſomewhat ſtrong texture, as madder, logwood, &c. but it will not ſucceed in the more tender ſpecies, as the flowers of roſes, violets, &c. as it deſtroys the nice arrangement of parts, in thoſe ſubjects, on which their colour depends.

A yellow *lake* for painting is to be made from broom flowers in the following manner. Make a lee of pot-aſhes and lime reaſonably ſtrong; in this boil at a gentle fire freſh broom flowers till they are white, the lee having extracted all their colour; then take out the flowers, and put the lee to boil in earthen veſſels over the fire; add as much alum as the liquor will diſſolve; then empty this lee into a veſſel of clean water, and it will give a yellow colour at the bottom. Let all ſettle, and decant off the clear liquor. Waſh this powder, which is found at the bottom, with more water, till all the ſalts of the lee are waſhed off; then ſeparate the yellow matter and dry it in the ſhade. It proves a very valuable yellow. *Neri*'s Art of Glaſs, p. 162.

LAMAC, a word uſed by ſome authors to expreſs gum arabic.

LAMARE, a word uſed by ſome of the chemical writers as a name for ſulphur.

LAMB (*Cycl.*)—LAMB *earth*, in huſbandry, is a whitiſh ſtony loam. The name ſeems only a corruption of the word *loam earth*. It is a clay, with an admixture of that ſort of ſtony matter which uſually conſtitutes lime ſtone, of fragments of lime ſtone, and of many ſmaller pieces of a ſtony matter, of a leſs firm concretion. Theſe ſtones are all of much the ſame colour with the earth, and the whole eaſily breaks and moulders upon putting water to it. It has uſually an admixture of ſea ſhells alſo in it, and, while in the ſtratum, is ſo hard as ſcarce to be cut by a ſpade. It is in great eſteem in many counties of England for making the earthen floors of barns, and other ſuch uſes. *Moreton*'s Northampt. p. 67.

LAMBENT *fire*. See the article FIRE.

LAME, in the manege, is uſed in ſeveral phraſes of that art; as *lame of an ear*, called in French *boiteux de l'oreille*, is ſaid of a horſe, when he halts upon a walk or trot, and

keeps time to his halting with the motions of his head: for all *lame* horſes do not keep time in that manner.

LAME *of the bridle*, is uſed by way of raillery to ſignify the ſame thing.

LAMIA, in zoology, a name uſed by ſome authors for the *ſhark*. *Rondelet*, de Piſc. See SHARK.

LAMIODONTES, in natural hiſtory, the name given by Dr. Hill to the foſſile teeth of ſharks, called by the generality of authors *gloſſopetræ*, or ſtony tongues, a name founded on an erroneous opinion, of their having been the tongues of ſerpents turned into ſtone.

The ſeveral ſizes of the teeth of the ſame ſpecies, and thoſe of the ſeveral different ſpecies of ſharks afford us a vaſt variety of theſe foſſile ones. Their uſual colours are black, blueiſh, whitiſh, yellowiſh, or brown, and in ſhape they uſually approach to a triangular figure. Some of them are ſimple, others are tricuſpidate, having a ſmall point on each ſide the large one. Some of them are very long, others ſhorter, and ſome very broad in proportion to their length; others as remarkably ſlender and narrow. Many of them alſo are quite ſtrait, though ſeveral are found crooked. Theſe laſt are not bent any one particular way, but all ways and in all directions, ſome inward, ſome outward, others ſideways, and of theſe ſome to the right and others to the left. Many of them alſo have their edges plain, others ſerrated, and that more or leſs deeply; and ſome are undulated, or waved in the manner of a flaming ſword at their edges, and ſlightly ſerrated on theſe undulations. They are as various alſo in ſize as figure, ſome being found of four or five inches long, and the ſmaller of leſs than a quarter of an inch. See Tab. of Foſſils, Claſs 8. *Hill*'s Hiſt. of Foſſ. p. 644.

They are moſt uſually found with us in the ſtrata of blue clay, though ſometimes alſo in other ſubſtances, and are frequent in the clay pits of Richmond and other places. They are very frequent alſo in Germany, but no where ſo plentiful as in the iſland of Malta. Ibid. p. 643.

The Germans attribute many virtues to theſe foſſile teeth; they call them cordials, ſudorifics, and alexipharmics: and the people of Malta, where they are extremely plentiful, hang them about their childrens necks to promote dentition. They may poſſibly be of as much ſervice this way as an anodyne necklace; and if ſuſpended in ſuch a manner, that the child can get them to its mouth, may by their hardneſs and ſmoothneſs be of the ſame uſe as a piece of coral.

LAMIOLA, in ichthyology, a name by which ſome authors have called the maltha or *ſorrat*, a kind of ſhark. *Willughby*'s Hiſt. Piſc. p. 50. See MALTHA.

LAMIOLA is alſo the name given by the modern Italians to a fiſh, called in Cornwal the *tope*. It is a ſpecies of the *ſqualus*, called by the generality of authors *galeus canis*, and by Artedi the *ſqualus*, with the noſtrils placed near the mouth, and with the ſmall foramina near the eyes.

LAMIUM, *deadnettle*, in botany, the name of a genus of plants, the characters of which are theſe. The flower conſiſts of one leaf, and is of the labiated kind. The upper lip is hollowed in form of a ſpoon, and the lower is divided only into two ſegments, and reſembles the figure of a heart; both of them are alſo marginated, and reſemble the jaws of ſome animal. The cup of the flower is tubular, and is divided into five ſegments; from this ariſes the piſtil, which is fixed in the manner of a nail into the hinder part of the flower, and is ſurrounded by four embryos, which afterwards become four triangular ſhaped ſeeds, which ripen in the cup. *Tourn.* Inſt. p. 183.

The ſpecies of *lamium* enumerated by Mr. Tournefort are theſe. 1. The roundiſh leaved ſtinking *deadnettle*, which is the *galeopſis* of Dioſcorides. 2. The leſſer red flowered roundiſh and ſtinking *lamium*. 3. The red flowered long leaved *lamium*. 4. The common white flowered *lamium*, called *archangel* and white *deadnettle*. 5. The *lamium* with leaves marked round with white lines. 6. The pellitory leaved *lamium*. 7. The purple flowered mountain *lamium* with deeply divided leaves. 8. The common little red *lamium* with jagged leaves. 9. The *lamium* with leaves ſurrounding the ſtalks, called *henbit*.

Theſe are all the ſpecies which this author can allow to be genuine *lamiums*, but others have accounted many more, reckoning ſeveral of the caſſidæ, the galeopſis, and baum kind, as of this genus. See GALEOPSIS, *&c.*

The flowers of *deadnettles* have been greatly recommended in the fluor albus in women, and againſt floodings of the menſes. It is alſo ſaid to be a great vulnerary, and good in obſtructions of the viſcera.

LAMIUM *exoticum*, in botany, a name given to a ſpecies of *caſſida*. See CASSIDA.

LAMNE, in ichthyology, a name given by Appian, and ſome other of the old Greek authors, to the common *ſhark*, or as we uſually call it the white *ſhark*, the *lamia* and *canis carcharias* of authors. This is properly a ſpecies of *ſqualus*, and is accurately diſtinguiſhed by Artedi under the name of the *ſqualus*, with a flat back, and with numerous teeth ſerrated at the edges. See SQUALUS.

LAMP (*Cycl.*)—The flame in a *lamp* never conſumes the wick, till the wick be expoſed to the air by the *flames* falling downward; and from hence it may be inferred, that a way found out to keep the fuel, and conſequently the flame at the ſame height upon the wick would make it laſt a long time. Many ways have been deviſed to arrive at this, but it ſeems only poſſible to be done, in any degree of perfection, by hydroſtatics. Thus, let a *lamp* be made two or three inches deep, with a pipe coming from the bottom almoſt as high as the top of the veſſel; let it be filled ſo high with water as to cover the hole of the pipe at the bottom to the end, that the oil may not get in at the pipe, and ſo be loſt. Then let the oil be poured in, ſo as to fill the veſſel almoſt brim full, which muſt have a cover pierced with as many holes as there are wicks deſigned. When the veſſel is thus filled, and the wicks are lighted, if water falls in by drops at the pipe, it will always keep the oil at the ſame height, or very near; the weight of the water being to that of the oil as 20 $\frac{8}{11}$ to 19, which in two or three inches make no great difference. If the water runs faſter than the oil waſtes, it will only run over at the top of the pipe, and what does not run over will come under the oil, and keep it at the ſame height. Phil. Tranſ. N° 245, p. 388.

Perpetual LAMP. The teſtimonies of Pliny, St. Auſtin and others, have led many to believe, that the antients had the invention of *perpetual lamps*: and ſome moderns have attempted to find out the ſecret, but hitherto in vain. Indeed it ſeems no eaſy matter to find out, either a *perpetual wick*, or a *perpetual oil*. The curious may read Dr. Plot's conjectures on the ſubject in the Philoſophical Tranſactions, N°166, or in Lowthorp's abridgment, Vol. 3. p. 636. But few, we believe, will give themſelves the trouble of ſearching for the ſecret, when they conſider, that the credulity of Pliny and St. Auſtin was ſuch, that their teſtimony does not ſeem a ſufficient evidence to induce us to believe, that a *lamp* was ever contrived to burn for 1000 or 1500 years; much leſs is it credible, that the antients had the ſecret of making one burn for ever.

LAMPERN, a river fiſh of the *lamprey* kind found in many parts of England, particularly in Oxfordſhire and the neighbouring counties, and there called the *pride of the Iſis*. The Latin authors call it the *lampetra parva* and *muſtela fluviatilis*. It is a ſmall fiſh, of a browniſh or blueiſh black upon the back, and a fine ſilver white on the belly. Its mouth is circular or elliptic, and furniſhed with ſix or ſeven teeth, and over theſe a ſmall ſemi-circular bone. In the middle of the head it has a hollow or ſmall tube, like the whale; the uſe of this is to admit the water and air, while the mouth is applied cloſe to the rocks; its gills are ſeven holes on each ſide, and has two fins on the back. *Willughby*'s Hiſt. Piſc. p. 104. *Geſner*, p. 706.

The word *lampern* is uſed by the common people in England for one ſpecies of the *lampetra*, and is not to be confounded with the other called the *lamprey*, or the *lamprey eel*. The near alliance in ſound between the two words *lampern* and *lamprey* has deceived ſeveral, to ſuppoſe they meant the ſame fiſh; and even ſome authors have not diſtinguiſhed them, but the determinate ſenſe of the words is this: they are the names of two fiſh, both of the genus of the *lampetra*, according to the generality of writers, and of the *petromyzon*, according to the new ſyſtem of Artedi. The *lampern* is that ſpecies of the genus, which is called by Geſner and Willughby the ſmall river *lampetra*, the *lampetra parva fluviatilis*. It is the *lampetra ſubcinerea*, or the greyiſh *lampetra*, and *muſtela* of the old Latin authors, as Pliny, *&c.* Caſſiodore has called it *exormiſtos*; and Albertus, *muræna*. Dr. Plot calls this ſpecies the *pride of the Iſis*, from its being found in great plenty and perfection in that river. It is the *neunaugen* of the Germans.

The *lamprey* is the fiſh called, by the ſame authors, either ſimply the *lampetra*, or the *lampetra major*, *lampetra marina*, or *lampetra maculoſa*.

The *lampern* has many other names among writers, ſuch as *pricka* and *pryk*, from the German name *pryk*; and *nattingus*, from the *natting* of the Swedes. But with all theſe variety of names, there were none that could diſtinguiſh the two fiſh from one another, till Artedi adapted names to them, and called the firſt, or *lampern*, the *petromyzon*, with only one row of very ſmall teeth in the verge of the mouth, beſide the lower larger ones; and the other, or the *lamprey*, the ſpotted *petromyzon*, with about twenty rows of teeth. *Artedi*, Gen. Piſc. p. 90. See PETROMYZON and LAMPETRA.

LAMPETRA, the *lamprey*, in zoology, a fiſh of the anguilliform kind, diſtinguiſhed from all the reſt by having a round or oval mouth, placed at the end of the ſnout, and having no fins either at the gills or belly. This is the character of the *lampetra* genus, of which there are ſeveral ſpecies. The *lampern*, *lamprey eel*, *brick*, *mucu*, *&c.* *Ray*'s Ichthyog. p. 104. See LAMPERN, &c.

LAMPETRA *Indica*, in zoology, the name of an Eaſt-Indian fiſh of the *lamprey* kind, caught in ſtanding waters, and called by the Dutch there *bont ael*, and *neegen oog*, or nine eyes. *Ray*'s Ichthyogr. Append. p. 4. See the article BONT-*ael*.

LAMPREY-*eel*, the Engliſh name of the common *lamprey*, or *lampetra*. Its back is of a blackiſh hue, with ſome an-

gular whitiſh ſpots. The ſkin is tough, but much thinner than that of the eel. Its mouth is rounded, and it lays ſo faſt hold of rocks, or wood, with this, that it ſeems to ſuck them, and ſticks ſo firmly, as not to be eaſily removed. It can however contract this mouth lengthwiſe, and ſhut it at pleaſure. It has a white ſpot in the middle of its forehead, between the eyes, and before that a hole, ſurrounded with a thin membrane, by which it admits the water and air, while its mouth lies cloſely on the rock. The gills are placed within ſeven round holes on each ſide, and the edge of its mouth is ſurrounded with a range of ſhort fibrillæ, which have by ſome been miſtaken for teeth; but are really of no other uſe, than to affix its mouth the more firmly. Its teeth are placed within its mouth, and there are twenty rows of them, the inner ones being the larger. Theſe are diſpoſed in rows from the center toward the circumference, and are five, ſix, or ſeven in a row.

It is a fiſh that equally lives in ſalt and freſh water. In the month of March it commonly runs up into the rivers, and is then moſt valuable for the table, as being fat and full of eggs. *Geſner*, de Aquat. p. 696.

The *lamprey-eel* is the *echeneis* of Oppian, and ſome other of the old Greek writers, and the *galaxias* of Galen. It is very different from what we call the *lampern*, though of the ſame genus. See LAMPERN and LAMPETRA.

LAMPRILLON, or LAMPREYON, a name by which ſome authors have called that particular ſpecies of *lamprey*, which we by way of diſtinction call *lampern*. *Willughby*, Hiſt. Piſc. p. 104. See LAMPERN.

LAMPSANA, *nipplewort*, in botany, the name of a genus of plants, the characters of which are theſe. The flower is compoſed of a number of ſemifloſcules, placed on the embryo's, and contained in a one leaved jagged cup, which finally becomes a ſtriated ſeed veſſel, containing narrow and pointed ſeeds.

There is no other ſpecies of this plant, but the common *nipplewort*. *Tourn.* Hiſt. p. 479.

LAMPUGA, in zoology, a name given by ſome authors to the fiſh more uſually known by the name of *ſtromateus*. *Willughby*, Hiſt. Piſc. p. 156. See the article STROMATEUS.

LAMPUGO, in ichthyography, a name given by many to the *hippurus*, a ſea fiſh, caught on the coaſt of Spain, and ſuppoſed by ſome to be the ſame with the *dorado*. *Willughby*, Hiſt. Piſc. p. 213. See HIPPURUS.

LANARIA, or *Herba* LANARIA, in botany, a name given by the antient Romans to a plant called *ſtruthium* by the Greeks, and uſed in the cleanſing of wool. The plant was of the thiſtle kind, and had large roots, and very prickly leaves. Some have ſuppoſed that the *chaſcuſa* of the antients was the ſame with the *lanaria herba*, or *ſtruthium*; but this appears to be a great error, for the *chaſcuſa* of the Greeks is the *antirrhinum* of the Latins, which Pliny deſcribes to have leaves like flax.

LANATA, in botany, a name given by Cordus, and ſome other authors, to the *aria Theophraſti*, or *white beam tree*. *Ger.* Emac. Ind. 2.

LANCARIM *ſpring*, the name of a medicated water of Glamorganſhire. It has its name from a town near which it riſes, and has been very long famous in the place for the cure of the king's evil. The body of water is about an ell broad, and runs between two hills covered with wood. About twelve yards from this ſpring the rill falls from a rock of about eight or nine feet high, with a conſiderable noiſe. The ſpring is very clear, and riſes out of a pure white marl. The cures that have been performed there are proofs of a real power in the water; but there is ſome queſtion, whether the water, or its motion and coldneſs does the good; for the people, who come for relief, always drink of the ſpring, and bath the part afterwards in the fall below. It is generally ſuppoſed that the lime-ſtone rocks communicate a virtue to it, by which it cures internally; but it has been often found, that the holding a limb diſordered with the evil in the ſtrong current of a mill tail, has cured it; and there is the ſame advantage in the fall of this water. Philoſ. Tranſ. N° 233.

LANCEA *Chriſti*, in botany, a name given by ſome authors to the *ophioglоſſum*, or adder's tongue, a ſmall herb found in moiſt places, with a ſingle ſtem of ſeeds. *Ger.* Emac. Ind. 2.

LANCEARII, in middle age writers, ſoldiers whoſe chief weapon was the lance. They were in great eſteem formerly. *Pitiſc.* in voc.

LANCEOLA, in botany, a name given by ſome authors to that ſpecies of plantain called *rib-wort*, or *plantago quinquenervia*, by moſt authors. *Ger.* Emac. Ind. 2.

LANCEOLATED *leaf*, among botaniſts. See LEAF.

LAND (*Cycl.*)—*Clay* LAND. The *clay lands* in different parts of England are of different colours, as blue, black, yellow, white, and red. Of theſe the black and the yellow are every where found the beſt for corn; the red is very good, but the white and the blue are the worſt. Some of the blue in particular is of ſuch a ſtubborn nature and diſpoſition, that nothing can ſubdue it; and is ſo greedy and voracious, that nothing will ſatiate it, without the utmoſt induſtry. Some *clay lands* are more pinguid, and others more ſlippery, but all of them are very tenacious of water upon the ſurface, where it ſtagnates and chills the plant, inſtead of penetrating and nouriſhing it; and in dry ſeaſons they become ſo hard, that the dews cannot penetrate them. Wheat, barley, grey peaſe, and horſe beans, are the principal produce of theſe ſort of lands; and that the farmer may know which of his untried *lands* are of this kind, he muſt obſerve their natural productions, and if he finds gooſe-graſs, or chavers, with wild tanzy, great daiſies, thiſtles, May weed, and ſome red poppies, he may be aſſured the *land* that produces them is of this kind.

Some of theſe *clays* will bear exceeding good crops of clover, or rye graſs, and if well manured and fed, they will anſwer the expence by the richneſs of the crop. The beſt manures for them are dung, particularly horſe dung, aſhes, lime, ſoot, pigeons dung, malt duſt, and the dung of ſheep, by the folding them upon the *land* in different places. *Mortimer*'s Huſbandry, p. 68.

Clays hold the manure that is beſtowed on them better than any other *lands* whatever, and yield the beſt grain of any, eſpecially where there is a mixture of lime-ſtone with them. It is the common practice of the farmers of England to ſow theſe *lands* at firſt breaking up with black oats; they then fallow them, and after this ſow them with wheat or barley, and the etch crop with either oats, peaſe, or beans.

Bog LAND. See BOG.

Chalk LAND. See CHALK.

Chiſley LAND. See CHISLEY.

Gravelly LAND. See GRAVELLY.

Marſh LAND. See MARSHES.

Meadow LAND. See MEADOW.

Sandy LAND. See SAND.

Wood LAND. See WOOD.

Burning of LAND. See BURNING.

Incloſing of LAND. See INCLOSING *of land*.

Overflowing of LANDS. See OVERFLOWING.

LAND *layed*, at ſea. They ſay the *land is layed*, when a ſhip is juſt got out of ſight of the *land*.

LAND *mark*, at ſea, is any mountain, rock, ſteeple, wind-mill, a tree, or the like, near the ſea-ſide, which ſerve to direct ſhips, paſſing by, how to ſteer, ſo as to avoid certain dangers, be they rocks, ſhoals, whirlpools, &c.

LAND *ſhut in*, at ſea. When another point of *land* hinders the ſight of that which a ſhip came from, then they ſay the *land is ſhut in*.

LAND *to*, at ſea. When a ſhip lies ſo far from the ſhore, that ſhe can but juſt ken *land*; then ſhe is ſaid to lie *land to*.

LAND *turn*, at ſea, is a wind that blows from the ſhore, in the night, at certain times, in moſt hot countries.

Setting the LAND, at ſea, is obſerving by the compaſs how it bears.

Head LAND, or *Point of land*, in the ſea language, is that which lies farther out into the ſea than the reſt. See POINT, CAPE, &c. *Cycl.*

LANE, in the military art, is uſed when men are drawn up in two ranks facing one another. This is called *making a lane*, and is generally done in the ſtreets through which a great perſon is to paſs, as a mark of honour. But ſoldiers are often drawn up in this manner, when an offender is to run the gauntlet, each having a ſmall wand or ſwitch in his hand, to whip him as he paſſes.

LANGUENTE, in the Italian muſic, is uſed to denote a languiſhing and ſoft manner of ſinging.

LANIS *de creſcentia Walliæ traducendis abſque cuſtuma*, &c. an antient writ that lies to the cuſtomer of a port, to permit one to paſs wool without paying cuſtom, he having paid it before in Wales. Reg. Orig. 279. *Blount*, *Cowel*.

LANISTA, in antiquity, is ſometimes uſed to ſignify an *executioner*, but more frequently for a maſter-gladiator, who taught the uſe of arms, and had always people under them, ready to exhibit ſhews of that kind. For which purpoſe, they either purchaſed gladiators, or educated children, that had been expoſed, in that art. *Pitiſc.* in voc.

LANISTA was alſo uſed to denote one who taught game-cocks to fight.

LANIUS, in zoology, the name of a ſpecies of ſhort winged hawk, called in Engliſh the *butcher bird*. It is the ſmalleſt of all the European birds of prey, yet is very fierce and deſtructive. Its beak is all the way ſtrait, except juſt at the end, where it is ſlightly hooked, and its tail faſhioned like that of the magpye, the outer feathers being the ſhorteſt, the reſt gradually longer; for which reaſon ſome have called it the *pica*. The antients called it the *tyrannus*, and in Engliſh we ſometimes alſo call it the *ſhrike*.

There are three ſpecies of the *lanius*: 1. The common larger kind, called the *mattageſs*. 2. The ſmaller, called the *fluſher*. See the articles MATTAGESS and FLUSHER. And 3. The *lanius minor*, or grey little butcher bird. See Tab. of Birds, N° 5. and *Ray*'s Ornitholog. p. 52.

LANIUS *minor cinereus*, the little grey butcher bird, the name of a very ſmall ſpecies of the *lanius*. It has a white ſpot on each ſhoulder, and a tranſverſe black ſtreak over the top of the beak. Its head is of a pale brown, and its

back

back brown while young, but afterwards of a pale grey; its rump is white, and its breaſt and belly of a pale greyiſh hue. Its beak is ſtrait all the way to the point, where it is a little hooked. It is common in Italy and elſewhere, and is a very great deſtroyer of the wrens, and other ſmall birds. *Ray*'s Ornithol. p. 55.

LANNARET, in zoology, a hawk of the long winged kind, the male of the *lannarius*, which being ſmaller than the female, is called *lannaret*, while that is called ſimply the *lannar*. *Ray*'s Ornithol. p. 48. See LANNARIUS.

LANNARIUS, in zoology, the name of a bird of the long winged hawk kind, called in Engliſh the *lannar*, and the male the *lannaret*. Its beak and legs are blue, and its head and neck variegated with large ſtreaks of black and white. Its back, wings, and tail are not variegated, unleſs with a few ſmall white ſpots, and its wings, when extended, are ſeen ſpeckled underneath with ſmall round white ſpots. Its neck is very ſhort, as are alſo its legs. It is common in France, and abides the whole year there, and is very docile, and ſerves to all the purpoſes of hawking. In Italy the ſpecies ſeems ſomething different, having much of a yellowiſh brown about the ſhoulders, and being indocile, and of no uſe in ſporting. *Ray*'s Ornithol. p. 48.

LANNIERS, or LANNIARDS, in a ſhip, are ſmall ropes reeved into the dead mens eyes of all the ſhrowds and chains. Their uſe is to ſlacken, or ſet taught the ſhrowds. The ſtays alſo of all maſts are ſet taught by *lanniers*. That rope, which faſtens the ſtopper of the halliards to them, is alſo called a *lannier*.

LANSPESSADE, in military affairs. See the article ANSPASSADE, *Cycl.*

LANTANA, in botany, the name given by Linnæus to a genus of plants comprehending the *camara* of Plumier, and the *myrobatindum* of Vaillant, with the *pſeudoviburnum* of Rivinus. The characters are theſe. The cup is a very ſhort one leaved perianthium of a tubular cloſe figure, very lightly divided into four ſegments at the edge, and remaining after the flower is fallen. The flower conſiſts of one petal. The tube is cylindric and ſlender, and longer than the cup; it is a little oblique; the verge is plain, obtuſe, and very ſlightly divided into five ſegments. The ſtamina are four extremely minute filaments; they ſtand in the center of the flower, and two of them are a little ſhorter than the other two. The antheræ are roundiſh. The germen of the piſtil is roundiſh. The ſtyle is capillary, and of the length of the ſtamina, and the ſtigma ſtands like a wedge on the top of the ſtyle, in an oblique manner. The fruit is an unilocular drupe of a roundiſh figure. The ſeed is a nut of a roundiſh, but ſomewhat pyramidal figure, containing two cells, in each of which there is an oblong kernel. The eſſential character of this genus is in the very remarkable figure of the ſtigma. *Linnæi* Gen. Pl. p. 303. *Plum.* 2. *Dillen*, Hort. Elth. p. 56, 57. *Vaillant*, A. G. 1722. *Rivin.* 1. 172.

LANTERNS *(Cycl.)* are uſed at ſieges in the night time, upon the batteries; but theſe muſt be blind or dark *lanterns*. There is always great proviſion of them in all ſtore-houſes.

LANTERN *fiſh*, the Engliſh name of a fiſh of the ſoal kind, but ſmaller, and ſmoother to the touch, called in Latin *arnogloſſus*. *Willughby*, Hiſt. Piſc. p. 102.

LANTERN *fly*, in natural hiſtory, the name of a very ſingular kind of inſect produced in the Weſt-Indies, and carrying a ſtrong light with it in the night. The ſtructure of the trunk in this inſect is of the ſame kind with that of the cicada, and as it wants the power of making the noiſe for which the cicada is ſo famous, it belongs, according to Mr. Reaumur's diſtinctions, to that ſpecies of inſect called the *procigale*, or *procicada*.

The glow-worm, and the luminous beetles, with all the other luminous inſects we are acquainted with in this part of the world, diffuſe their light from a part which is near the extremity of the body, and under the belly, but the *lantern fly* gives it from its head. It differs alſo greatly in the degree of light; for this, in all the inſects we are acquainted with, is very feeble; whereas, in this fly it is ſo ſtrong, that Mrs. Morian, who is the firſt that well deſcribed it, ſays ſhe could read a ſmall print in a dark night by the light that one of them gave. The eyes of this creature are placed very near the part from which the light iſſues, and it is commonly ſuppoſed, that the uſe of the light is to ſhew the creature the objects it paſſes by in its flight; but if we conſider the effect of a light ſo placed, in regard to ourſelves, we ſhall find that it would by no means anſwer the ſame purpoſe to us. If our whole forehead was covered with a lambent flame in the night, it would rather blind us, than ſhew us any diſtant objects. The head of this creature, ſtrictly ſpeaking, is very ſhort, not exceeding the length of one of the rings of the body, if it be meaſured from its joining with the corcelet to its joining with the *lantern*; but if that part be accounted a portion of the head, then the head is equal in length to the whole body. This *lantern* is wider than it is deep, or thick, and has near its origin a large protuberance, which gives it a bunched or humped look. There are ſeveral tubercles and lines on it of a reddiſh colour. The ground colour is an olive brown, and underneath it has one large rib running all the way along it, from end to end, and dividing it into two, and by the ſides of that there are ſome others. Theſe are all reddiſh, and thoſe neareſt the edges have ſmall rows of ſpines running along them. Over each of the eyes there is a round granulated prominence, which ſeems to have been a collection of ſmaller eyes; and if ſo, the animal is ſupplied with the organs of viſion in a different manner from all other known creatures. But there requires an examination of the creature on the ſpot, and while alive, in order to find out this. The upper pair of wings are not perfectly tranſparent, they are dotted with white in ſome places, and are variegated near their origin with ſeveral blackiſh ſpots. The under pair are more tranſparent than the upper, they are much ſhorter, and are broader than the others. Theſe have each a large and beautiful round ſpot near the extremity, reſembling that on the wing of the peacock butterfly. The colours of the circles of theſe eyes are brown and olive; the laſt colour very bright and clear, the other very duſky and obſcure. The ſpots are ſo large, that they appear very beautiful. *Reaumur*, Hiſt. Inſ. Vol. 9. p. 247.

LANTERNISTS, a name aſſumed by the academicians of Toulouſe. See ACADEMY, *Cycl.*

LAPACTICS, a term uſed by the old writers in medicine to expreſs ſuch things as purged by ſtool, or at leaſt gently looſened the belly. It was ſometimes applied to the cathartic medicines, and ſometimes to thoſe foods which were of this tendency. *Caſt.* Lex. Med. in voc.

LAPARA, a word uſed by ſome writers to expreſs the flanks, or that part which is ſituated on each ſide the body, between the ſpurious ribs and the hips. *Caſt.* L. Med. in voc.

LAPATHUM, *dock*, in botany, the name of a genus of plants; the characters of which are the ſame with thoſe of ſorrel, [ſee SORREL] but that the leaves of the *dock* kind have not that acid taſte which thoſe of the ſorrel have.

The ſpecies of *dock* enumerated by Mr. Tournefort are theſe. 1. The common garden *dock* with oblong leaves. 2. The ſharp pointed *dock* with plane ſmooth leaves. 3. The ſharp pointed *dock* with curled leaves. 4. The ſharp pointed *dock* with red, or red veined leaves, commonly called the *bloody dock*. 5. The ſharp pointed *dock* with gold yellow flowers. 6. The leaſt *dock*. 7. The water *dock* with diers weed leaves. 8. The *dock* with leſs pointed leaves. 9. The broad leaved garden *dock*, called *monks rhubarb*. 10. The round leaved Alpine *dock*. 11. The round leaved Alpine *dock*, with the pedicles, and the middle ribs of the leaves, of a beautiful green. 12. The great water *dock*. 13. The leſſer water *dock*. 14. The elegant ſinuated *dock*, called the *fiddle dock*, from the ſhape of its lower leaves. 15. The ſtinking ſea *dock*. *Tourn.* Inſt. p. 504.

The great water *dock* has been long famous in medicine. Muntingius wrote a whole treatiſe on it, under the title of *de Britannica antiquorum vera*. The roots are principally uſed, and are ſaid to be of great ſervice in the jaundice, in the herpes, and eryſipelas, and in the diſpoſing inveterate ulcers to heal. It is alſo ſaid to be a ſovereign remedy in quinzies. *Lemery*, Dict. des Drog.

The *lapathum acutum*, or ſharp pointed leaved *dock*, is as eminent, as an antiſcorbutic, and a cleanſer of the blood. It is alſo uſed externally in ointments againſt the itch, and other cutaneous foulneſſes.

The common ſorrel, which is another ſpecies of the *lapathum*, is well known as a gentle acid, a cooler, and ſubaſtringent. It is excellent in fevers, in which it cools the mouth, and allays thirſt. Schroder goes ſo far as to recommend a conſerve of the freſh leaves in the plague, and in all peſtilential, petechial, and malignant fevers. *Dale*. See SORREL.

LAPHIATI, in zoology, the name by which the people of Lemnos call a ſpecies of ſerpent, ſuppoſed by Bellonius to be the ſame with the *elaps*, or *elaphis* of the antients. See ELAPS.

LAPIS *(Cycl.)*—LAPIS *Arabicus*, in the natural hiſtory of the antients, the name of a ſtone of a fine white colour, reſembling the pureſt ivory, and which, though naturally of a firm, ſolid, and compact texture, yet, when burnt, became light, porous, and ſpungy, and aſſumed the figure and appearance of a pumice; and was uſed like it in the compoſitions of the antient phyſicians for cleaning the teeth. *Hill*'s Theophraſt. p. 51.

LAPIS *æroſus*, in natural hiſtory, a name given to ſeveral ſorts of ſtones, and other foſſils, which had lain in the neighbourhood of copper mines, and been impregnated with particles of copper, though not in a ſufficient degree, to be thought worthy the name of *copper ores*. See LAPIS *atramentarius*, infra.

The ſame ſort of ſtones were alſo ſometimes called *chalcites*, which made ſome confuſion, as it gave occaſion to confound them with the true *chalcitis*. See CHALCITIS.

LAPIS *aſſius*, in the natural hiſtory of the antients, the name of a ſtone, called alſo *ſarcophagus*, from its power of conſuming fleſh.

It was a ſtone much uſed among the Greeks in their ſepultures, and is recorded to have always perfectly conſumed the fleſh of human bodies, buried in it, in forty days. This property it was much famed for, and all the antient naturaliſts mention it. There was another very ſingular quality alſo in it, but whether in all, or only in ſome peculiar pieces of it, is not known; that is, its turning into ſtone any thing that was put into veſſels made of it. This is recorded only by Mutianus and Theophraſtus, except that Pliny had copied it from theſe authors, and ſome of the later writers on theſe ſubjects from him. The account Mutianus gives of it is, that it converted into ſtone the ſhoes of perſons buried in it, as alſo the utenſils which it was, in ſome places, cuſtomary to bury with the dead, particularly thoſe which the perſon, while living, moſt delighted in. The utenſils this author mentions, are ſuch as muſt have been made of very different materials; and hence it appears that this ſtone had a power of conſuming only fleſh, but that its petrifying quality extended to ſubſtances of very different kinds. Whether ever it really poſſeſſed this laſt quality has been much doubted, and many, from the ſeeming improbability of it, have been afraid to record it. What has much encouraged the general diſbelief of it, is, Mutianus's account of its taking place on ſubſtances of very different kinds and textures; but this is no real objection, and the whole account has probably truth in it. Petrifactions in thoſe early days might not be diſtinguiſhed from incruſtations of ſparry and ſtony matter on the ſurfaces of bodies only, as we find they are not with the generality of the world even to this day; the incruſtations of ſpar on moſſes and other ſubſtances in ſome of our ſprings, being at this time called by many *petrified moſs*, &c. and incruſtations, like theſe, might eaſily be formed on ſubſtances encloſed in veſſels made of this ſtone, by water paſſing through its pores, diſlodging from the common maſs of the ſtone, and carrying with it particles of ſuch ſpar as it contained; and afterwards falling in repeated drops on whatever lay in its way, it might again depoſit them on ſuch ſubſtances, in form of incruſtations. By this means, things made of ever ſo different matter, which happened to be encloſed, and in the way of the paſſage of the water, would be equally encruſted with, and in appearance turned into ſtone, without regard to the different configuration of their pores and parts.

The place from whence the antients tell us they had this ſtone was Aſſos, a city in Lycia, in the neighbourhood of which it was dug; and De Boot informs us, that in that country, and in ſome parts of the Eaſt, there are alſo ſtones of this kind, which if tied to the bodies of living perſons, would in the ſame manner conſume their fleſh. *Hill*'s Notes on Theophraſtus, p. 14.

LAPIS *atramentarius*, the *copper ſtone*. See PYRITES.

LAPIS *Bononienſis*, the *Bolonian ſtone*. The art of preparing this ſtone ſo as to make it ſhine in the dark, has been ſuppoſed by many to be long loſt in its utmoſt perfection, and indeed that there were but few people who were ever truly poſſeſſed of it. The whole is, however, deſcribed at large in Hook's Philoſophical Collections, by Sir Marc Antonio Cellio, and in a book of the ſame author, publiſhed at Rome in 1680, expreſsly on that ſubject.

The principal places near Bolonia, where this *ſtone* is found, are, 1. At Pradalbino. 2. In a ſmall brook near the village Roncania, where it is found among a large quantity of a white ſtone like ſal armoniac, and an eruginary ſtone, which yields a vitriolic efflorescence: theſe are probably a fibroſe talc, and a pyrites. And 3. At Monte Patemo, which is the moſt noted place of all for theſe *ſtones*; and thoſe found here are ſaid to ſucceed beſt in the operation. The ground where it is found is barren, and abounds with ſmall globular gold coloured pyritæ. The *ſtone* is found moſt eaſily after rain; when the earth being waſhed away, the ſeveral maſſes of it appear as bright as burniſhed ſilver, or with the glittering of talc, reſembling the gloſs of a looking glaſs. Il Foſoro de *Marc. Anton. Cellio.*

The *ſtone* is of no certain figure, but is ſometimes round, ſometimes oblong and cylindric, ſometimes lenticular; the laſt kind uſually proves the beſt of all, as being more ſhining and tranſparent. They are uſually as big as an orange, and ſometimes are found of five pound weight, and are very light, conſidering their bulk. They are of various colours; ſome are aſh coloured, ſome of a ſky blue, ſome of a ferrugineous colour, others yellow, others greyiſh white, and ſome almoſt perfectly white. The beſt for uſe are the ſky coloured and the white. When this *ſtone* is prepared, it affords an efflorescence, in which lies its principal virtue of receiving light; which it does, either from the ſun, the moon, the common day light, or a flame, but in different degrees. When carried into the dark, it appears exactly like a burning coal, and the light it gives is ſufficient to read by, if the letters be placed near the *ſtone*. It does not retain its light long, but requires often renewing; and when well prepared, its virtues will laſt five or ſix years, but ſeldom longer. The way of ſeeing it to the greateſt advantage, is after the eye has been kept for ſome time in a dark room, and the ſtone is brought in there immediately from being held in the ſun.

The beſt method of preparing it is this: make a cylindric furnace of iron or copper plates, ſeven inches in diameter, and as many in height. Line the inſide of it with a ſtrong lute, ſo that the inſide may be ſix inches wide in the clear hollow: at the top of this there are to be made four notches of 2 ¼ inches deep, and 1 ½ inch wide; to this make ſuch a cylindrical part of the ſame diameter, but a little higher, and make at the bottom two aſh-holes, or air-holes, big enough to put in one's hand. Line this, as the other, with good lute, and give it a bottom of lute, that it may the more ſtrongly reflect the heat, and make a cover for the top, lining it in the ſame manner with lute: into this furnace put an iron wire grate near the bottom, to ſuſtain the coals, and freely admit the air. On this grate lay ſome pieces of lighted charcoal, and on theſe put others not lighted, all broken to the ſize of a walnut, or thereabouts. Some of the ſtones muſt be powdered, and thoſe which are to be calcined muſt be dipped in ſtrong aqua vitæ, and while wet rolled in this powder. Theſe ſtones, thus covered, muſt be laid upon the bed of charcoal cloſe to one another, and another bed of charcoal, in the like ſmall pieces, muſt be laid over them up to the top of the furnace. The cover of the furnace is then to be put on, and the fire lighted. When the charcoal is all burnt away, and the whole is cold, take out the ſtones, and taking out the cruſt from them, wrap them up in ſilk, and keep them in a cloſe box for uſe.

The cruſt which is taken off from the ſtones is to be preſerved; it ſhines as well as the ſtone, and is to be beat to powder, and rubbed over any thing that is to be made to ſhine; the thing being firſt daubed over with the white of an egg: this will make it ſtick on, and the whole will ſhine like the ſtone.

The furnace here deſcribed is not abſolutely neceſſary to the ſucceſs of the operation; but it is convenient to know the quantity of charcoal neceſſary to give the ſhining quality to the ſtone, ſince an over heat deſtroys it, and too ſmall a degree is not ſufficient to raiſe it.

LAPIS *caudæ cancri*, in natural hiſtory, a name given by Geſner, and ſome other writers, to the foſſile ſhells, ſince called *tubuli marini concamerati*, and by ſome *polythalamii* and *ortho-ceratitæ*. See the article TUBULUS *concameratus*.

Colicus LAPIS. See the article COLIC-*ſtone*.

LAPIS *corneus*, *horn ſtone*, a name given by many of the German authors to flint, which ſome of them have alſo very improperly called pyrites, or the fire ſtone, becauſe it is uſed to ſtrike fire with.

Butner, in his *corallographia ſubterranea*, has a remarkable ſyſtem in regard to flint. He is of opinion, that all flints are foſſile corals. He ſets out with a juſt principle, *viz.* that of thoſe things found under ground exactly reſembling animals, vegetables, or parts of them, which may be now found recent, living, or growing, not one is of true mineral origin; but that they are in reality ſtones, formed in or upon the very ſhells they repreſent. As it is very eaſy to find corals that reſemble our common flints, and as many of the branched, and oddly figured flints, found in our chalk pits, have ſomething of the external ſhape of ſome of the ſpecies of white corals; he concludes, that they were originally ſuch, and have been only altered into the ſtate and ſubſtance we find them in, by time. The trunk and branches of the white corals may be found very nicely repreſented in ſome of the oblong ramoſe flints found in ſtrata of chalk; and in theſe, as well as in thoſe now found in the ſea, ſome of the branches are intire, and ſome are truncated. The inner ſubſtance of the corals, and that of theſe flints, is ſmooth, hard, and uniform; and the flints have a white thin cruſt on their outſide as the corals have. Theſe are the [a] principal foundations on which he has built his new opinion. But it is to be obſerved, that the reſemblances of flints and corals are but very ſlight and ſuperficial, and we have no proof from their internal ſtructure of their being at all alike.

[a] Vid. *Butner*, Corallog. Subter.]

LAPIS *divinus*, a ſpecies of jaſper, ſo called from its imaginary virtues, as a diuretic and expeller of poiſons. It is found in the ſhores of the Ganges and other parts of the Eaſt Indies.

The Turks are extremely fond of it in their curious works, particularly for the handles of their ſabres.

LAPIS *Hyenius*. See HYENIUS *Lapis*.

LAPIS *Hybernicus*, a foſſile of the ſlate kind, ſo ſtrongly impregnated with alum as to deſerve the name of an alum ore; it often contains alſo a portion of vitriol, and is found in many parts of Ireland, as well as in ſeveral of our own counties.

It is given in powder as a ſtyptic in all kinds of hæmorrhages with ſucceſs; but, as it owes all its virtues to alum, it might be full as prudent to give this ſalt in its ſtead.

LAPIS *Iſlebeianus*. See ISLEBEIANUS *Lapis*.

LAPIS *Judaicus*. See JUDAICUS *lapis*.

LAPIS *lazuli*. The method of making the Venetian counterfeit *lapis lazuli* is this. Melt in a pot, in a glaſs-houſe furnace, equal quantities of the faireſt lattimo, and the whiteſt cryſtalline glaſs; when this is in fuſion, mix into it, by ſmall parcels at a time, the blue ſmalt uſed by the painters; make frequent proofs of the colour, and when it is right let the whole ſtand twelve hours, and then work it. If the metal riſe in the pot, put in a piece of leaf gold to keep it down; this makes a fine plain blue ſubſtance, repreſenting the plain blue parts of the true natural *lapis lazuli*. *Neri*'s Art of Glaſs, p. 117.

Lapis lazuli ſtands recommended againſt apoplexies, epilepſies, melancholy, and quartan agues; but its violent operation, as a purgative and emetic, has frighted people out of the uſe of it; and the preſent practice takes no notice of it in any of the above intentions. The chemical writers give us proceſſes for magiſteries, tinctures, and elixirs of *lapis lazuli*, but they are wholly out of uſe.

LAPIS *lucis*, the *ſtone of light*, in the materia medica of the Arabs, a name given to the braſſy marcaſite or pyrites. The Arabians have adopted this. Aviſenna ſuppoſes this ſubſtance to be called ſo, becauſe it was uſed after calcination for diſeaſes of the eyes. It is very probable, that where vitriolic medicines take place, the caput mortuum of this foſſile, which is only a colcothar of vitriol, may be of uſe. But its virtues in this reſpect can never be ſuppoſed ſo eminent, as to have entitled it to the pompous name it bears. It ſeems more probable, that it was called the *ſtone of light*, either from its glittering appearance where freſh broken, or from its giving large ſparks of fire, when ſtruck againſt a ſteel. It was from this quality that it obtained the name of pyrites or fire ſtone. It giving fire on the colliſion with ſteel much better than flint does.

LAPIS *luminis*, is uſed by ſome authors, in the ſame ſenſe as *lapis lucis*, that is, for the *pyrites*. De Laet. de Lap. See LAPIS *lucis* ſupra.

LAPIS *Lydius*. See LYDIUS *lapis*.

LAPIS *muſicalis*, the *muſic ſtone*, in natural hiſtory, a name given by Mr. Sivers, to a ſtone found in Pruſſia, carrying naturally on it all the muſical characters found on the ſhell, commonly called the muſic ſhell. He deſcribes the ſtone, which ſeems to have been a ſingle ſpecimen, as being of a greyiſh colour, and of the matter of the common finer ſand ſtones, ten inches in length, and ſeven in breadth. The lines which expreſs thoſe of the common ruled muſic paper are continued lengthway through the ſtone, and are of a reddiſh colour; as are alſo the marks expreſſing the notes, which are partly of the common modern character, and partly of that kind uſed by the Monks in their writing muſic on vellum. There ſeems to be no regular origin aſſignable to this ſtrange ſtone; and as this author is the only one who ever met with it, it is much to be ſuſpected that either fraud or fancy has had a great ſhare in the matter.

LAPIS *Nephriticus*. See NEPHRITICUS *lapis*, *Cycl.*

LAPIDES *Picti*, in natural hiſtory, a term uſed by Langius, to expreſs ſuch ſtones as are found with the delineations of fiſhes, trees, and ſhells, as well as leaves of ferns and other plants, very perfectly repreſenting the things themſelves, but ſcarce at all ſtanding out above the ſurface of the ſtone, and having in themſelves ſcarce any thickneſs. The foſſile bodies, which have been once parts of animals or vegetables, and are thence called by authors extraneous foſſils, have uſually the ſame thickneſs, that the natural bodies, whoſe figures they repreſent, have. Thus our *ſnail*, *wilk*, and other ſea ſhells which we find buried in ſtone, uſually are not only as long, but as thick as thoſe now found recent in the ſeas; but it is very certain, that the figures of fiſhes found in ſtone are often mere lineaments, and only repreſent figures traced out with a pencil, not the bodies of the fiſh themſelves buried in the ſtone. Theſe laſt are what this author ſeparates from the common kinds, under the names of *lapides picti*; and we find ſomething of this kind among the ſhell claſs as well as the fiſh; ſome of our own black ſlate ſtones being full of ſcallop ſhells, and *cornua ammonis*, which have ſo little thickneſs, that twenty beds of them lie over one another, in the compaſs of the ſixth of an inch.

We have been uſed to attribute this to preſſure; but however well this might ſerve to explain the flatneſs of the repreſentation of a fiſh in a hard ſtone, as it is not difficult to imagine ſo ſoft a body eaſily compreſſed by ſo hard a one; yet it ſeems ſtrange, that in a ſoft and crumbly ſtate, ſuch friable bodies as ſhells are, ſhould have been thus flatted, and yet not broken to pieces. The opinion of Langius is, that in theſe caſes the body of the animal is not there, but that as when a branch of roſemary, or any other plant, is carefully burnt, the aſhes will perfectly preſerve its form, though their whole ſubſtance might be reduced by preſſure to the thinneſs of a piece of paper; ſo in theſe caſes the body of the animal repreſented has been decayed and corrupted, but that ſome of its remaining principles, its ſulphurs, as he ſuppoſes, might preſerve its exact lineaments to the ſtone, as we ſee them. It is difficult to conceive that theſe bodies ſhould be thus diſſolved, while in a ſtate of ſuch perfect reſt, as that not one lineament ſhould be loſt, or one ſmall part ſeparated from the reſt, and carried away from ſo ſoft a maſs; but till ſome future writer ſhall advance a better ſyſtem, this may deſerve a place. The other kind of *lapides picti*, or painted ſtones, are thoſe which give delineations of rivers, trees, houſes, and the like; of this kind are the mocoa ſtone, and the florentine marble. It is very evident, that the bodies repreſented are not here, in reality, but the whole configuration is owing to the natural veins of the ſtone, and the coaleſcence of the ſeveral ſmaller maſſes of which each large ſtone is compoſed, and to the vapours from within the earth, getting into the natural fine cracks in the ſtones, and tinging their ſides with blackneſs. *Lang.* Hiſt. Lapid. Helvet.

LAPPAGO, in botany, a name given by the old Roman authors, to the plant we call aparine, or clivers, or ſome herb nearly allied to it.

Many of the modern Greeks have been erroneouſly of opinion, that the *lappago* of the Romans was the ſame with the *pheos* or *hippopheos* of the Greeks; but it is evident, that the *pheos* of the Greeks was a prickly ſhrub. Theophraſtus abſolutely deſcribes it as ſuch, and Dioſcorides yet more at large; yet Gaza interprets the *pheos* of the firſt author *lappago*, though that was, by all account, only a low herbaceous plant. The *lappago* of the Romans is no where ſaid to be a prickly plant. Pliny ſays it reſembles the anagallis, a ſmall and tender herb; but that it is more branched, and has more numerous and rough leaves. Dioſcorides ſays, that the antirrhinum is like the anagallis in ſtalks and leaves, and Theophraſtus reſembles the ſame plant to the aparine. Pliny's account of the antirrhinum is different indeed from this; but though many have, for that reaſon, ſuppoſed the text both in Theophraſtus and Dioſcorides corrupt, it appears to be right in both; and the whole matter is, that the antirrhinum of the Greeks, and antirrhinum of the Romans were two different plants; but both theſe and all the other deſcriptions given of the *lappago*, and the reſemblances mentioned between it and other plants, and compariſons of other plants to it ſeem to expreſs, that it was a very rough and tenacious plant, having ſeveral leaves growing from every joint, and bearing a fruit; which, by reaſon of its roughneſs, and its property of ſticking to peoples clothes, had ſome reſemblance to the *lappæ*, or burs, as we call them, which grow upon the common burdock.

Pliny tranſlates the aparine of Theophraſtus, where he copies his accounts from that author, ſometimes by the word *lappago*, tho' ſometimes by *lappa*; hence, it ſhould ſeem, that *lappago* and *lappa* were eſteemed ſynonymous terms at that time. Theophraſtus has peculiarly deſcribed the flower and fructification of the aparine; and Pliny has in his way tranſlated the account, uſing the word *lappa* as the name for aparine. In another part of the ſame book he tranſlates it *lappago*, where he mentions two kinds of it, the ſoft and the rough, which he calls *mollugo* and *aſperugo*. The *mollugo* ſeems to have been the ſame plant we ſtill call by that name, an herb reſembling the aparine in its whole exterior face, and manner of growing, but being wholly ſmooth. The name *aſperugo* here plainly meant the common aparine or clivers, but we have ſince appropriated it to another plant.

LAPPULA, in botany, a name given by ſome to the great caucalis, or rough fruited ſtone parſley. *J. Bauhin*, V. 3. p. 80. See CAUCALIS.

LARBASON, a word uſed by ſome authors as a name for antimony. See ANTIMONY.

LARGE, in the manege. A horſe is ſaid to go *large*, or wide, when he gains or takes in more ground in going wider from the center of the volt, and deſcribing a greater circumference. To make a horſe go *large* you muſt give him the aid of your inner heel. See ENLARGE.

LARGE, in muſic. See CHARACTER, *Cycl.*

LARGHETTO, in the Italian muſic, ſignifies a movement ſomething ſlow, yet a little quicker than *largo*.—V. Broſſ. Muſ. Dict. in Voc. See LARGO.

LARGO, in the Italian muſic, a ſlow movement, one degree quicker than *grave* and two than *adagio*. See ADAGIO and GRAVE.

LARIX, the *larch tree*, in botany, the name of a genus of trees, the characters of which are theſe. The flower is of the amentaceous kind, being compoſed of a number of apices; but it is barren, the embryo fruits appearing in other parts of the tree. Theſe finally become a ſort of cones, compoſed of a number of ſcales affixed to an axis, and containing under them a number of foliated ſeeds. To this it is to be added, that the leaves grow many together out of the ſame theca. *Tourn.* Inſt. p. 586.

The ſpecies of *larix* enumerated by Mr. Tournefort are theſe. 1. The common *larch tree*. 2. The oriental *larix* with round obtuſe fruit. 3. The American *larix*, with leaves growing, five out of the ſame theca; and 4. The Canada *larix* with very long leaves.

There are two ſpecies of this tree cultivated in the gardens about London; the one is the common kind, the other has white rudiments to the fruit. They are propagated by ſowing in March on a bed of light earth expoſed to the morning ſun. The ſeed muſt be covered half an inch thick

with fine light earth, and the beds watered at times, when the weather is over dry. In about ſix weeks the plants will appear; they muſt at this time be carefully guarded from the birds, and not expoſed to the ſun or winds, and muſt be kept clear of weeds and watered.

In the latter end of April the following year they may be removed into beds of freſh earth, placing them at ten inches diſtance every way. They are to be kept here two years, and ſuch of them as ſeem to bend muſt be tied up to a ſtake to keep them upright. They may afterwards be planted in the places where they are to remain. They thrive well on the ſides of barren hills, and make a very pretty figure there.

LARK, *Alauda*, in zoology. See ALAUDA.

The *lark* is not only a very agreeable bird for the cage, but it is alſo a very hardy one; it will live upon almoſt any food, ſo that it have once a week a freſh tuft of three leaved graſs put into the cage with it.

The *ſky* and *woodlark* differ in the time of their breeding; the former not producing her young ones till May, the latter hatching them in March. In winter it is common to ſee vaſt flocks of *ſky larks*; and yet, it is obſerved, that there are fewer of their neſts found in the ſeaſon, than of any birds that is in any degree common among us. The *ſky lark* ſometimes builds among corn, ſometimes among high graſs, and ſeldom has more than three young ones at a brood, ſcarce ever more than four; ſo that it is the more wonderful whence the large flights we ſee come. The young may be taken out of the neſt at a fortnight old, and are ſo hardy, that they will eaſily be brought up. The beſt food is ſheeps heart chopped with egg, and afterwards oatmeal, bruiſed hempſeed, and bread, with a little egg among it. They ſhould have clean ſand at the bottom of the cage, but they need no perches.

The common way of taking *larks* is in the night, with thoſe nets which are called *trammels*. Theſe are uſually made of thirty ſix yards in length, and about ſix yards over, with ſix ribs of packthread, which at the ends are put upon two poles of about ſixteen feet long, and made leſſer at each end. Theſe are to be drawn along the ground by two men, and every five or ſix ſteps the net is made to touch the ground, otherwiſe it will paſs over the birds, without diſturbing them, and they will eſcape. When they are felt to fly up againſt the net it is to be clapped down, and then all are ſafe that are under it. The darkeſt nights are the propereſt for this ſport, and the net will not only take *larks* but all other birds, that rooſt on the ground, among which are woodcocks, ſnipes, partridge, quails, field-fares, and ſeveral others.

In the depth of winter people ſometimes take great numbers of *larks* by nooſes of horſe hair. The method is this: take a hundred, or two hundred yards of packthread; faſten at every ſix inches a nooſe made of double horſe hair; at every twenty yards the line is to be pegg'd down to the ground, and ſo left ready to take them. The time to uſe this is when the ground is covered with ſnow, and the *larks* are to be allured to it by ſome white oats, ſcattered all the way among the nooſes; they will ſoon fly to theſe, and in eating will be hung by the nooſes. They muſt be taken away as ſoon as three or four are hung, otherwiſe the reſt will be frighted; but though the others are ſcared away juſt where the ſportſman comes, they will be feeding at the other end of the line, and the ſport may be thus continued a long time.

Sea LARK, in ornithology. See HIATICULA.

LARKSPUR, in botany. See DELPHINIUM.

There are eleven ſpecies of this plant cultivated in the gardens of the curious, for the beauty of the flowers; and beſide theſe a number of other varieties produced by a careful management of the ſeed ſaved from good flowers. They are to be raiſed by ſowing the ſeeds in autumn ſoon after they are ripe. Some ſow them in ſpring, but the plants are thus never ſo ſtrong, nor are the flowers ſo large. When the young plants have got a little ſtrength, they ſhould either be pulled up, or tranſplanted, ſo as to have them at ten inches diſtance every way. They will now require no farther care, but will flower in June. *Miller*'s Gardners Dict.

LARUS, the *Gull*, in the Linnæan ſyſtem of zoology, is the name of a diſtinct genus of birds of the anſer order. The characters of which are a pointed bill, feathered thighs, and feet placed not very far behind. *Linnæi* Syſtem. Natur. p. 46.

The general characters of this genus, according to Mr. Ray, are theſe. They are all, except a very few, web footed, their beak is long, narrow, ſtrait, and a little hooked at the end, their noſtrils are oblong, their wings long and ſtrong, their legs ſhort, and their feet ſmall. Their body is very light, and covered with a thick plumage. They are great flyers, very clamorous and noiſy, and feed on fiſh. There are properly two ſubordinate genera of theſe birds; the firſt is of thoſe which are large, and have an even not forked tail, and have a tubercle in the lower chap of their bill. The other of the ſmaller ones, which have all forked tails, and have no tubercle in their lower chap. Of the firſt genus are the *great gull*, the *herring gull*, the *ſea mall*, the *ſea meb*, the *tarrock*, the *pewit*, the *gannet*, the *cataracta*, the *martinazzo*, the *coddy moddy*, the *winder meb*, the *cepphus*, the *brown fern*, and the *gaviota*: and of the ſecond, or ſmaller kind, are the *ſterna*, the *fiſcherlin*, the *ſcarecrow*, and four ſpecies of the *larus fidipes*; all which ſee under their ſeveral heads. *Ray*'s Ornithol. p. 261.

LARUS *fidipes*, in zoology, the name of a peculiar kind of bird, accounted by many to be of the *larus*, or gull kind, but having its feet not webbed, as in the other birds of that genus, but the toes looſe, as in land fowls. There are four known ſpecies of this bird. 1. A black one, ſomewhat ſmaller than the common ſea ſwallow, and having a forked tail. 2. A black kind with a greyiſh white breaſt and belly, and remarkable for the great length of its wings. 3. A grey kind, of the ſize of a blackbird, with a very long tail, and very ſhort wings. And 4. A brown one, with yellow ſpots. The firſt and the laſt of theſe are common on our own coaſts; the two others are deſcribed by Aldrovand. They all feed on fiſh. *Ray*'s Ornitholog. p. 270. Vid. ſupra.

LASANON, a word uſed by different authors in very different ſenſes; ſome applying it to the trivet commonly uſed in kitchens; others to a cloſe-ſtool; and others, among whom are Hippocrates and the antient phyſicians, for a ſort of chair, contrived for a woman in labour to ſit in, as being ſo made, that the weight of the child, when born, ſhould help to draw away the ſecundines.

LASER *cyreniacum*, in the materia medica, a name ſuppoſed to be given by the antient Greeks to the gum we at this time call *aſſa fœtida*. The word *aſſa*, or, as it was originally written, *aſa*, was evidently formed on the *laſer* of the Greeks; but there was alſo an *aſa* mentioned by the old authors very different from this, being a fragrant and ſweet ſcented gum: and indeed, though Aviſenna and Serapion, and many of the authors of the middle ages, have determined the *laſer cyreniacum* to be our *aſſa fœtida*, yet it is but a ſuppoſition, and that ſo ill founded, that it will not bear a critical examination. The *laſer* of the antients was of a very agreeable and fragrant ſmell, not of the ſtinking one of our *aſſa*. Dioſcorides attributes to it a very pleaſing ſmell, and expreſsly ſays that it had nothing of the ſmell of the leek or onion kind, for which our *aſſa fœtida* is ſo remarkable. Theophraſtus quotes ſome authors, much older than himſelf, to the credit of the ſweet ſmell of *ſilphium* of Cyrene, which is the plant whence the *aſſa* of their times was produced, and even the poet Ariſtophanes calls it the ſweet ſcented gum. The miſunderſtanding ſeems to have ariſen about this gum, from the naming another thing by its name in after times. This ſweet gum was evidently the *laſer* and *aſa*, or *aſſa*, of the antient Greeks; and the *ſilphium* was the plant which produced it. This plant grew in Cyrene, and furniſhed it a long time, but in the days of Pliny it was in a manner loſt. The people of Cyrene found it more profitable to feed their cattle upon the *ſilphium*, than to gather its gum. We hear of the great eſteem, in which the fleſh of cattle fed on the *ſilphium* was among the antients, and have wondered at it, that ſo ſtinking a plant as that muſt be, which yields *aſſa fœtida*, could give a good flavour to the fleſh of cattle; but we find by this account, that the *ſilphium* was not a ſtinking plant, and that the *aſa* of thoſe times was a very ſweet and fragrant gum, not a ſtinking one, like what we now call by that name.

Pliny continues to tell us, that by the feeding cattle on this plant, it was ſo perfectly deſtroyed, in a courſe of years, that there had been, of a long time, only one plant of it ſeen, and that reckoned ſo great a curioſity, that it was ſent as a preſent to the emperor Nero.

When Cyrene no longer afforded the *ſilphium*, it was ſought for in other places, and the Romans had a gum of the ſame name with that of the Cyrenian from Armenia, Media, and Perſia. This, however, was very different from the original medicine. This was of a diſagreeable ſmell, and though of a much hotter and more firey taſte than the Cyrenian, yet came very ſhort of it in its virtues. The original *aſa*, or *laſer*, had the ſmell of myrrh, but more mild and agreeable; and the *aſa* of ſucceeding times had that of leeks or garlick, and thence was diſtinguiſhed by the name *ſcorado laſerum*.

LASERPITIUM, *laſerwort*, in botany, the name of a genus of the umbelliferous plants; the characters of which are theſe. The flower is of the roſaceous kind, conſiſting of ſeveral heart faſhioned petals diſpoſed in a circular order on a cup, which finally becomes a fruit compoſed of two ſeeds, gibboſe on one ſide, and ornamented with four large foliaceous wings, which are ſometimes curled, and ſometimes plain.

The ſpecies of *laſerpitium* enumerated by Mr. Tournefort are theſe. 1. The French *laſerworts*, or *laſerpitium* of Marſeilles. 2. The *laſerpitium* with very narrow and oblong leaves. 3. The ſtinking *laſerpitium* with brittle angular leaves. 4. The ſelinum like *laſerpitium* with curled ſeeds. 5. The broad leaved *laſerpitium* with a narrow and hollow umbel. 6. The broad leaved not ſinuated *laſerpitium*. 7. The narrow leaved not ſinuated *laſerpitium*. 8. The daucus like *laſerpitium* with viſcous ſeeds. 9. The *laſerpitium* with broad lobated leaves. 10. The great round leaved Alpine

Pine *laſerpitium*. 11. The great large leaved *laſerpitium* with curled ſeeds. 12. The low *laſerpitium* with ſmallage leaves, and purple flowers. 13. The low *laſerpitium* with ſmallage leaves and white flowers. 14. The *laſerpitium* with long and divided lobes. *Tourn.* Inſt. p. 324.

LASHED, a ſea term ſignifying *made faſt*. Thus they ſay the carpenter ought to take care that there be ſpare yards *laſhed* faſt to the ſhips ſides; *i. e.* faſtened there to uſe on occaſion.

LASKETS, or LATCHES, in a ſhip, are ſmall lines, like loops, faſtened, by ſowing into the bonnets and drablers, in order to lace the bonnets to the courſes, or the drablers to the bonnets.

LAST, (*Cycl.*) in the marſhes of Kent, a court held by the twenty four jurats, and ſummoned by the bailiffs; wherein orders are made to lay and levy taxes, impoſe penalties, *&c.* for the preſervation of the ſaid marſhes. *Hiſt. of imbanking and draining*, fol. 54. *Blount.*

LATERALIS *morbus*, a name given by ſome writers to the pleuriſy.

LATERALIS *naris muſculus*, in anatomy, a name given by many authors to that muſcle of the face which Albinus has called, from its office, the *levator labii ſuperioris alæque naſi*. It is alſo called the *obliquus naſi*.

LATERCULUM, among the Romans, was uſed for a roll or liſt of all the magiſtrates and military officers under the Roman emperors, with an account of their reſpective offices and fees. *Pitiſc.* in voc.

LATEX, in chemiſtry, a name by which Van Helmont has, in ſome of his writings, called the famous menſtruum, which he boaſts Paracelſus and himſelf to have been poſſeſſed of, and which he uſually calls *alkaheſt*. See ALKAHEST.

LATH *bricks*, a particular ſort of *bricks* made in ſome parts of England of twenty two inches long, and ſix inches broad, which are uſed in the place of laths, or ſpars, ſupported by pillars in *caſts*, for the drying of malt. This is an excellent contrivance; for, beſide that they are not liable to fire as the wooden *laths* are, they retain the heat vaſtly better; ſo that being once heated, a very ſmall quantity of fire will keep them ſo. *Plot*'s Oxfordſhire, p. 257.

LATHRÆA, in botany, the name given by Linnæus to the plant called by Tournefort *clandeſtina*. This, in the Linnæan ſyſtem of botany, is alſo a diſtinct genus of plants; the characters of which are: That the cup is compoſed of one leaf, ſtanding erect, and repreſenting a bell, with its rim deeply divided into four ſegments. The flower is compoſed of a ſingle petal, in form of a tube, longer than the cup, with a gaping and bellied mouth. The upper lip of the flower is hooded, and is broad and concave, with a narrow crooked extremity; the under one is ſmaller, crooked, obtuſe, and divided into three parts. The ſtamina are two pointed filaments, of the length of the flower, hid beneath the upper lip. The antheræ are two on each filament, obtuſe above, and narrower below. The piſtillum has a roundiſh germen, a thread-like ſtyle of the ſame length with the ſtamina, and placed in the ſame manner with them, and a truncated ſtigma. The fruit is a roundiſh, obtuſe, but pointed capſule, divided into two cells, having two valves, and is very elaſtic. *Linnæi* Gen. Plant. p. 9. See CLANDESTINA.

LATHYRIS, in botany, a name given by many authors to a ſpecies of tithymal, or ſpurge, commonly known by the name of *tithymalus latifolius*, the broad leaved ſpurge, and called by ſome alſo *cataputia*.

LATHYRUS, in botany, the name of a genus of plants; the characters of which are theſe. The flower is of the papilionaceous kind. The piſtil ariſes from the cup, and finally becomes a pod, in ſome ſpecies, of a cylindric, and in others of a flatted form, containing ſometimes cylindric, and ſometimes angular ſeeds. To this it is to be added, that the ſtalks are flat and ridged, and have on each ſide a foliaceous wing, and the leaves ſtand only two on each rib; theſe are placed oppoſite to one another, and the rib itſelf ends in a tendril.

The ſpecies of *lathyrus* enumerated by Mr. Tournefort are theſe. 1. The cultivated *lathyrus* with a white flower and white fruit. 2. The purple flowered garden *lathyrus*. 3. The common large wild *lathyrus*. 4. The greater wild *lathyrus* with a blackiſh purple flower. 5. The broad leaved *lathyrus*. 6. The broad leaved *lathyrus* with white flowers. 7. The great narrow leaved french *lathyrus*. 8. The narrow leaved *lathyrus* with a ſpotted ſeed. 9. The orobus podded *lathyrus* with a very beautiful large red flower. 10. The American variegated *lathyrus* with very narrow leaves. 11. The creeping tuberoſe rooted field *lathyrus*. 12. The vetch leaved yellow flowered wild *lathyrus*. 13. The blue flowered annual *lathyrus*. 14. The yellow flowered bœtic *lathyrus*. 15. The yellow flowered Spaniſh *lathyrus*. 16. The broad leaved yellow *lathyrus*. 17. The hairy podded narrow leaved *lathyrus*. 18. The broad leaved annual *lathyrus* with a hairy jointed pod. 19. The *lathyrus* with extremely narrow leaves and round ſeeds. 20. The *lathyrus* with extremely narrow leaves, and angular ſeeds. 21. The narrow leaved red flowered *lathyrus*. And 22. The ſcarlet flowered *lathyrus* with graſs like leaves. *Tournefort*, Inſt. p. 396.

LATIBULUM, a word uſed by ſome medical writers for the fomes, or latent matter, which is the occaſion of fevers and other diſorders.

LATION, is uſed by ſome for the tranſlation, or motion of a body from one place to another.

LATI-TENDINIS *muſculus*, in anatomy, a name given by Spigelius and others to a muſcle called, by Winſlow, *muſculus faſciæ latæ*, and by Albinus the *muſculus vaginæ femoris*. See MEMBRANOSUS, *Cycl.*

LATOMIA, λατομια, in antiquity, a famous priſon or dungeon at Syracuſe, cut out of the ſolid rock.

It was the work of the tyrant Dionyſius. Cicero calls it a vaſt magnificent work, ſunk into the ſolid rock to a wonderful depth; and ſays, that nothing could even be imagined more ſecure for the confinement of priſoners. *Pitiſc.* Lex. Ant. in voc.

The word *latomia* ſignifies a quarry, from λας, a ſtone, and τεμνω, to cut.

Latomia was alſo the name of a dungeon at Rome near the priſon called *Tullianum*. *Pitiſc.* l. c.

LATTIMO, in the glaſs trade, a name for a fine milk white glaſs. There are ſeveral ways of making it, but the beſt of all others is this. Take four hundred weight of cryſtal fritt, and ſixty pound of calcined tin, and two pound and a half of prepared manganeſe; mix theſe well with the fritt, and ſet them in a pot in a furnace to melt and refine. At the end of eighteen hours this will be purified; then caſt it into water, purify it again afterwards in the furnace, and make a proof of it. If it be too clear, add fifteen pound more of calcined tin; mix it well with the metal, and let it ſtand one day to purify; it will then be of a whiteneſs ſurpaſſing even that of ſnow, and is fit to work into veſſels. *Neri*'s Art of Glaſs, p. 98.

LATTIN, a name by which we uſed to call the plates of iron covered with tin, and now uſually called tin, of which our mugs, and ſuch other things, are made. The method of preparing theſe plates of tin, as they are called, is as follows. Plates of iron are prepared of a proper thinneſs; theſe are cut into ſquares fitted to receive the tinning, but it is not every kind of iron that will ſerve to this purpoſe, but only ſuch as is moſt of all diſtenſible, eaſily beating out to any degree of thinneſs when hot, and malleable even when cold, without danger of flying to pieces. Of this the Germans have large quantities, which they always ſelect for this purpoſe. This ſort of iron is firſt formed into ſquare bars of an inch in diameter; theſe they beat out a little into flatneſs, and then cut into pieces, which they call *ſemelles*, or *ſoles*. They fold theſe together, and having made them into parcels, containing forty pieces each, they beat them all at once with a hammer, which weighs ſix or ſeven hundred weight. When they have done this, the principal part of the whole work is to prepare the leaves, now beat out to a proper thinneſs, ſo as that they ſhall readily receive the tin; for if there be but the ſmalleſt particle of duſt on them, or only the ſlighteſt ruſt in any part, the tin will never fix there.

This ſmoothing of the plates may be brought about by filing them, but that would be too expenſive, wherefore they do it by ſteeping them in acid waters. Thus preparing a great number at a time, they leave them in this liquor till the ſurface is a little preyed upon by it, and then they are ſcowered with ſand, which makes them very ſmooth and fine. By this means a woman cleans more plates in an hour, than the moſt expert workman can do in many days. Mr. Reaumur, to whom the world owes the diſcovery of this proceſs, mentions ſeveral waters, any one of which will ſucceed, but the Germans themſelves uſe nothing but common water, made eager with rye. This they make a great ſecret of, but the preparation is very eaſy. After they have ground the rye groſsly, they leave it to ferment in common water for ſome time; and they are thus ſure of a ſharp and eager menſtruum, excellently fitted for their purpoſe. With this liquor they fill certain troughs, or tuns, and into theſe they put ſeveral bundles of the plates of iron: and to make the liquor be more eager, and act the better on them, they keep it in ſtoves, where it has little air, and is kept warm with ſmall charcoal fires. The workmen go into theſe vaults once or twice a day, to turn the plates, that they may be the better wrought upon by the acid, and to take out thoſe which are moſt wrought upon, and put in others in their room. The more acid the liquor is, and the warmer the ſtove, the ſooner the plates are cleanſed: it requires, however, at leaſt two days to effect this, and oftener ſomething more.

This was the method which the German labourers, employed in the tin works in France, always made uſe of, in order to prepare the iron to receive the covering of tin; but the authors finding that this was a very laborious employ, and that the heat in the ſtoves was ſo great, that they could hardly bear it, propoſed ſome other methods in the place of this, which were attended with much leſs trouble,

and as ſmall an expence, if not leſs, and theſe, upon trial, were found to ſucceed equally well.

Having obſerved that the iron leaves, or plates, are covered with a ſmall layer of a ſort of ruſt which they contract in the fire, and which the acid liquor took very little hold of; he judged it might be better to expoſe the plates to ruſt, in order to the cleanſing them eaſily of it; as ruſt is always accompanied with a ſort of fermentation, and the particles of ruſt, found on the ſurface of the iron, would be ſure to raiſe up every thing in their way. To this purpoſe he ſteeped the plates of iron in waters, in which were ſeparately diſſolved alum, common ſalt, and ſal armoniac. Some other plates he did not ſteep in theſe liquors, but only juſt dipped them in, and then expoſed them to the air to ruſt. All theſe liquors, thus uſed, cauſed the iron to ruſt very freely, but the ſal armoniac beſt of all. After two days, during which every plate had been dipped into this menſtruum only twice or thrice, he ordered both theſe, and thoſe which had been left ſteeping during the ſame ſpace of time, to be ſcowered; and on comparing them together, it was found, that thoſe which had been dipped, and expoſed to the air, became much cleaner than thoſe which had been all the time ſteeped. The ruſt covered all the ſurface in the latter, without raiſing the ſcale; whereas, in the former, the ſurface was raiſed into bliſters of ruſt, which carried it wholly off with them. Theſe diſſolvents, though very weak, are obſerved to produce the deſired effect, as well as ſtronger, which muſt be much dearer; but among the latter he prefers vinegar in France, which ſucceeds very well, and being plentiful there, is very cheap. This operates ſo quick on the iron, that the plate need only be once dipped into it, and immediately taken out again, and ſet in a moiſt place, where it will ruſt in eight and forty hours. If the dipping is repeated three or four times, the ruſting will be ſtill more expeditious, and eſpecially if a ſmall quantity of ſal armoniac be diſſolved in the vinegar, about a pound to the puncheon. This will make a very efficacious menſtruum, the vinegar diſſolving iron very well, and the ſal armoniac ruſting it ſooner than any other ſalt. This, however, muſt be uſed very moderately, and the plate muſt be ſteeped in cold water afterwards, to take off any particle that might yet remain upon it, otherwiſe it would be ſubject to ruſt after it was tinned.

There are ſeveral other ways of making iron ruſt, as keeping it in a moiſt cellar, expoſing it to the dew, ſprinkling it with ſimple water, or, which is ſtill better, with water, in which ſal armoniac has been diſſolved, ſeveral times a day; and in thoſe countries where the pyrites is common, the vitriolic waters, which partake of it, will do it very well. This water may be prepared at little or no expence, only by heaping up large quantities of the pyrites, and letting it moulder in the air, then putting it into common water, and making a lixivium of it.

The leaves of tin, when they are finiſhed, are always found to be more bright and gloſſy on one ſide than on the other, which is owing to the plates of iron having always ſeveral roughneſſes on one ſide, where it has been moſt expoſed to the hammer. Theſe roughneſſes are what are principally to be eaten down by the menſtruums; for which reaſon Mr. Reaumur greatly prefers ſprinkling, or wetting them, to ſteeping; becauſe in ſteeping, as both ſides are equally expoſed to the force of the menſtruum, the ſmooth ſide muſt be conſequently eaten away too far, while the other is but eaten barely enough; this occaſions a loſs of the iron, which the author propoſes to ſave by ſprinkling, or ſimply wetting, as then the bad ſide only might be ſubjected to the action of the menſtruum.

There are two other cautions, very neceſſary to be obſerved in this part of the work. The firſt is in the management of the plates, before they come to be prepared; which is, in the beating of them, to turn them continually about, ſo that all parts of every plate may be equally extended. And the other is, to plunge them into ſome ſoft clay, or fullers earth, before they are heated, that they may not ſolder themſelves together.

Which ever method of ruſting the plates be uſed, it is always neceſſary to ſcower them with ſand as ſoon as it is done; and when they are thus cleaned, they muſt be immediately plunged into water, to prevent their ruſting again, and they are to be left in this water till the inſtant in which they are to be tinned, or, in the language of the workmen, *blanched*. The people employed in this part of the operation, are called *blanchers*, and the others who, aſſiſt at the cleaning the plates, the *ſealers*. The blancher makes as great a ſecret of his art, as the ſealer does of his, and it was with great difficulty that Mr. Reaumur obtained it. The manner of doing it is this.

They flux the tin in a large iron crucible, which has the figure of an oblong pyramid with four faces, of which two oppoſite ones are leſs than the two others. The crucible is heated only from below, its upper part being luted with the furnace all round. The crucible is always deeper than the plates, which are to be tinned, are long; they always put them in downright, and the tin ought to ſwim over them.

To this purpoſe artificers of different trades prepare plates of different ſhapes, but Mr. Reaumur thinks them all exceptionable. But the Germans uſe no ſort of preparation of the iron, to make it receive the tin, more than the keeping it always ſteeped in water till the time; only when the tin is melted in the crucible, they cover it with a layer of a ſort of ſuet, which is uſually two inches thick, and the plate muſt paſs through this before it can come to the melted tin. The firſt uſe of this covering is to keep the tin from burning; as if any part ſhould take fire, the ſuet would ſoon moiſten it, and reduce it to its primitive ſtate again. The blanchers ſay, this ſuet is a compounded matter. It is indeed of a black colour, but Mr. Reaumur ſuppoſed that to be only an artifice to make it a ſecret, and that it is only coloured with ſoot, or the ſmoke of a chimney; but he found it true ſo far, that the common unprepared ſuet was not ſufficient; for after ſeveral attempts, there was always ſomething wanting, to render the ſucceſs of the operation certain. The whole ſecret of blanching, therefore, was found to lie in the preparation of this ſuet; and this he at length diſcovered to conſiſt only in the firſt frying, and burning it. This ſimple operation not only gives it the colour, but puts it into a condition to give the iron a diſpoſition to be tinned, which it does ſurpriſingly.

The melted tin muſt alſo have a certain degree of heat, for if it is not hot enough, it will not ſtick to the iron; and if it is too hot, it will cover it with too thin a coat, and the plates will have ſeveral colours, as red, blue, and purple, and upon the whole will have a caſt of yellow. To prevent this, by knowing when the fire has a proper degree of heat, they might try with ſmall pieces of iron; but, in general, uſe teaches them to know the degree, and they put in the iron when the tin is at a different ſtandard of heat, according as they would give it a thicker or a thinner coat. Sometimes alſo they give the plates a double layer, as they would have them very thickly covered. This they do by dipping them into the tin, when very hot, the firſt time, and when leſs hot, the ſecond. The tin, which is to give the ſecond coat, muſt be freſh covered with ſuet, and that with the common ſuet, not the prepared. Philoſ. Tranſ. N° 406. p. 634.

LATUS, in zoology, the name of a fiſh of the coracinus, or umbra kind, caught in the Nile, and in the Adriatic and Mediterranean ſeas. It much reſembles the common coracinus, but is larger, and has not the beard which hangs from the chin in that ſpecies, and its body is ſomewhat rounder. It is eſteemed a very delicate fiſh. *Rondelet.* de Piſc. p. 130.

LATUS, (*Cycl.*) in anatomy, a name given by many authors to one of the muſcles of the anus, now generally called the *levator ani*.

LATUS *muſculus*, in anatomy, is alſo a name given by Riolanus, and others, to a muſcle called by Albinus *latiſſimus colli*, and by others *platyſma myodes*, and *quadratus genæ*. Part of this muſcle ariſing from the cheek, is called by Santorini the *muſculus riſorius novus*. See QUADRATUS.

LATUS-*pulſus*, a *broad pulſe*, a term uſed to expreſs that ſort of *pulſe*, in which the artery is very ſenſibly dilated at every ſtroke.

LAVACRUM, in botany, a name given by ſome authors to the common wild teaſel, or *dipſacus ſylveſtris major*. *Ger.* Emac. Ind. 2.

LAVARETUS, in zoology, the name of a ſmall fiſh called by ſome the *gang-fiſh*, and the *rhingau*, and by Marggrave the *curimata*. It ſeems of a middle nature, between the trout and herring kind, and is caught in vaſt quantities in the months of March and April, in ſeveral of the lakes in Germany, and is pickled, and ſent to different parts of the world. It ſeldom grows to more than four inches long, and the figure of its body is like that of the herring, flatted, broad, and oblong. Its back is black, and its belly white. It has two fins upon the back; the one near the head, and of the common kind; the other near the tail, and of the nature of the generical fin of the truttaceous fiſhes, free from rays or nerves, and fat. Its tail is forked, and it has a pair of fins under its gills, and another pair on the belly. Its head is bright, and in a manner pellucid, and is marked with black ſpots. *Willughby*, Hiſt. Piſc. p. 183.

LAUDICOENI, among the Romans, applauders, or perſons who, for a reward, attended the rehearſal of plays and orations, in order to raiſe, or join in the acclamation. See ACCLAMATION and APPLAUSE.

LAVENDULA, *lavender*, in botany, the name of a genus of plants; the characters of which are theſe. The flower conſiſts of one leaf, and is of the labiated kind. The upper lip is erect, roundiſh, and uſually bifid; the lower is divided into three ſegments. The piſtil ariſes from the cup, and is fixed, in the manner of a nail, to the hinder part of the flower. This is ſurrounded by four embryo's, which afterwards become ſo many ſeeds, ripening in the cup of the flower. To theſe marks it may alſo be added, that all the ſpecies of *lavender* bear their flowers in compact ſpikes at the tops of their branches.

The ſpecies of *lavender* enumerated by Mr. Tournefort are theſe. 1. The ſhort ſpiked greyiſh broad leaved Indian *lavender*. 2. The woolly Spaniſh broad leaved *lavender*. 3. The common broad leaved *lavender*. 4. The white flowered common *lavender*. 5. The narrow leaved *lavender*. 6. The white flowered narrow leaved *lavender*. 7. The cut leaved *lavender*. 8. The longer, and more elegantly cut leaved *lavender*. 9. The *lavender* with crenated leaves. 10. The American ſhrubby *lavender* with broad crenated leaves. *Tourn.* Inſt. p. 198.

We have three or four ſpecies of this plant in our gardens, all which are propagated by planting their cuttings, or ſlips, in April, in a place where they may be ſhaded. They muſt be watered till they have taken good root, which will be in about two months; after which they may be planted out where they are to remain. They thrive beſt in an open ſituation, and gravelly ſoil. They grow faſter in richer ground, but they are there very ſubject to be deſtroyed in hard winters, and their flowers are never ſo well ſcented. See LIMONIUM.

The flowers and ſummits of this plant are, in a very eminent degree, cephalic and nervine. They are given in palſies, vertigoes, lethargies, and tremors of the limbs. The compound ſpirit, diſtilled from them, is famous in theſe, and many other the like caſes.

LAVER-*bread*, a ſort of food made of a ſea plant, otherwiſe called the *oiſter-green*, or *ſea-liverwort*. It is ſaid to be uſed in the county of Glamorgan, and other parts of Wales.

LAUGHER, a name given to a particular ſpecies of pigeon, called by Moore the *columba ridens*. It is about the ſize of the common pigeon, and much of the ſame make; but it has a very bright pearl coloured eye, almoſt white, and is a mottled red, or blue. They are ſaid to be brought from Jeruſalem, and the country thereabouts. When the cock of this ſpecies courts the hen, he has a guttural cooing, not unlike the guggling of a bottle of water, when poured out haſtily; and after this he always make a noiſe, not unlike laughing, from the ſingularity of which he has obtained his name. *Moore*'s Columbarium, p. 45.

LAVIGNON, the name of a French ſhell fiſh, common on the coaſt of Poitou. It is of the *chama* kind, having a very thin pair of ſhells for its covering, which are eaſily cruſhed to pieces between the fingers, and which never can ſhut cloſe, in the manner of the oiſter or muſcle, or other common bivalve ſhells. The fiſh therefore always buries itſelf in the mud by way of ſecurity. The ſhells are very ſmooth and poliſhed, eſpecially on the inſide, and they are naturally white. This colour they always retain within, though their outer ſurface is often tinged black by the mud.

They are often buried five or ſix inches deep in the mud, but it is always eaſy to know where they are, becauſe they muſt keep a free communication with the water above; and this is done by means of a round aperture, of about a tenth of an inch diameter, which opens from the ſurface of the mud to every ſhell fiſh. Very often there are two of theſe apertures to one fiſh, and uſually they are found in great numbers together; the fiſh generally living in the neighbourhood of one another. When the ſhells of this fiſh are opened to their utmoſt width, it is eaſy to ſee a ſort of arm with which each is furniſhed, in the manner of the common muſcle, for its progreſſive motion. This part ſerves them to bury themſelves in the mud, and to raiſe themſelves out of it again, when they are inclined to ſeek a new habitation; unto which it makes its way in a more ſpeedy manner than would eaſily be thought.

When the creature is plunged to its proper depth under ground, it yet receives the benefit of the water above, by means of two pipes, or proboſcides, which have each a double aperture at their ends. Theſe take in water, and throw it out again, alternately, for the uſes of the animal, and either of the two is indifferently qualified to anſwer either purpoſe. Theſe pipes make the round apertures, which are ſeen over the places where the fiſh are buried; for as ſoon as they have entered the mud, the continual motion of the water ſmooths over the top of the hole, and the creature is deprived of the advantages of the water above, till it open a communication again by one, or both theſe pipes. The fiſh has a power of lengthening, or ſhortening theſe pipes at pleaſure, and, when it pleaſes, takes them wholly into the ſhell. It can alſo move them about, and turn them to any direction, and often they raiſe them above the ſurface of the bottom, the level with which is their uſual height; and when they are thus exerted, they draw them ſeveral ways about, and mark with them ſeveral irregular furrows about their holes. Mem. Acad. Par. 1710.

LAVIN, in natural hiſtory, a name given by the people of the Philippine iſlands to a ſpecies of hawk, a bird of great beauty, being variegated all over with yellow, black, and white. They call it alſo *ſicub*. See SICUB.

LAUNCEGAYS, in our old writers, a kind of offenſive weapons, now diſuſed, and prohibited by the ſtatute 7 Rich. II. c. 13. *Blount.*

LAUNCH, (*Cycl.*) a term uſed in ſeveral ſea phraſes, as *launch out the capſtan bars*, that is, put them out; *launch aft*, or *foreward on*, that is, when things are ſtowed in the hold, to put them more aft, or foreward on; *launch, ho!* that is, when a yard is hoiſed high enough, hoiſe no more; or in pumping, if the pump ſucks, pump no more.

LAUNDER, in mineralogy, a name given in Devonſhire, and other places, to a long and ſhallow trough, which receives the powdered ore after it comes out of the box, or coffer, which is a ſort of mortar, in which it is powdered with iron peſtles.

The powdered ore, which is waſhed into the *launder* by the water from the coffer, is always fineſt neareſt the grate, and coarſer all the way down. See DRESSING *of ore*.

LAURACES *lapis*, in natural hiſtory, the name of a ſtone ſaid to be of great virtues againſt the head-ach, but not known among us, nor deſcribed by the antients.

LAUREL, in botany. See LAURO-CERASUS.

This tree is very eaſily propagated, by planting cuttings of it in September, in a cool ſhady border, where they will very ſoon take root, and the year afterwards are to be removed into beds, and placed at two or three feet diſtance; and when they have ſtood here three years, they will be fit for tranſplanting into the places where they are to ſtand. The beſt ſeaſon of making this laſt removal is April. This is the better method when they are deſigned for dwarfs; but if they are intended for high trees, they ſhould be raiſed from berries, as they then always grow much faſter. The berries ſhould be ſown as ſoon as they are ripe, covering them an inch thick with earth, and the young plants will appear the ſpring following, when they ſhould be cleared of weeds, and watered in dry weather. The next year they ſhould be tranſplanted, and ſet at a foot diſtance; and when they are two years older, may be removed to the places where they are to remain. *Miller*'s Gard. Dict. in voc.

Laurel berries are held to be carminative, emollient, and reſolvent. They are given internally in ſuppreſſions of urine and the menſes, in colics, in pains after delivery, and in all nervous complaints. Externally they are uſed in emollient cataplaſms and fomentations.

Spurge LAUREL. See LAUREOLA.

LAUREL *water* has been diſcovered to be of a poiſonous quality. See LAURO-CERASUS.

LAURENTINA, in botany, a name given by Matthiolus, and ſome other authors, to the bugula, or bugle. *Ger.* Emac. Ind. 2.

LAUREOLA, the ſmall *ſpurge laurel*, in botany, is the ſame with the *thymelæa* with *laurel* ſhaped leaves. See the article THYMELÆA.

Laureola is a very rough purge; it operates both upwards and downwards, and uſually carries off a great quantity of matter, but it is apt to erode, and inflame the ſtomach and inteſtines. The leaves are ſomewhat milder than the bark of the ſtem; that of the root is ſtrongeſt of all. Many have given it in drops with ſucceſs; but it is ſo rough and dangerous a medicine, that while there are others capable of anſwering all the purpoſes intended by it, it is unpardonable to bring it into uſe.

LAURO-CERASUS, the *laurel*, in botany, the name of a genus of trees, the characters of which are theſe. The flower is of the roſaceous kind, being compoſed of ſeveral petals arranged in a circular form. The cup is hollowed, and funnel faſhioned, and from it there ariſes a piſtil, which finally becomes a fruit, reſembling a cherry, ſoft, and encloſing a ſtone with a roundiſh kernel. *Tourn.* Inſt. p. 629.

The ſpecies of *laurel* enumerated by Mr. Tournefort are theſe. 1. The common *laurel*, and 2. The ſmaller Portugal *laurel*.

The diſtilled water and the infuſion of the leaves of the *lauro-ceraſus* are poiſonous; both the water and the infuſion having been obſerved to bring on convulſions, palſy, and death, when taken by the mouth, or anus.

This was diſcovered by the accident of two women dying ſuddenly at Dublin, after drinking ſome of the common diſtilled *laurel* water. Several experiments were then made on dogs, and communicated to the Royal Society by Dr. Madden, and afterwards confirmed by Dr. Mortimer, which plainly ſhewed the poiſonous effect of *laurel* water. See Phil. Tranſ. N° 418, 420.

The *lauro-ceraſus* being an ever-green, and abounding with a warm eſſential oil, it was at firſt imagined that other ever-greens might partake of the ſame poiſonous quality. But by Dr. Madden's experiments made on the leaves of the yew tree, and on box leaves no ſuch quality appeared. Phil. Tranſ. N° 418.

The expreſſed juice of *laurel* leaves had the like poiſonous effects with the diſtilled water and the decoction.

Several things were tried as antidotes to this poiſon, as *bole*, *vinegar*, and *milk*. The two former did little good, but the dog which drank the milk recovered, without any bad ſymptoms.

LAUROTAXA, in botany, a name uſed by Columna and ſome other authors for the narrow leaved kind of *ruſcus*, or butcher's broom, called by others *biſlingua*. See the article RUSCUS.

LAURUS, the *bay*, in botany, the name of a genus of plants, the characters of which are theſe. The flower is compoſed

of only one leaf, which is hollowed into the ſhape of a baſon, and divided into many ſegments at the edges; from the bottom of the flower ariſes a piſtil, which finally becomes an oval fruit, or berry, having under its back an unicapſular ſeed veſſel, containing ſeeds of an oval figure.

The ſpecies of *bay* enumerated by Mr. Tournefort are theſe. 1. The broad leaved *bay*. 2. The common *bay*. 3. The common *bay* with double flowers. 4. The common *bay* with undulated leaves; and 5. The narrow leaved *bay*. *Tourn.* Inſt. p. 597.

We have ſeveral ſpecies of this tree cultivated in the gardens about London: they are all propagated by ſowing the berries, or by laying down the tender branches, which will take root in one year's time, and may then be tranſplanted into beds for a year or two, or even placed at once where they are to remain.

If they are to be raiſed by ſowing, the berries muſt be gathered when ripe, which is in January, and kept in dry ſand till the beginning of March, when they muſt be ſown in a bed of rich dry earth, well ſheltered from the north and eaſt winds. The bed muſt be levelled, and then furrows of an inch deep made along it, at eight inches diſtance; into theſe the berries are to be dropped about two inches aſunder, and covered with earth; and if the ſeaſon prove very dry they muſt be watered: they will come up in about two months, and ſhould be ſuffered to remain in theſe beds two years. They ſhould then be tranſplanted into a bed of earth well dug, and ſet at eighteen inches aſunder; this ſhould be done in April, and they ſhould be well watered, and the ground covered with ſome muck about their roots. They muſt be trained up ſtrait, by tying them to ſtakes, and their under ſhoots pruned off, to make them advance in height. Theſe trees are proper to plant on the warm ſides of hills, where they may be ſheltered from the north and north eaſt winds. In open ſituations, the *bay* tree will ſometimes indeed loſe all its verdure in ſevere winters and appear dead, and many trees have on this occaſion been dug up and burnt; but this is a raſh and very wrong practice; for uſually, if they are ſuffered to remain they ſhoot freely again, and after another ſeaſon are found as lively as ever. *Miller's* Gardners Dict.

LAURUS *Alexandrina*, in botany, a name given by many authors to ſome of the larger ſpecies of *ruſcus*, or butcher's broom. See RUSCUS.

LAWNS. Theſe ſpacious plains make a noble figure before grand houſes, and the great rule in regard to their dimenſions, is to make them as large as the ground will permit, but they ought never to be leſs than fifty acres. *Lawns* ought always to lie open to the front of the houſe, and be open to the neighbouring country, not pent up with trees; and the moſt happy ſituation is, when the beſt rooms of the houſe front the eaſt, and the *lawn* lies immediately before them; becauſe the ſun, in an afternoon, in this caſe, ſhines on the proſpect, and at the ſame time not into the rooms. The beſt ſituation for a *lawn*, except this, is on the ſouth ſide of a houſe; for if on the weſt, it expoſes the houſe to too much wind, and if on the north too much open to the cold. It is beſt therefore to plant trees and wilderneſſes on the weſt and north ſides of houſes. The beſt figure for a *lawn* is ſquare, and it is beſt left quite open; but if it is to be bounded by walks, there ſhould be rows of lime trees planted at proper diſtances, on each ſide, but the end ſhould be left open, unleſs it ſink very much from the houſe. A circular *lawn* is a very agreeable proſpect, and a triangular one not amiſs, but then the angle leading to the front of the houſe muſt not be too acute. If the country beyond the *lawn* do not afford an agreeable proſpect, the end ſhould be blocked up with an amphitheatre of trees, which will have a very beautiful effect. *Miller's* Gardners Dict.

The lime is a very proper tree for bounding *lawns*, becauſe it grows in a good ſhape, and if carefully planted will thrive on any good ſoil. The elm is alſo very proper, having a large and very green leaf. The beech, cheſnut, and cherry tree alſo are very proper, where the ſoil will ſuit them; and the fir and pine kind where they can live are of peculiar value, as affording a green proſpect in winter as well as ſummer.

LAWSONIA, in botany, a name given in honour to the late Dr. Lawſon to a genus of plants, before called *alhen* by Dr. Shaw, and *henna* by Ludwing. The characters of the genus are theſe. The perianthium is ſmall and permanent, and is divided into four parts. The flower conſiſts of four petals, of an oval pointed figure, which ſtand expanded. The ſtamina are eight capillary filaments of the length of the flower, they ſtand in pairs within the petals. The antheræ are roundiſh. The germen of the piſtil is roundiſh, the ſtyle is ſimple, permanent, and of the length of the ſtamina, and the ſtigma is capitated. The fruit is a globoſe capſule, terminating in a point; it contains four cells, in which are ſeveral angular pointed ſeeds. *Linnæi* Gen. Plant. p. 163. *Shaw's* Travels. *Ludw.* 143.

LAY (*Cycl.*)—LAY *fee*, *feodum laicum*, land held in fee from a *lay* lord, by the common ſervices to which military tenure was ſubject, as diſtinguiſhed from the *eccleſiaſtical* holding in *Frankalmoign*, diſcharged from thoſe burdens. *Ken.* Gloſſ.

LAYERS (*Cycl.*)—The propagating trees by *layers* is done in the following manner: the branches of the trees are to be ſlit a little way, and laid under the mould for about half a foot; the ground ſhould be firſt made very light, and after they are laid they ſhould be gently watered. If they will not remain eaſily in the poſition they are put in, they muſt be pegged down with wooden hooks: the beſt ſeaſon for doing this is, for ever-greens, toward the end of Auguſt, and for other trees, in the beginning of February. If they are found to have taken root, they are to be cut off from the main plant the ſucceeding winter, and planted out. If the branch be too high from the ground, a tub of earth is to be raiſed to a proper height for it, and ſome bare off the rind, and others twiſt the branch before they lay it, but this is not neceſſary in all caſes.

The end of the *layer* ſhould be left about a foot out of the ground, and the branch may be either tied tight round with a wire, or cut upwards from a joint, or cut round for an inch or two at the place; and it is a good method to pierce ſeveral holes through it with an awl, above the part tied with the wire. *Miller's* Gardners Dict.

LAZARI *morbus*, a name given by ſome writers to the *elephantiaſis*.

LAZIVRAD, in natural hiſtory, one of the oldeſt names by which we find the *lapis lazuli* expreſſed in authors. They uſed this equally for the ſtone itſelf, and for the colour prepared from it; and, in after times, every blue colour became called by the ſame name. From this were derived the other names of *lazurad*, *lazuri* and *azure*, as well as *lazuli*, now its common name. Aviſenna deſcribes the *lapis lazuli* under the name of *alazarad*, and his interpreter renders this *de lapide lazuli ſive armenio*, making them to be the ſame thing. But they ſtrictly are not ſo, though nearly allied to one another. See LAPIS *lazuli*.

LAZULI *lapis*. See LAPIS *lazuli*.

LEA *of yarn*, is uſed in ſome parts of England for a certain quantity of *yarn*. At Kidminſter it ought to contain 200 threads, on a reel four yards about. Stat. 22 & 23 Car. 2. *Blount*.

LEACH *brine*, a word uſed by the Engliſh ſalt workers to expreſs the brine, which runs out from the ſalt, when it ſtands in the baſkets to drain, immediately after being taken out of the pan; and alſo the liquor left in the pan, when no more ſalt will ſhoot. This is alſo called the *mother brine*, and *bittern*. In the German ſalt works they always throw this liquor away. In our *brine* ſalt works in Cheſhire they always preſerve it, and add it to the next boiling; and in the Newcaſtle, and other ſea water ſalt works, they ſave it for the making the bitter purging ſalt, called Epſom ſalt.

LEAD (*Cycl.*)—The method of ſeparating *lead* from its common fuſible ore by aſſaying, is this: beat the ore into a coarſe powder, like grains of coarſe ſand; weigh two docimaſtical centners of this powder, and put it into a teſt. Put upon this a tile, or elſe another teſt; the ore muſt be ſpread wide all over the bottom of the teſt. Roaſt it in a fire moderate at firſt, but afterwards encreaſed, ſo far as to make the teſt red hot; leave it thus for a few minutes, then take off the tile, and in a ſhort time the ore will change its blackiſh to a yellowiſh colour. This ſhews that great part of the ſulphur is now diſſipated.

Beat this roaſted ore into a fine powder, and add twice as much of the black flux, and of filings of iron not ruſty, and of ſandiver, of each half a centner; powder all theſe in a mortar to mix them well; then put them into a crucible large enough to contain twice or three times as much; cover them over a quarter of an inch thick with common ſalt, and preſs all down with a finger; put a tile, on a ſmall crucible, and ſtop the joint with a lute that will bear the fire; then dry the veſſel with a moderate heat. Then put the crucible into a wind furnace, and heap coals upon it, covering it ſome inches high. When the crucible is red hot you will hear the ſalt crackle, and this will be ſucceeded by a gentle hiſſing noiſe; ſo long as this laſts keep the ſame degree of fire, but when it is over, increaſe the fire till the whole maſs is melted, which will be done in a quarter of an hour, in a moderate melting fire. Then take out the crucible, put it upon the hearth of the furnace, which muſt be very dry, ſtrike it a few times with a hammer, to get all the *lead* together in the bottom; when it is cold take it out, and you will find by the weight of the regulus how much *lead* the ore contains. *Cramer's* Art of Aſſaying, p. 287.

This metal may be procured from its ore, of whatever kind that be, by a ſtratification with charcoal. The method of doing it in aſſay is this: take for a docimaſtical centner of the ore a hundred half ounces, or three pounds and four half ounces, that by this means each half ounce may ſtand in lieu of the docimaſtical pound; beat this to a coarſe powder, or lumps not larger than a pea. Put it at firſt into a large earthen or iron frying-pan, and heat it firſt by a gentle fire, which muſt be encreaſed gradually, that the greateſt part of the ſulphur may be diſſipated. Now have at hand a melting-furnace, with its bed made of lute and duſt of charcoal. Apply to this, on the outſide, another bed, joined to it by lute, that the matter running out of the inferior hole, when open, may be received into it. Surround this outer bed with burning and freſh coals, and fill the whole furnace with the ſame fuel, that it may be dried.

dried. Then with a pair of bellows excite the fire for a quarter of an hour, then put in the ore at ſeveral times; nor will it be amiſs to add to it ſome ſcales of iron; but the ore muſt be put in ſo as to be above the coals, facing the hole, through which the blaſt of the bellows is made; but let it not touch the wall of the furnace. Fill the furnace at leaſt two thirds with charcoal, and let it be in pieces of a moderate bigneſs; and after every portion of ore is put in, add a larger of charcoal above it. When all the ore is put in, continue to blow till all the fire is conſumed; then pour water upon the foremoſt bed, drop by drop, to cool the *lead* gathered in it, and ſee among the ſcoriæ if there be any *lead* lodged among them; and if there be, ſeparate it, and weigh all together, and you will from this know the value of the ore, and what the ſmelter may obtain from it. *Cramer*'s Art of Aſſaying, p. 298.

This metal, as in common uſe, always contains ſome ſilver, which is not in quantity enough to be worth the charges of ſeparating. The moſt common proportion is not more than two drams to a centner. This, though of little conſequence on any other occaſion, is carefully enquired into by the aſſayers of the ores of metals, particularly in regard to the ores of ſilver, for the ſeparation of which from its ore *lead* is employed; and it occaſions a very great error, when its computation is neglected, in eſtimating the value of an ore from the aſſay. This encreaſing ſilver is therefore always ſubtracted by the more accurate aſſayers; and in order to do this with the leſs trouble, a large quantity of *lead* is granulated at once for this uſe, and mixed by ſifting; then the uſual quantity employed in the aſſaying an ore is to be tried alone in a copel, and the bead of ſilver it affords carefully preſerved. After this, when the bead produced from a ſilver ore is weighed; that bead of ſilver, given by the *lead*, is to be put into the oppoſite ſcale among the weights, and then the weights balancing the bead, will, without more trouble, give the weight of the ſilver from the given quantity of its ore. *Cramer*'s Art of Aſſaying, p. 216.

All the metals may be conſidered in certain circumſtances, as acting in the manner of menſtruums on one another, and of theſe none has ſo much power as *lead*. When *lead* is expoſed to a moderate fire in an earthen veſſel, the ſurface of the melted maſs is ſoon covered with ſcoriæ, in form of a thin ſkin of many colours: when the fire is ſo far increaſed as to make the veſſels quite red hot, this ſkin melts a little, and is thrown to the ſides of the veſſel in form of a furfuraceous matter, of various yellowiſh or whitiſh colours, called litharge. After this the melted *lead* ſmoaks, and ſmall drops, reſembling the firſt ſcoriæ riſe, and ſwim like globules of oil upon the ſurface; theſe are one after another added to the litharge at the ſides; and if the fire be kept in this degree, the whole ſubſtance of the *lead* is finally turned into litharge.

If copper be added to *lead* thus ſmoaking, it cauſes a much briſker ebullition than before, and the copper burſts, and divides, and ſeems to become one homogene maſs with the *lead*; this maſs is brittle, and if made with equal parts of *lead* and copper, reſembles tempered ſteel when broken. Gold and ſilver melted thus with *lead* become brittle alſo, and gold becomes pale by the ſmalleſt admixture of it.

Tin and *lead* melt together with a fire ſtrong enough to melt the *lead* alone; but when this is increaſed, ſo as to make the veſſels red, the tin immediately riſes up above the *lead*, in form of little whitiſh duſty hillocks, ſo that the whole looks as if aſhes had fallen into the veſſel; and the tin thus calcined, when cold, is variegated in colour, with white, yellow, and red. *Lead*, ſo long as it keeps its metallic form, can never be made to join with iron, though urged by ever ſo violent a fire.

The ſemi-metals are all eaſily melted with *lead* by fire, and if added in too large a quantity they take away its malleability.

Lead and all its products turn into glaſs by a ſtrong fire; and this glaſs, or in the place of it litharge melted with ſtones, and other vitrifiable ſubſtances, makes them run into glaſs with a much leſs fire than they otherwiſe would do; and if a very large quantity of this glaſs or litharge be added, they become ſo far attenuated as to run through the ſides of the veſſels. Lime ſtones ſuffer the ſame change by means of this matter; and the incombuſtible ſtones, with proper management, are ſubject to the ſame fate; but unleſs theſe proceſſes are carefully conducted, the litharge or glaſs of *lead* gets away alone through the veſſel. Among the metals litharge facilitates the fuſion of copper and iron by the fire, but it conſumes a conſiderable quantity of them, and runs itſelf with what it poſſeſſes into glaſs; and finally, the whole tin and its calx are with difficulty vitrified by glaſs of *lead*, and they loſe nothing by it: but if gold and ſilver are very frequently melted with litharge, they will at length be found to have loſt a little of their weight; but this ſmall quantity is not deſtroyed, but may, by the proper operations, be again regained out of the litharge.

It has been proved, by the experiments of different chemiſts, that *lead* contains a real running mercury. Kunkel and Becher both ſeparated mercury from it; and Mr. Groſſe, of the Paris academy, has juſtified their experiments by producing the ſame effect; by means not only very different from theirs, but abſolutely oppoſite and contrary. They ſuppoſe that the mercury contained in *lead* is fixed there, either by acids or by ſulphurs, and therefore they uſed alkaline materials to diſengage and ſupport it. On the contrary, Mr. Groſſe uſed only acids, and by means of theſe procured a pure running mercury from this metal. His method was to diſſolve thin plates of *lead* in ſpirit of nitre, weakened with an equal quantity of water. He then obſerved a grey coloured powder precipitate, which when tried on gold or copper, ſhewed itſelf to be mercurial, and even in the powder he ſaw ſmall globules of quickſilver. Mem. de l'Acad. des Scienc. 1733.

As there could be no poſſibility of the acids forming mercury with *lead*, it is very plain that it muſt have been originally there.

In the trying *lead* by the teſt of the burning glaſs, a piece of that metal laid on a charcoal very readily melts, and afterwards wholly diſſipates itſelf in fumes; if it be placed on a piece of ſtone it fumes very much, and becomes at length a thin fluid reſembling oil, or melted reſin; and this liquor, in cooling, fixes itſelf into a ſort of glaſs, which has this peculiar quality, that it is always compoſed of plates, or ſcales, in the manner of talc; it is of a greeniſh or yellowiſh colour, with ſome reddiſh ſpots, and is very ſoft to the touch. If it be kept longer in the focus of the glaſs it ſpreads abroad upon the ſtone, and by degrees penetrates its ſubſtance, and promotes its fuſion. If the common calx of *lead*, red *lead*, or litharge, be uſed inſtead of plain *lead* in this experiment, the event is the ſame. The whole becomes a thin fluid matter, which in cooling affords a flaky glaſs, like talc. Mem. Acad. Paris 1709.

If this talcky glaſs of *lead* be expoſed to the ſame focus, laid on a piece of charcoal, it preſently melts, and re-aſſumes the form of *lead*; and, if then taken away, and ſuffered to cool, is no way different from common *lead*. If the calx of *lead*, or red *lead*, or litharge, be in the ſame manner melted in the focus of the burning glaſs on a piece of charcoal, they in the ſame manner immediately re-aſſume the form of *lead*.

It appears from the whole that there is in *lead* an oily inflammable matter, which is eaſily driven off, either by the ſolar or by a common fire; that the baſis of *lead*, which appears alone, when this is driven off, is a ſcaly or talcky earth; and that this oily matter of *lead* is no way different from the oils of vegetables, ſince the oil of charcoal is able perfectly well to ſupply its place, and to reſtore this talcky earth to the form of *lead* again.

Lead is well known to be in its natural ſtate a metal ſo little ſonorous, that it is even a proverbial expreſſion uſed to any metal that is leſs ſonorous than others, that it is almoſt as mute as *lead*.

Mr. Lemery, however, once ſhewed Mr. de Reaumur, and afterwards to the academy of ſciences at Paris, a lump of *lead*, which had been left in one of his veſſels, after ſome chemical operation, which when ſtruck, gave a very loud and acute ſound.

Mr. Lemery had no occaſion afterwards to repeat the experiment, which had afforded him this remarkable *lead*, and left it to Mr. Reaumur to diſcover the manner of doing it, who luckily hit upon it, without the difficulty he had expected from the reſearch; and, it appears, that we have a thouſand times met with ſonorous *lead*, without knowing it to be ſo. This property is not the effect of any particular operation, but is found in all *lead*, which after fuſion has taken a certain form, and this a form which accident almoſt always gives it on that occaſion. The common way of melting *lead*, in order to the caſting it into moulds, is in iron ladles; it very rarely happens, that all that is melted in the ladle is caſt into the mould, but a ſmall quantity remains, which ſoon forms itſelf into a maſs in the ladle, and this maſs is always ſoronous. Its figure is uſually either that of the ſegment of a ſphere or of a ſpheroide, and it is plane or flat on one ſide, and convex on the other: this is all it ſeems to have of regularity. The ladles are generally very irregular, and a thouſand other accidents occur, which prevent the *lead*'s receiving any determinate form. The maſſes are irregularly convex on the under ſide, and on the upper there is commonly a protuberance, which is ſometimes in the center, but much more frequently on one ſide. The maſſes of this kind, examined by Mr. Reaumur, were in general of about three inches diameter, and of about a third of an inch in thickneſs; theſe were all very ſonorous. There are, doubtleſs, certain proportions of their thickneſs to their diameter, which may make them more or leſs ſonorous, but all are conſiderably ſo: nor is the being caſt in a ladle any eſſential accident to the rendering them ſonorous, ſince pieces of the ſame ſhape caſt in ſand are equally ſo with thoſe from the ladle; and hence it will be eaſy to caſt *lead* into different moulds of earth, with all the varieties of ſpheroidal figures, and thence learn what is the proportion that moſt aſſiſts the ſound. Poſſibly alſo figures of a different kind may prove ſonorous; but Mr. Reaumur tried one convex on each ſide, and found it to have no ſound

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at all. Larger and thicker disks of *lead* are sometimes found sonorous, but never so much so, as the figures first described. There are also two circumstances, in which the mass from the ladle itself is not sonorous; the one is, when it is covered with a coarse spungy crust, and the other, when its edges are extremely thin for any considerable space. The scum is prevented, by carefully taking it off while the metal is in fusion; and when the edges are as thin as paper, as is frequently the case, there is nothing farther necessary, than to pare them carefully off. The sound is always found to become more and more clear, as they are cut away. This is easily tried, and it is readily determined how far these edges are to be pared down, by placing the mass in equilibrio, on the top of a finger, and striking it with a key, or any other hard body, nay even with another piece of *lead*.

It is very evident then, that it is the being cast in a certain form that renders *lead* sonorous, notwithstanding the natural softness of its parts; and that in such circumstances, in spite of this obstacle, it makes very quick vibrations. It is not the form, however, which does this alone, since pieces of the same figure, made by hammering and cutting, have no more sound than *lead* in any other shape; the fusion therefore, and the casting or cooling from fusion in this shape, is an essential point. The external figure is necessary, but there is also requisite an internal configuration of the parts of the metal, which bare hammering or cutting can never give; nay, so far from giving the reality of sounding to *lead*, hammering is able to take it from it; for all these naturally sonorous casts of *lead* become greatly more dead and dull on being hammered, or struck upon by any hard body.

The author of these observations has, in another place, given an account of the arrangement, which the particles of all metals take in their cooling from a state of fusion; and has observed, that in *lead* the particles arrange themselves into a sort of fibres in this action. It was easy to conclude from hence, that this arrangement of the particles of the *lead* might be that which rendered a cast of such a figure sonorous; this was easily tried, since, if it was so, the disturbing these fibres in their arrangement must impair, or destroy the sounding; but experiment shews such a conclusion to be too hasty, and that the *lead*, though it be shook about in the ladle during the time of its cooling, or injured in the arrangement of its parts by any other means, yet does not lose any thing of its sonorous quality. Though the arrangement of the parts of this metal into fibres be not, however, the occasion of its becoming sonorous, yet it is easy to observe, that these fibres are composed of several arrangements of granules; and these may be still continued, in their natural state, during the cooling, though they are prevented by the motion from running into their natural arrangements. Thus the shaking the matter while cooling may, by preventing the concretions of these fibres, do no injury to the sound, while the blows of a hammer, which must evidently destroy the figure of these granules, may naturally be supposed wholly to take it off; since this quality plainly depends upon the vibrations of the particles of the metal on being struck; and these granules, while in their own natural figure, and disposed in a mass of a determinate shape, may easily be conceived to be capable of a vibration, which they can no longer exert, when they are beaten flat, intermingled with one another, and that the figure of the mass they form is altered.

These speculations are not without their use. It is not to be supposed indeed, that any form, into which *lead* can be cast, can make it capable of answering the purpose of the more sonorous metals in bells, *&c.* but it is very probable, that the casting metals, naturally sonorous, into a shape, or figure, which alone can render a metal, naturally mute, highly sounding, would make their sounds greatly more perfect, more loud and clear. Experiment alone can determine this, and distinguish what is only probable, and what is true. It should seem that the present form of bells, which doubtless had their origin from the observing that pots, and other vessels, made for more immediately necessary uses, gave a great sound; and thence, when bells were to be made, they cast them, as nearly as conveniently might be, of that figure. Had they had equal opportunities of observing the sonorous quality of metals cast into the shape of segments of spheres, it is very probable that all the bells in the world had now been of that form. The figure of bells, used at present, is indeed very convenient for the suspending them in churches; but there is great reason to suppose that a proper metal, cast into the form above-mentioned, would be more fit than in any other for house clocks, where a great sound is required. As the artist is limited to size in this, and in many other things of a like kind, there is great reason to believe this sonorous quality of *lead*, in a certain form, may give very useful hints for the curious artificer to improve the common practices upon. It appears from the whole, that bells may be made of *lead*, which would be sufficiently sonorous, but they would not be lasting. Their figure must necessarily be that of a segment of a sphere, thickest in the middle, and becoming gradually thinner towards the edges; and the true proportion of this decrease of thickness might be easily found by experiments, and when found, would probably prove this metal to be more sonorous than it is yet found to be. It appears also from the whole, that *lead* is a metal naturally sonorous, though that was never supposed before; that there is one peculiar form, in which it is most so; and that we destroy this property by hammering it, which destroys those granules on which its vibrations depend. Mem. Acad. Par. 1726.

LEAD, in medicine. This metal is celebrated by some chemical writers for its great medical virtues; but after all, it seems to be a metal which ought to be given internally with the greatest caution, and to be rather calculated for outward application. Its ore is so poisonous, that the steam, arising from the furnaces where it is worked, infects the grass of all the neighbouring places, and kills the animals which feed on it. Its best preparation is *saccharum saturni*; which, though able to do great good in hæmorrhages, and some other cases, is apt, however, to bring on colics of so violent a kind, that the remedy often proves worse than the disease.

The preparations of *lead*, most in use, are, 1. Minium, or red *lead*. 2. Litharge. 3. Plumbum ustum, burnt *lead*. 4. Ceruss. And 5. Saccharum saturni, sugar of *lead*. See MINIUM, LITHARGE, *&c. Cycl.* and *Suppl.*

Balsam of LEAD, an external medicine, greatly famed for its effects in old and sharp ulcers. It is made by mixing one ounce of sugar of *lead* with two of oil of turpentine, and setting this mixture in a sand-heat till the salt is dissolved. By this means the oil acquires a red colour, and is called *balsam of lead*.

Black LEAD, in mineralogy. See BLACK *lead*.

Burnt LEAD, *plumbum ustum*, is only intended for external use. It has the same virtues ascribed to it, in ointments and plasters, as litharge or minium. Mixed into an unguent with lard alone, it makes a good ointment for the piles.

Calcined LEAD. See GLASS *of lead*.

Cohesion of LEAD. When one mass of *lead* is applied to another, with both surfaces smooth, its cohesion is very extraordinary. Dr. Desaguliers tried it with two balls of *lead*, the one weighing two pounds, and the other one pound; from each of which having cut a small segment of only the diameter of a quarter of an inch, he pressed them together with his hands, giving them a twist, to make the surfaces touch as closely as could be. These supported one another, and the weight of sixteen pounds; but a little more separated them. When examined, after they were separated, the touching surfaces were found not to exceed a tenth of an inch in diameter. But it is to be observed, that on repeating the experiment, the weight required to separate the balls was never twice exactly the same; as indeed it never is in any of the experiments of this kind, and that from very obvious reasons.

Glass of LEAD. See GLASS *of lead*.

Mock LEAD, a name given to a glittering substance found in *lead* mines. See GALENA *inanis* and BLENDE.

Native LEAD. See PLUMBUM *nativum*.

Red LEAD. See MINIUM.

LEAD *ore*. Mr. Boyle observes there is great difference, discernible by the eye, between different *lead ores*. Some is so like steel, that the workers call it *steel ore*. And this being of more difficult fusion than ordinary, they mix it with other *ore*, by them called *firm ore*, when they commit it to the furnace. He says, he likewise took notice of an *ore*, which, for its aptness to vitrify, and serve potters to glaze their vessels, the miners call *pottern ore*, and sell it dearer than other *ore*. *Lead ore* often yields silver, but not always. Mr. Boyle mentions some *lead ore*, he tried, so rich, as to yield seventy *per cent* of *lead*; yet did not, though tried by one of the most expert artists, give one grain of silver. *Boyle*'s Works Abr. Vol. 1. p. 156.

The poisonous quality of this *ore* is such, that the people who live in the countries where it is dug, and near the places where it is washed, can keep neither dog nor cat, nor any kind of fowl, but all die in a short time; and it has been known that a little house, in which *lead ore* had been kept for some time, though afterwards made very clean, and bedded with fern, yet calves being then put into it, all have died in a very short time; and it is a too common melancholy observation, that children are often known to die strangely and suddenly about these places. If any sort of cattle are known to eat of the grass on which the steam, that arises from the melting of *lead*, falls, they are always observed to die a while after. Philosophical Collections, N° 2. p. 6.

Sugar of LEAD. See SACCHARUM *saturni*.

LEAD, among bowlers. See BOWLING.

LEAD, in the manege, is a term used to express the part that begins any motion first. A horse going in a streight line, always *leads*, or cuts the way with his right foot. This is called in French *entamer le chemin*. See ENTAMER.

LEAD *walling*, in the salt works, on the salt springs in some parts of England, is the term used for that quantity of brine that is necessary for twenty four hours boiling in one house.

The whole government of the works is in the hands of certain lords, who proportion the quantity to be worked by theſe *lead wallings* to the ſeveral perſons who work it. At Namptwich, in Cheſhire, two hundred and ſixteen *lead wallings* belong to all the owners of the pit, and no tradeſman, batchelor, or widow, can rent more than eighteen *lead wallings*. All is under the directions of four ſworn officers, choſen every year, and theſe appoint how much ſalt ſhall be made each year, and how many houſes ſhall work at a time. *Ray*'s Engliſh Words, p. 142.

LEAD-*Wort*. See PLUMBAGO.

LEADERS, in the military art. See FILE-*leaders*.

LEÆNA, the *lioneſs*. See LIONESS.

LEAF (*Cycl.*)—The *leaves* of trees and plants afford the curious in microſcopic obſervations many very beautiful objects.

All *leaves* are full of innumerable veſſels, which convey perſpirable juices to the pores for their diſcharge. Whether there be any circulation in them, is not yet determined; but as their juices all become ſtiff and coagulated, when let out, it is probable that they have ſome motion, which keeps them fluid while in the veſſels of the plant.

The pores in the *leaves* of plants are almoſt innumerable. Mr. Lewenhoek found an hundred and ſeventy two thouſand and ninety pores on one ſide of a *leaf* of box. The *leaves* of rue ſeem full of holes, like a honey comb; all the kinds of St. John's wort appear likewiſe ſtuck full of pin holes to the naked eye, but the microſcope diſcovers, that the places where thoſe holes ſeem to be, are really covered with a very thin and white membrane. The backſide of the herb mercury looks as if rough caſt with ſilver, and all the ribs are full of white round tranſparent balls, faſtened by ſlender ſtalks, like ſo many grapes. A ſage *leaf* appears like a rug, or ſhag, full of knots and tufts of ſilver thrums, and embelliſhed with fine round cryſtal beads, or pendants, and theſe faſtened by ſlender foot ſtalks. The back ſide of a roſe *leaf*, and particularly of that kind called *ſweet briar*, appears diapered with ſilver. Every one knows, that the *leaves* of ſtinging nettles are thick ſet with ſharp prickles, which penetrate the ſkin when touched, and occaſion heat, pain, and ſwelling. Theſe ſymptoms were imagined formerly to be owing to the prickles being left in the wounds they make, but the microſcope diſcovers ſomething much more wonderful in this plant, and ſhews that its prickles are formed for acting, in the ſame manner as the ſtings of animals. For every one of them is found to be a rigid body, hollow, and terminating in a very fine point, with an opening near its end. At the bottom of this prickle there lies a pellucid bag, containing a limpid liquor, which, upon the leaſt touching the prickle, is ſquirted out at the little outlet, and if it enters the ſkin, produces the miſchiefs beforementioned by the pungency of its ſalts. And hence it is, that the *leaves* of nettles, when they have been dried a little in the ſun, ſting ſcarce at all. *Baker*'s Microſcope, p. 259.

The *leaves* of plants are of the utmoſt conſequence to the life of the whole. Air evidently paſſes in at the *leaves*, and goes through the whole plant, and out again at the roots. If the *leaves* have no air, the whole plant will die, as is eaſily proved by the air pump; but in theſe experiments, if the *leaves* be left on the outſide of the receiver, and parted by a hole cemented with wax, and have air, the plant will thrive, and grow, though its roots and ſtalk are kept in vacuo in water. The *leaves* of plants perform the neceſſary work of altering the water received in at the roots, into the nature of the juices of the plant; and hence it is, that the life of the plants depend ſo immediately upon their *leaves*. The huſbandman often ſuffers for want of this knowledge. A crop of ſaint foin is a very valuable thing, and its root being perennial, will yield him encreaſe many years; but it is often deſtroyed at firſt, by ſuffering it to be indiſcreetly fed upon by the ſheep, which eating up all the *leaves*, the root remains without the means of a ſupply of air, and the whole periſhes.

Leaves being thus neceſſary to plants, nature has, in all perennial plants, provided a reverſionary ſtock of them. The *leaves* of theſe plants are always formed in autumn, though they are not unfolded till the following ſpring. They then open and encreaſe gradually, in proportion to the motion of the ſap, and the quantity of pabulum it then receives to be circulated. Theſe *leaves* may alſo, though not wholly appearing out of the bud, be ſufficient for the extremely ſmall motion of life, which the ſap of perennial plants, that drop their leaves, has in winter. *Tull's* Horſe-hoeing Huſbandry, p. 10.

Dr. Grew obſerved the formation of theſe autumnal *leaves*; but beſide theſe, there is another ſet of them formed in the ſpring, and expanding about Midſummer. Theſe are of infinite ſervice to many particular trees, particularly to the mulberry, as they ſave its life when the ſpring *leaves* have been all eaten up by the ſilk worms. People who ſtrip that tree for the food of theſe animals find, however, that ſome caution is neceſſary, in order to make the new ſupply of ſpring *leaves* ſave the life of the tree. For if they pull off the old *leaves* downward, ſtripping away ſtalk and all, the tree often dies, but if they pull them upwards, the tree lives without hurt; becauſe the ſtalk, in this caſe, is left, and often a piece of the bottom of the *leaf* upon it. Theſe ſerve, in ſome degree, in the place of the whole *leaves*, till the new ones are formed.

It is certain that no plant, to which nature has allotted *leaves*, can live without them, but will certainly die if they are pulled off as ſoon as they appear. The common graſs of our meadows and paſtures might ſeem an exception to this general rule; but it is to be conſidered, that though the ſheep eat this down very cloſe, and take off its *leaves* as ſoon as they grow, yet when it is thus devoured by cattle, it is only in the *leaf*, very little of it growing up into ſtalk at that time, and therefore leſs ſap is to be purified, and conſequently leſs of the operation allotted to the *leaves* required; and there is a conſtant ſucceſſion of new *leaves* growing up in the place of the old ones, and many of theſe being too ſhort to be bitten off, ſerve in the place of thoſe which are eaten.

The figure of the *leaves* of plants may be repreſented by holding one in the ſmoke of reſin, camphor, a candle, *&c.* whereby the *leaf* acquires a blackneſs, which when preſſed on white paper, gives the exact ſize, ſhape, and particular ramifactions of the fibres. This method may be of uſe to botaniſts, when they have no ſkill in drawing. *Boyle*'s Works Abr. Vol. 1. p. 132.

The *leaves* of plants have ſeveral diſtinctions among botaniſts, according to their ſhape and diviſion, each of which has its peculiar name. See Tab. of Leaves.

Aculeated LEAF, is that whoſe ſurface is covered with cartilaginous points, ſharp, rigid, and ſtrong enough to wound any tender part of the fleſh; and which adhere but ſlightly to the *leaf*, and may be eaſily ſeparated from it.

Acuminated LEAF, one terminated by a pointed and ſharp extremity, like an awl.

Acute LEAF, that which terminates in a ſharp point.

Alated LEAVES, are thoſe divided into, or compoſed of ſeveral compleat pinnated *leaves*, whether equal or unequal uniform or difform, as in the orobus, and other the like plants.

Alternate LEAVES, thoſe which do not ſtand oppoſite, but one over another, all the way up the ſtalk.

Amplexicaule LEAF, expreſſes a *leaf*, the baſe of which extends itſelf in ſuch a manner, that it environs, and ſurrounds the ſtalk every way. In this caſe, the *leaf* is generally of a ſagittated, or heart-faſhioned ſhape, and is ſeſſile.

Articulated LEAVES, thoſe which grow one on the top of another.

Bifid LEAF, one divided into two parts at the top. When a *leaf* is thus divided into three parts, it is ſaid to be *trifid*; when into four, *quadrifid*, and ſo on. *Multifid* expreſſes a *leaf* divided into a great number of ſegments.

Bigeminate LEAF, one formed of a double conjugation of leſſer *leaves*.

Binated LEAF, *binatum folium*, a kind of compound *leaf*, formed only of two folioles on one petiole.

Bipartite LEAF. See *Quinque partite* LEAF, infra.

Canaliculated LEAF, one which is hollowed all the way of its length with a channel.

Carnous LEAF, one which is full of pulp, or of a fleſhy ſubſtance, contained between the membranes which form the upper and under ſurface.

Cartilaginous LEAF, that whoſe edge is ſurrounded with a kind of cartilage, or border, thicker than the reſt, but of the ſubſtance of the *leaf*.

Cauline LEAF, that which grows not immediately from the root, but on the ſtalk of a plant.

Ciliated LEAF, one ſurrounded all the way with parallel hairs, or filaments, ſo as to give ſome reſemblance of the hairineſs of the eye-lids.

Compound LEAF, is that which is divided to the middle rib into ſeveral ſegments, and ſeems made up of ſeveral ſmaller *leaves*, as in liquorice, *&c.*

Compound leaf expreſſes, in general, a *leaf* that is formed of ſeveral other leſſer ones. In this large ſenſe, however, it is diviſible into ſeveral kinds. 1. The *compound* ones, properly and diſtinctly ſo called. 2. The *decompound*. And 3. The *ſupradecompound*. Of each of which in its place.

In deſcribing theſe kinds of *leaves*, the whole *leaf*, which is the reſult of the combination, is called *folium*, and the ſmall *leaves*, which together compoſe it, are called *foliola*.

Compound leaf, properly ſo called, is only formed of one ſeries of foliola, or of one compoſition.

Compreſſed LEAF, one with the mark of an impreſſion on both ſides.

Concave LEAF, one whoſe middle is ſunk or hollowed.

Conferta FOLIA, *leaves* placed in cluſters, or ſo cloſe to one another, that it is not eaſy to diſcover their exact ſituation.

Connata FOLIA, leaves cohering together, or whoſe baſes unite, ſo as to form but one body.

Convex LEAF, one whoſe middle riſes into a protuberant form.

Cordated

Cordated LEAF, expreſſes one of an ovated ſhape, hollowed a little on each ſide at the baſe.

Obverſely cordated LEAF, one of the ſame figure with the former, but affixed to its petiole not by the cordated part which is the baſe in the former, but by the oppoſite end.

Cordato-ſagittated LEAF, a *ſagittated leaf*, the ſides of which are convex.

Crenated LEAF, *crenatum folium*, that whoſe edges are furniſhed with indentings which are contiguous to one another, and are neither turned toward the point nor toward the baſe.

Acute crenated LEAF, a *crenated leaf*, in which the indentings are ſharp at the ends.

Obtuſe crenated, that whoſe indentings terminate obtuſely.

Criſp LEAF, *criſpum folium*, that which is undulated or folded over and over at the edge, which muſt alſo be in ſome manner divided, not entire, *viz.* either dentated, ſerrated, or lacerated.

Cuneiform LEAF, one of the ſhape of a wedge; or, the length of which greatly exceeds its breadth, and the lower part of which grows ſmaller all the way.

Decompoſite LEAF expreſſes a *leaf*, the common petiole of which divides itſelf twice before it is furniſhed with *leaves*.

Decurrent LEAF, one which adheres immediately to the ſtalk or branch of a plant, without any pedicle; and, which has its lower part extended and running along the branch.

Deltoide LEAF, one with four angles, whereof thoſe of the ſummit are farther diſtant from the center than thoſe of the ſides.

Dentated LEAF, one whoſe edge is beſet with horizontal points of the ſame matter with the *leaf* itſelf, and diſtinct and ſeparate one from another.

Depreſſed LEAF, one which has the mark of an impreſſion on one ſide.

Digitated LEAF, expreſſes a compound one, formed of a number of ſimple foliola, placed regularly on a common petiole: in a ſtrict ſenſe, however, it is uſed only to expreſs ſuch a *leaf* as is compoſed of more than four foliola.

Duplicato-pinnatum, or *pinnato-pinnatum*, expreſſes a *leaf* compoſed of ſeveral others, each of which is itſelf compoſed of ſeveral ſmaller leaves or foliola.

Duplicato-ternated LEAF, one conſiſting of *leaves*, which are themſelves compoſed of three leaves each.

Emarginated LEAF, that which has a little indenting on the ſummit. *Obtuſely emarginated*, is the term when the two points which form the indenting are obtuſe: when they are acute, it is ſaid to be *acutely emarginated*.

Enſiform LEAF, a compreſſed *leaf* of the ſhape of a ſword, which is thin, and edged as it were on the ſides, and which has a high rib running down its middle.

Erect LEAF, one ſo ſituated as to make an acute angle with the ſtalk.

Eroſe LEAF, *eroſum folium*, a *leaf* which has ſeveral ſinuſes in its diſk, and alſo in the edge or border.

Faſciculate LEAVES, expreſſes *leaves*, many of which ariſe together from the ſame point.

Floral LEAF, expreſſes one found near the flower, and which never appears but with the flower.

Frondes expreſſes *leaves* conſiſting of ſeveral other *leaves*, and forming the whole plant; as is the caſe in the fern-kind, in which the fructification being on the back of the *leaves*, the ſingle *leaf* makes the whole plant.

Haſtated LEAF, one in form like a ſpear's point: this expreſſes a triangular *leaf*, the ſides and the baſe of which are both hollowed, ſo as in ſome meaſure to give the reſemblance of a *leaf* compoſed of three parts.

Hirſutum folium. See *Piloſe* LEAF, infra.

Hiſpid LEAF, one whoſe ſurface is covered with more thick and rigid hairs than the *piloſe leaf*. See *Piloſe* LEAF, infra.

Horizontal LEAF. See *Patent* LEAF, infra.

Jagged LEAF. See *Laciniated* LEAF, infra.

Imbricated LEAF, *imbricata folia*, *leaves* placed over one another in the manner of the tiles of a houſe, or like the ſcales of fiſhes.

Inflex LEAF, *inflexum folium*, that which in growing from its baſe, turns its point again toward the plant.

Intire LEAF, *integrum* or *indiviſum folium*, a *leaf* which is not cut in with any ſinus in its diſk.

The term *integerrimum* applied to a *leaf*, denotes that it is free from all diviſions or ſinuations of any kind in the border any more than in the diſks.

Lacerated LEAF, *lacerum folium*, a *leaf*, the edge of which is compoſed of ſegments of different ſhape and figure.

Laciniated LEAVES, are thoſe which are very deeply cut in, though not quite to the middle rib, yet are divided into ſeveral jagged portions, theſe are called alſo jagged *leaves*; and of this kind are thoſe of the horned poppy, ragwort, and the like.

Lanceolated LEAF, that which is ſhaped like a ſpear's point, or which is oblong, and growing ſmaller and narrower from the middle to the extremity where it terminates in a point.

Lanigerous LEAF. See *Piloſe* LEAF, infra.

Linear LEAF, one the two ſides of which run almoſt parallel to one another: the *linear leaves* are uſually narrow, and ſomewhat broader in the middle than at either end.

Linguiform LEAF, a linear *leaf* in ſhape of a tongue, which is obtuſe, fleſhy, depreſſed, convex on the under ſide, and uſually cartilaginous at the edge.

Lunulated LEAF, one in form of a creſcent: it is a ſuborbicular *leaf* hollowed at the baſe, with two curvilinear angles in form of circles at its hinder part or baſe.

Lyrated LEAF, *folium lyratum*, one in form of a lyre; or, it is a compound *leaf*, formed of a ſimple one, which divides itſelf in its lower part in ſuch a manner, that the inciſions below make ſegments which ſtand out from the body of the *leaf*, and are detached from the larger ſegment, which forms the upper part.

Membranaceous LEAF, one merely compoſed of membranes with no pulp between.

Naked LEAF, *nudum folium*, expreſſes a *leaf* whoſe ſurface is ſmooth and equal, without any particular marks.

Natant LEAF, one which floats upon the ſurface of the water.

Nervoſe LEAF, one whoſe veſſels are ſimple, and extend themſelves parallelly from the baſe toward the ſummit, without any ramifications.

Nitidum folium, expreſſes a *leaf* of a ſmooth and gloſſy ſurface, looking as if poliſhed by art.

Oblong LEAF, one the length of which is many times equal to its breadth, and the extremities of which are both too narrow to form ſegments of circles.

Obtuſe LEAF, one terminated by the ſegment of a circle. When the ſummit of a *leaf* is obtuſe, but terminated by a fine ſharp point, affixed as it were upon it, it is ſaid to be *obtuſum cum acumine*.

Obverſely ovated LEAF, *obverſè ovatum folium*, a *leaf* of the ſame figure with the ovated *leaf*, only fixed to the petiole by its ſmaller end.

Orbicular LEAF, one of a round figure, the breadth of which is equal to its length, and every part of its edges equally diſtant from the center.

Oval LEAF, one approaching to round, but too long for its breadth; its diameter, at both extremities, is equal to the two ends, forming the ſame ſegments of circles: this might be more diſtinctly called elliptic.

Ovated LEAF, *folium ovatum*, expreſſes a *leaf*, the ſhape of which is like that of an egg; or, which is longer than broad, and the baſe or lower part of which forms the ſegment of a circle, though the other extremity is too ſmall to be in proportion to it.

Palmated LEAF, one in form of an open hand: this expreſſes a *leaf*, divided into ſeveral ſegments, from the top down to the middle, or to the baſe.

Panduriform LEAF, one of the ſhape of a violin: this is an oblong *leaf*, larger at both ends than in the middle, where it is deeply cut, in a rounded manner.

Papilloſe LEAF, one whoſe ſurface is covered with little roundiſh protuberances, or veſicles.

Patent LEAF, one which ſtands almoſt ſtrait out from the ſtalk, or nearly at right angles with it. When it forms perfectly right angles, it is called *horizontal*.

Peltated LEAF, expreſſes a *leaf*, the petiole of which is affixed to the diſk, and not to the baſe, or to the edge of the *leaf*.

Pentagonal LEAF. See *trigonal* LEAF, infra.

Perfoliate LEAF, that whoſe diſk is pierced by the ſtalk, the branch, or the peduncle; and does not any where touch or adhere to its edges.

Petiolate LEAF, one affixed to a plant by means of a peculiar pedicle, which in the caſe of a *leaf* is called *petiole*, though in caſe of fruit a *peduncle*. See PETIOLE, *&c.*

Piloſe LEAF, one whoſe ſurface is furniſhed with hairs ſo large and long, as to be diſtinguiſhable by the eye ſeparately. The ſame idea is alſo expreſſed by the term *hirſutum*, *villoſum*, and *lanigerum*.

Pinnated, or *pennated* LEAF, one formed in manner of a wing, and compoſed of two ranges or ſeries of folioles, annexed to the two ſides of one common oblong petiole.

Of the *pinnated leaves* there are ſeveral kinds: 1. The *pinnated* with an odd one: this expreſſes the *pinnated leaf*, when beſides the two ſeries juſt mentioned, there is an odd *leaf* at the extremity of the petiole. 2. The *pinnated abrupt leaf*, in which there is neither an odd *leaf*, nor a tendril at the end of the petiole. 3. The *oppoſitely pinnated*, which is when the folioles ſtand oppoſite to one another on the common petiole. 4. The *alternately pinnated*, when the folioles ſtand not oppoſitely but alternately. 5. The *interruptedly pinnated*, in which the folioles are irregular and unequal in ſize or ſituation. 6. The *cirro-pinnated*, the extremity of whoſe petiole has one or more tendrils, inſtead of an odd *leaf*. 7. The *decurrently pinnated*, in which the folioles extend beyond their proper baſe in going down the petiole, and as it were make it alated. 8. The *membranaceous pinnated*, of the ſame form with the laſt, but with the petioles themſelves membranaceous and articulated. 9. The *conjugated pinnated leaf*, when the whole compound *leaf* conſiſts of only two folioles on the petiole: this kind of *pinnated*

leaf may be either abrupt, cirrated, membranaceous in the petiole, or ſtipulated.

Pinnatifid LEAF expreſſes one divided into ſeveral parts in form of alæ; or which has three, four, or more lateral ſinus's ſeparated by long horizontal ſegments.

Plicated LEAF, one from the baſe or petiole of which there run at ſeveral diſtances veſſels or fibres, which extend themſelves to the extreme ſides, and ſome of which raiſe and others depreſs the diſk of the *leaf* in an alternate order, making acute angles.

Præmorſe LEAF, *præmorſum folium*, a *leaf* which is truncated and terminated by an acute ſinus at the ſummit.

Quadrifid LEAF. See *bifid* LEAF, ſupra.

Quaternate LEAVES. See *ternate* LEAVES, infra.

Quina FOLIA. See TERNATE.

Quinquangular LEAF, one with ſtrait ſides and five angles.

Quinquefoliate LEAF, is a compound *leaf* of the ſame form with the *trifoliate*, but made up of five ſegments; ſuch are the *leaves* of cinquefoil, &c.

Quinquepartite LEAF, one which is ſeparated into five parts down to the very baſe, ſo as to ſeem made up of five ſeparate *leaves* till cloſely examined. In the ſame manner a *leaf* is ſaid to be *bipartite*, &c. when it is divided into two, three, &c. parts.

Radical LEAF, that which grows immediately from the root of a plant not from the ſtalk.

Radicant LEAF, one which puſhes out roots from its ſummit, as ſome of the ferns do.

Radicated LEAF, *folium radicatum*, one which puſhes out roots from its diſk or lower ſurface.

Ramoſe LEAVES, thoſe which are ſtill more divided than the winged or alated *leaves*, and compoſed of one ſeries farther in their diviſion. Of this ſort are the *leaves* of female fern, and the like. Or,

Ramoſe leaf is one which grows not on its main ſtalk, but on its branches.

Ramuloſe LEAF, a kind of compound *leaf*, in which there are ſeveral foliola ſuſtained on a branched petiole.

Reclinate or *reflex* LEAF, one which has its ſummit lower than its baſe.

Reniform LEAF, one of the ſhape of a kidney; or, it is a *leaf* of a ſuborbicular figure, hollowed a little at the baſe, but without any angle.

Repanded LEAF, *folium repandum*, a *leaf*, the border of which is marked all round with ſhort lobes, each making a ſegment of a circle, with obtuſe ſinus's.

Retuſe LEAF, *retuſum folium*, a *leaf* whoſe extremity is terminated by an obtuſe line.

Revolute LEAF, *folium revolutum*, a *leaf*, the upper part of which rolls itſelf downward.

Round LEAF, *teres folium*, one which is not flatted as moſt are, but is of a cylindric figure, except the point.

Rugoſe LEAF, that whoſe veins are ſunk deep, and between which the membranous and fleſhy part of the *leaf* riſes in irregular forms, ſo as to give upon the whole a wrinkled ſurface.

Sagittated LEAF, one formed like the iron head of an arrow. This is the triangular *leaf* hollowed at its baſe for the inſertion of the petiole.

Scabrous LEAF, that which has ſeveral irregular prominences on its ſurface.

Semamplexicaule LEAF, one reſembling the *amplexicaule*, but with its lobes at the baſe too ſmall to entirely ſurround the ſtalk.

Seminal LEAF, that which appears firſt from the ſeed of a plant, and is uſually different from the reſt.

Serrated LEAF, *folium ſerratum*, that whoſe edge or border is notched like a ſaw, or furniſhed with points which make acute angles, and placed one bending toward another, and all toward the top.

Retrorſum ſerratum folium expreſſes a *leaf* whoſe edge is furniſhed with the ſame ſort of indentings, but in which they are turned backwards, or all look toward the baſe of the *leaf*.

Obſolete ſerratum folium expreſſes a *leaf* indented in the ſame manner, but the indentings obtuſe and weak.

Folium duplicato-ſerratum denotes a *leaf ſerrated* as the firſt, but with the ſerratures large, and their edges *ſerrated* again with indentings of the ſame kind.

Seſſile LEAF, one which riſes immediately from the ſtalk without any pedicle.

Simple LEAF, is that which is whole, or not divided to the middle rib, or ſeeming made up of different ſmaller *leaves*; as in ſage, mint, &c.

Simple leaf is otherwiſe defined, that of which the petiole carries only one. See PETIOLE.

Sinuated LEAF, one which has a number of ſinus's on its ſides, but theſe ſeparated by lobes not very long, nor themſelves indented or notched at the edges.

Sinuato-dentated leaf expreſſes a *leaf* like the former, but with the lateral lobes of a linear figure.

Retrorſum ſinuatum folium, a *leaf* with ſinus's at the ſides, and with the lobes which divide them, pointed and turned toward the baſe like the beards of an arrow.

Sparſe LEAVES, thoſe which are placed irregularly over the ſeveral parts of the plant.

Spinoſe LEAF, that whoſe diſk or edge is armed with cartilaginous points ſo firmly affixed, that they cannot be ſeparated without injuring the *leaf* itſelf.

Stellate LEAVES, thoſe which grow more than ſix at a joint, and are arranged like the rays of a ſtar,

Striated LEAF, one with a number of longitudinal furrows on its ſurface.

Subrotund LEAF, that approaching to the figure of the orbicular *leaf*, but departing from it, either in being too long, or too broad, or prominent, in ſome one or more parts. Vid. ſupr.

Subular LEAF, that which grows at the ramifications, or under that part of the ſtalk, from whence there grows one on ſeveral branches.

Subulated LEAF, one of the ſhape of an awl. This expreſſes a *leaf* oblong and narrow, broadeſt at the baſe, and thence gradually decreaſing, till it terminate in a point.

Sulcated LEAF, one which has a great number of ridges all round it, with obtuſe ſinuſes.

Supradecompoſite LEAF, one which has the common petiole divided more than twice, before it is charged with *leaves* or foliola.

Ternated LEAF, a compound one, conſiſting only of three *leaves* on a common petiole.

Ternate alſo expreſſes *leaves* which grow three at a joint, ſurrounding the ſtalk. When there are four or five, they are called *quaterna* and *quina*, and ſo on.

Tetragonal LEAF. See *Trigonal* LEAF, infra.

Tomentoſe LEAF, one whoſe ſurface is covered with hairs ſo ſhort and fine, that the eye does not diſtinguiſh them ſingly, though the *leaf* in general is evidently downy, both to the ſight and the touch.

Triangular LEAF, one compoſed of three rectilinear ſides, and three angles, the two inferior ones of which are on a level with the baſe.

Trifid LEAF. See *Bifid* LEAF, ſupra.

Trifoliate LEAF, is a compound *leaf* made up of ſegments placed in the ſame order as in the digitated *leaf*, but theſe ſegments are uſually ſhort, and are always three in number. Of this ſort are the *leaves* of clover, graſs, &c.

Trigonal LEAF, one much like the triquetrous, only that in this the ſeveral faces are each hollowed in form of channels, and the ribs are ſharp and membranaceous.

A *leaf* that has, inſtead of three ribs or edges, four or five, is in the ſame manner called *tetragonal*, *pentagonal*, &c.

Trilobous LEAF, one divided into three lobes. This is a *leaf* divided juſt down to the middle into three parts, which ſtand apart from one another, and are ſurroundedat the edges.

Tripartite LEAF. See *Quinquepartite* LEAF, ſupra.

Triplicato-ternatum, or *ternato-ternatum*, a *leaf*, the petiole of which divides three times into three branches, before any *leaves* or foliola are placed on it.

Triquetrous LEAF, expreſſes a *leaf* which has three faces or ſides, all flat. This is uſually alſo ſubulated, or grows ſmaller gradually from the baſe to the point.

Truncated LEAF, that whoſe ſummit or point ſeems to have been cut off, or is terminated by a ſtrait line in a tranſverſe direction.

Tubuloſe LEAF, one which is hollow within, and makes a kind of tube.

Vaginans expreſſes a *leaf*, the baſe of which is formed like a cylinder, and ſurrounds the ſtalk, as is the caſe in many of the graſſes.

Venoſe LEAF, that on the ſurface of which there are a vaſt number of branched veſſels, which frequently unite in an odd manner one with another.

Villoſe LEAF. See *Piloſe* LEAF, ſupra.

Undulated LEAF, that whoſe exterior part of the diſk is of more extent than a circle of the ſame diameter, ſo that the edges are neceſſitated to riſe and fall in a regular manner.

Indian LEAF, in botany. See TAMALAPATRI.

LEAVES, in watchmaking, is uſed for the notches of its pinion. See PINION, *Cycl.*

LEAK, at ſea, is a hole in the ſhip, through which the water comes in. A ſhip is ſaid to *ſpring a leak* when ſhe begins to *leak*, or let in the water.

The manner of ſtopping a *leak* is, to put into it a plug wrapt in oakum, and well tarred, or in a tarpawling clout, which keeps the water out; or nailing a piece of ſheet lead on the place.

Seamen ſometimes ſtop a *leak* by thruſting a piece of ſalt beef into it. The ſea water, ſays Mr. Boyle [a], being freſher than the brine imbibed by the beef, penetrates into its body, and cauſes it to ſwell ſo, as to bear ſtrongly againſt the edges of the broken plank, and thereby ſtops the influx of the water.—[a] Works Abr. Vol. 1. p. 147.

A ready way to find a *leak* in a ſhip, is to apply the narrow end of a ſpeaking trumpet to the ear, and the other to the ſide of the ſhip where the *leak* is ſuppoſed to be; then the noiſe of the water iſſuing in at the *leak* will be heard diſtinctly, whereby it may be diſcovered. See Philoſ. Tranſ. N° 201.

LEAO, in natural hiſtory, a mineral ſubſtance approaching to the nature of the *lapis lazuli*, found in the Eaſt-Indies, and