off, and his breath became ſweet; but the ulcers ſtill diſcharged great quantities, and notwithſtanding all that had been done, two large ſhankers appeared on the glans, and a bubo in each groin: He was alſo ſeized with a cough, and ſpit purulent and bloody matter. It was evident that the whole *Membrana Adipoſa* had been conſumed from the external part of the body, and the diſeaſe now began to ſeize on that part of it which inveſted the more vital parts; but nature could ſupport it no longer, and he died in the moſt extreme degree of a pocky conſumption. It is obſervable, that not one bone in the whole body appeared to be touched, though he died with more than forty ulcers upon him. Phil. Tranſ. N°. 460. p. 671.

MEMBRANACEOUS *Leaf*, among botaniſts. See the article LEAF.

MEMBRAS, in ichthyology, a name given by Rondeletius, Aldrovand, and ſeveral other writers, to the *halec* or herring. See the articles HALEC and CLUPEA.

MEMIREN, in the materia medica, the name by which Serapion and ſome other authors have called the pilewort, or ſmall celandine. *Ger.* Emac. Ind. 2.

MEMITHA, in the materia medica of the antients, the name of a plant which ſome have ſuppoſed to be our cerinthe, but others the glaucium, or yellow-horned poppy.

MEMORY (*Cycl.*)—Many have been the attempts, in all ages, to aſſiſt the *Memory*. Some have had recourſe to medicine, ſuch as Horſtius [a], Marſilius Ficinus [b], Johnſton [c], and others. That good health, a good digeſtion, and a mind free from care, are helps in this reſpect, is an old obſervation [d]. That attention, application, frequent recapitulation, are neceſſary, is known to every one. But whether, beſides natural health and parts, and the exerciſe of our faculties, art may not give a farther aſſiſtance to *Memory*, has been a queſtion. Simonides is ſaid to be the firſt who found out the art of *Memory* [e]. His method was by a choice of *places* and *images*, as a repoſitory of ideas; ſuch, for inſtance, as a large houſe divided into ſeveral apartments, rooms, cloſets, *&c.* All theſe, and their order, were to be rendered extremely familiar to the imagination and *Memory*. Then, whatever was to be remembered, was by ſome ſymbolical repreſentation or another, as an anchor for navigation, to be connected with ſome part of the houſe, or other artificial repoſitory, in a regular manner. Cicero [f] and Quinctilian [g] give us ſome account of this method, and ſpeak of it with reſpect. Several moderns have attempted improvements of artificial *Memory*. There was a collection of various treatiſes of this kind publiſhed at *Leipzig* [h]; this and Bruxius's Simonides Redivivus [i] are commended by Morhof [k]. Paſchius gives us ſome account alſo of ſeveral authors who have treated of this art [l]. It is certainly of uſe in hiſtory and chronology. The chief artifice, in this reſpect, is to form an artificial word, the letters of which ſhall ſignify numbers. Hence a date or æra may more eaſily be recapitulated and remembred than without ſuch a contrivance. This invention is mentioned as a ſecret known to few, by Paſchius [m]. It has been proſecuted lately in England [n], by Dr. Grey.—[[a] De Sanitat. Studioſor. lib. 2. c. 1. [b] De Vita, lib. 1. c. 25. [c] *Johnſton*, Idea Medicin. Practic. lib. 8. c. 4. Vid. *Paſch.* de Nov. Invent. p. 134. [d] *Quinctil.* Inſt. Orat. p. 992. [e] *Quinct.* lib. cit. p. 985. [f] Ad Herenn. lib. 3. [g] Lib. cit. [h] Variorum de Arte Memoriæ Tractatus, Lipſ. 1678. 8°. [i] Polyhiſtor. lib. 1. p. 374, 375. [k] *Adami Bruxii*, Simonides Redivivus, ſeu Ars Memoriæ & Oblivionis. Lipſ. 1640. in 4°. [l] Lib. cit. p. 133—140. [m] Lib. cit. p. 140. *Numerus per certas literas, verbo memoriali comprehenſas, exprimitur.* [n] Vid. *Memoria Technica*, or a New Method of Artificial Memory, *&c.* Lond. 1730. 8°. alſo *Lowe*'s Mnemonics.]

The method is this: To remember any thing in hiſtory, chronology, geography, *&c.* a word is formed, the beginning whereof being the firſt ſyllable or ſyllables of the thing to be remembred, does, by frequent repetition, of courſe draw after it the latter parts, which is ſo contrived as to give the anſwer. Thus in hiſtory, the deluge happened in the year before Chriſt 2348. This may be ſignified by the word Dél-*étok*; Del ſtanding for deluge, and *etok* for 2348. How theſe words come to ſignify theſe things, or contribute to the remembring them, is now to be ſhewn.

The firſt thing to be done, is to learn exactly the following ſeries of vowels and conſonants, which are to repreſent the numerical figures, ſo as to be able at pleaſure to form a technical word, which ſhall ſtand for any number, or to reſolve a word already formed into the number it ſtands for.

a	*e*	*i*	*o*	*u*	*au*	*oi*	*ei*	*ou*	*y*
1	2	3	4	5	6	7	8	9	0
b	*d*	*t*	*f*	*l*	*s*	*p*	*k*	*n*	*z*

Here *a* and *b* ſtand for 1, *e* and *d* for 2, *i* and *t* for 3, and ſo on. Theſe letters are aſſigned arbitrarily to the reſpective figures, and may very eaſily be remembred. The firſt five vowels in order naturally repreſent 1, 2, 3, 4, 5. The diphthong *au* being compoſed of *a*, 1, and *u*, 5, ſtands for 6; *oi* for 7, being compoſed of *o*, 4 and *u*, 5: The diphthong *ei* will eaſily be remembered for 8, being the initials of the word. In like manner for the conſonants, where the initials could conveniently be retained, they are made uſe of to ſignify the number, as *t* for 3, *f* for 4, *s* for 6, and *n* for nine. The reſt were aſſigned without any particular reaſon, unleſs that poſſibly *p* may be more eaſily remembred for 7 or *ſeptem*, *k* for 8, or ὀκτω, *d* for 2, or *duo*; *b* for 1, as being the firſt conſonant, and *l* for 5, being the Roman letter for 50, than any others that could have been put in their places. Memor. Techn. p. 2, 3. 'Tis farther to be obſerved, that *z* and *y* being made uſe of to repreſent the cypher, where many cyphers meet together, as 1000, 1000000, *&c.* inſtead of a repetition of *azyzyzy*, *&c.* let *g* ſtand for 100, *th* for a thouſand, and *m* for a million. Thus *ag* will be 100, *ig* 300; *oug* 900, *&c.* *ath* 1000, *am* 1000000, *loum* 59000000, *&c.* Ib. p. 5.

Fractions may be ſet down in the following manner: Let *r* ſignify the line ſeparating the numerator and denominator, the firſt coming *before*, the other *after* it; as *iro* $\frac{3}{4}$, *urp* $\frac{5}{7}$, *pourag* $\frac{79}{100}$, *&c.* When the numerator is 1 or unit, it need not be expreſſed, but begin the fraction with *r*; as *re* $\frac{1}{2}$, *ri* $\frac{1}{3}$, *ro* $\frac{1}{4}$, *&c.* So in decimals, *rag* $\frac{1}{100}$, *rath* $\frac{1}{1000}$. Ibid.

This is the principal part of the method, which conſiſts in expreſſing numbers by artificial words. The application to hiſtory and chronology is alſo performed by artificial words. The art herein conſiſts in making ſuch a change in the ending of the name of a place, perſon, planet, coin, *&c.* without altering the beginning of it, as ſhall readily ſuggeſt the thing ſought, at the ſame time that the beginning of the word, being preſerved, ſhall be a leading or prompting ſyllable to the ending of it ſo changed. Thus, in order to remember the years in which Cyrus, Alexander, and Julius Cæſar, founded their reſpective monarchies, the following words may be formed; for Cyrus, Cyr*uts*; for Alexander, Alex*ita*; for Julius Cæſar, Juli*os*. *Uts* ſignifies, according to the powers aſſigned to the letters before mentioned, 536; *ita* is 331, and *os* is 46. Hence it will be eaſy to remember, that the empire of Cyrus was founded 536 years before Chriſt, that of Alexander 331, and that of Julius Cæſar 46. Mem. Techn. Introd. p. viii and ix.

For the farther application of this method, we refer to the ingenious author of the laſt cited book. We ſhall only add, that *technical verſes* contribute much to the aſſiſtance of the *Memory*, both as they generally contain a great deal in a little compaſs, and alſo becauſe, being once learned, they are ſeldom or never forgot. The author before quoted has given us ſeveral ſpecimens of ſuch verſes in hiſtory, chronology, geography, and aſtronomy, as alſo the Jewiſh, Grecian and Roman coins, weights and meaſures, *&c.* He adviſes his reader to form the words and verſes for his own uſe himſelf; as he perhaps will better remember them than thoſe formed by the author. Lib. citat. Introduct. p. xi.

It was a practice among the Jews not only to abbreviate ſentences and names of many words, by putting together the initial letters of thoſe words, and making out of them an artificial word to expreſs the whole, as *Rambam* for *Rabbi Moſes ben Maimon*; but they alſo made uſe of natural words to repreſent numbers, when they could meet with ſuch as happened to anſwer the number which they wanted to expreſs [a]. It is to obſervations of this kind the author laſt quoted ſeems to ſay he owed the firſt hints of his method [b].—[[a] Mem. Tech. Introd. p. xv, xvi. [b] Lib. cit. p. xvii.]

As to Simonides's method, Quinctilian ſays he will not deny it to be of ſome uſe; for inſtance, in repeating a multitude of words in the order they occur, and in things of this nature: But he thinks it of leſs uſe in getting by heart a continued oration, and in this reſpect rather an incumbrance [a]. He himſelf adviſes, if the ſpeech to be remembred be long, to get it by heart in parts, and thoſe not very ſmall. The partition ought chiefly to be made according to the different topics. He thinks it beſt to get things by heart tacitly, and if, the better to fix the attention, the words be pronounced, yet it ſhould be in a low voice. Apt diviſions help the *Memory* greatly. But after all, the great art of *Memory* is exerciſe: To get many things by heart, and daily, if poſſible. Nothing increaſes more by uſe, or ſuffers more by neglect, than the *Memory*. At whatever age a man aims at the improvement of this faculty, he ſhould patiently ſubmit to the uneaſy labour of repeating what he has read or written. Here, as in other caſes, where habits are to be acquired, exerciſe ſhould be increaſed by degrees [b].—[[a] *Nonne impediri eorum, quæ dicit, decurſum neceſſe eſt duplici memoriæ cura? Nam quomodo poterunt copulata fluere, ſi propter ſingula verba ad ſingulas formas reſpiciendum erit. Quinct.* Inſt. Orat. Lib. xi. c. 2. p. 989. [b] *Quinct.* loc. cit. p. 993. ſeq.]

Lord Bacon enumerates ſeveral helps to *Memory*, as order, artificial place, verſe, whatever brings an intellectual thing to ſtrike the ſenſes, and thoſe things which make an impreſſion by means of a ſtrong paſſion, as fear, ſurprize, *&c.* Thoſe things alſo ſink deepeſt, and dwell longeſt in the *Memory*, which are impreſſed upon a clear mind unprejudiced either before or after the impreſſion; as the things we learn in childhood, or think of juſt before going to ſleep; as likewiſe the firſt times things are taken notice of.

A multitude of circumſtances alſo, or, as it were, handles or holds to be taken, help the *Memory*; as the making many breaks in writing, reading or repeating aloud: But as to this laſt, ſee Quinctilian's opinion before mentioned. Thoſe things which are expected, and raiſe the attention, ſtick better than ſuch as paſs ſlightly over the mind; whence if a man reads any writing twenty times over, he will not remember it ſo well, as if he read it but ten times; with trying between whiles to repeat it, and conſulting the copy where his *Memory* failed. *Bacon*'s Works abrid. vol. 2. p. 475. See alſo vol. 1. p. 135, 136. vol. 3. p. 176. and the article MNEMONIC *Tables*.

Weakneſs of the MEMORY, in many caſes, is to be conſidered as a diſeaſe, and is looked on in that light by the medical writers, who have preſcribed various remedies for it. The principal cauſes of this debility, are a too frequent and conſtrained uſe, or rather abuſe of it, in the getting by rote numbers of words and ſyllables, particularly in the learning different languages; a paralytic affection in the head; violent external injuries in the ſame part; violent pains in the head, attended with deliriums, or attending a phrenitis. And to theſe are to be added drunkenneſs, and an abuſe of venery.

Prognoſtics. All debilities of *Memory* are cured with great difficulty by medicines alone; and indeed this complaint is ſeldom removed, unleſs the whole frame of mind and courſe of life be altered; all paſſions avoided, and exceſs of every kind left off. But of all other kinds, that debility of *Memory* which proceeds from a paralytic diſorder of the head, particularly when that diſorder affects the tongue, is found to be the moſt obſtinate and difficult of cure. Much ſleep, or exceſſive waking, are equally hurtful to the *Memory*, and frequently bring on an almoſt total loſs of it.

Method of treatment. All ſuch medicines as are of an agreeable taſte or odour, are generally ſuppoſed to be of ſervice in ſtrengthening the *Memory*; and lignum aloes, ambergriſe, and ſome other of the ſcented drugs, have been known to do great good. The aromatic, volatile, and ſpirituous medicines, alſo all help in this caſe, if taken in ſmall doſes, and continued for a long time together. The analeptics and nervine medicines are alſo greatly recommended, but they are ſeldom found of uſe; for among people afflicted with a debility of *Memory*, many are thoſe of robuſt conſtitutions and ſtrong appetites, who eat already more than nature requires, and have therefore very little uſe for analeptics or nutritive things.

Bleedings in ſmall quantities frequently repeated, in caſes where there is no contrary indication, frequently prove of great ſervice in this caſe; but the *primæ viæ* are firſt to be cleanſed before ſuch a courſe is entered upon. Many greatly recommend bags of aromatics to the head, to be conſtantly worn in caps; but it is much to be feared theſe can have but very little effect. *Junck*. Conſp. Med. p. 682.

MEN *allegro*, in the Italian muſic, is uſed to denote a movement not ſo briſk and lively as *allegro*. See the article ALLEGRO.

MEN *forte*, in the Italian muſic, intimates that the part to which it is added ought to be played or ſung not ſo ſtrong or ſo loud as the reſt.

MEN *preſto*, in the Italian muſic, ſignifies leſs quick. See the article PRESTO.

MENALD *deer*, a ſpecies of the common fallow deer, beautifully variegated. See the articles CERVUS and DEER.

MENENCHYTA, in medicine, certain compoſitions of medicinal ingredients made for injecting into the womb, in the cure of ſeveral diſeaſes of that part.

MENINGOPHYLAX, a word uſed by Celſus as the name of a chirurgical inſtrument, contrived for guarding the membranes of the brain while the bone of the cranium is raſped or cut, after the operation of the trepan.

MENING, in botany, a name given by the people of Guinea to a plant of the ricinus or palma Chriſti kind, which they uſe in medicine: They dry and powder the leaves, and then give them to be ſnuffed up the noſtrils to cure all ſorts of ſtuffings or ſtoppages in the head. Its leaves reſemble thoſe of the finch and ivy, and are hairy; whence Petiver has named it *ricinus Guineenſis hæderæ quinquefoliæ Virginianæ facie foliis hirſutis*. It is not known to grow any where in America. Phil. Tranſ. N° 232.

MENOGENIEN, in botany, a name by which ſome authors have called the pæonia, or common garden piony. *Ger*. Emac. Ind. 2.

MENSARII, among the Romans, officers appointed to manage the public treaſury, being ſometimes three, and ſometimes five in number. *Pitiſc*. in voc.

MENSORES, among the Romans, harbingers or officers, whoſe buſineſs it was to go and fix upon lodgings for the emperor, when he took a journey to any of the provinces. Their office was alſo to mark out encampments, and aſſign every regiment its poſt. *Danet*. in voc.

MENSORES alſo ſignified land-ſurveyors, architects, or appraiſers of houſes and public buildings. Thoſe likewiſe who diſtributed the proviſions in the army, were called *menſores frumentarii*; and ſervants who waited at table had the appellation of *Menſores*. *Pitiſc*.

MENSORES was likewiſe the title of officers among the Romans, appointed to receive the proviſions brought to the city by ſea, and to ſee them carefully laid up and preſerved in public granaries, of which there were great numbers. *Hoffm*. Lex. in voc.

MENSTRUUM (*Cycl*.) — As many more things might be done in chemiſtry than we now find practicable if we had more *Menſtruums* than are at preſent known, it muſt be a ſubject of infinite uſe in chemiſtry to diſcover new ones. To this purpoſe let it be conſidered, that in whatever way ſalts are united with other ſalts, new *Menſtruums* are produced by the mixture.

Thus if pure alkali be added to a ſolution of ſea ſalt, earthy matter is precipitated, and the ſalt afterwards obtained by criſtallization, from the clear liquor, will be a ſea ſalt much purer than before, and capable of acting on bodies in a different manner.

The ſame fixed alkali being added to the brine of nitre, makes the liquor thick and milky, and precipitates an earthy matter; after which the nitre, obtained by criſtallization, is much purer than before.

When fixed alkali is added to the brine of ſal armoniac, it lays hold of the acid of that ſalt, and ſets the volatile alkali of the compoſition free, and ſuffers it to fly off in the air, leaving only a very pure and fixed ſea ſalt at the bottom of the veſſel. If a pure volatile alkali be added to the brine of ſea ſalt, it makes the liquor thick, then purifies it, and flies off; and it does the ſame when added to a ſolution of nitre; and when added to a ſolution of ſal armoniac, it, in like manner, purifies the ſalt without altering its nature, and flys off as it was poured on. Vegetable acids produce but little alteration on being mixed with ſea ſalt, nitre, and ſal armoniac. Fermented vegetable acids, even after being purified by diſtillation, produce no great alteration when mixed with the ſame ſalts. If calcined vitriol, or alum, be mixed with nitre and diſtilled, they yield aqua fortis, which contains nothing of the acid of vitriol or alum, but is a mere ſpirit of nitre; and if mixed with ſea ſalt, and treated in the ſame manner, the produce is a ſpirit of ſalt; and if with nitre and ſea ſalt together, they make an aqua regia. So if nitre and calcined vitriol be melted together in an open fire, the acid of the nitre is diſcharged, and a kind of tartarum vitriolatum is left behind. Sea ſalt, treated in the ſame manner, leaves a ſort of Glauber's ſalt behind; and, in general, what way ſoever it be by which ſalts are joined with ſalts, new ſaline productions, and new *Menſtruums* will ariſe; whence the art of chemiſtry may be perpetually improved, and new *Menſtruums* will give new phænomena on different bodies. New *Memſtruums* of particular virtues, may alſo be made by variouſly combining the known *Menſtruums* together; and this may be done by an almoſt infinite variety of ways; much may be alſo done by reducing every known *Menſtruum* to its utmoſt degree of purity. And, laſtly, by reducing ſome of them into the minuteſt particles, they can be reduced to, whether by art or nature; for upon theſe three particulars the extraordinary ſkill of the chief chemiſts ſeems principally to depend. For inſtance, ſuppoſe an extremely pure, ſtrong, and ſubtle fermented vegetable acid was wanting: Take fine verdegreeſe prepared from copper corroded by the ſubtile vapour of a fermenting acid; add to it twenty times its weight of the ſtrongeſt diſtilled vinegar that can be made; digeſt them together till the verdigreeſe is thoroughly diſſolved, and the whole become a deep green liquor; purify this by filtration, and inſpiſſate it over a gentle fire to a pellicle; ſet it in a quiet place, where it will ſhoot into cryſtals like emeralds, conſiſting of an acid vinegar and diſſolved copper; pour off the liquor, collect the cryſtals, and evaporate as before; and by this means collect all the cryſtals that can be obtained; then dry theſe, and diſtil them in a retort, and the produce will be a moſt pure and ſtrong vegetable acid, not in the leaſt partaking of the nature of copper. But this experiment will not ſucceed with lead, tin, or any other of the metals ſoluble in vinegar; for the copper attracts the acid free of its water, and again reſtores it unaltered; but the others, though they equally attract and ſeparate it, yet always yield it altered and impure. Zwelfer imagined this acid to be the alkaheſt, or univerſal diſſolvent; but Tachenius ſoon proved that it was no other than diſtilled vinegar of a much greater purity than uſual.

To ſhew that by the compounding one *Menſtruum* with another, new, and often, excellent ſalts may be produced, let it be conſidered, that the regenerated tartar, properly prepared, may be intimately united to pure alcohol, and thus produce a vegetable *Menſtruum*, compoſed by the moſt cloſe union of the moſt ſubtile vegetable particles, *viz*. alkali, acid, and ſulphur; whence the effect of ſuch a liquor cannot but be extremely great, both as a *Menſtruum* and a medicine. So again, if a pure ſtrong alkaline ſpirit be united with pure alcohol, it produces an admirable *Menſtruum* called the oſſa Helmontii, which intimately diſſolves diſtilled vegetable oils, and thus makes a *Menſtruum* compounded of the genuine vegetable ſulphur, and an alkali, and is perhaps one of the beſt medicines, as well as the beſt *Menſtruums* hitherto known.

In like manner pure ſpirit of nitre ſaturated with the alkaline ſpirit of ſal armoniac, makes a kind of volatile nitre, and thus affords an opportunity of examining, by experiments, whether the great things expected from a volatile nitre by the chemiſts, will be performed by it or not. Experiments of this kind are extremely worth proſecuting. It is not certain whether any *Menſtruum* will diſſolve any ſubſtance without the aſſiſtance of fire, as no experiment could ever be made in any place deſtitute of all fire; there being evidently fire in our utmoſt known degree of cold; and we all know that *Menſtruums*, of whatever kind, act greatly the better for being aſſiſted by heat.

Menſtruums can ſcarce act as ſuch, unleſs reduced to a fluid form, or at leaſt approaching thereto; this is chiefly given them by means of fire, air, water, and triture: Theſe are the four cauſes which uſually excite the latent powers of *Menſtruums*. Certain *Menſtruums* contain a cauſe within themſelves apparently capable of exciting motion, though in reality it depends upon the near approach of ſome other body. Thus if a good loadſtone be ſuſpended by a thread, and hang at reſt in a great degree of cold, it will ſeem to have no active virtue; but if iron come near it, a motion is produced in both theſe bodies, till they come together, and remain in contact; and this kind of power generates motion ſpontaneouſly, without the aſſiſtance of any fire ſenſible to us, and is not excited by motion. So likewiſe ſtrong ſpirit of nitre confined in a cloſe veſſel, yields an acid fume conſtantly playing about the ſurface of the liquor, and iſſuing out whenever the veſſel is unſtopped. So alſo the alkaline ſpirit of ſal armoniac yields a fume never obſerved to be at reſt; and the ſpirit of this ſalt, made with lime, yields a fume much more volatile and moveable: All the bodies of this kind therefore ſtrangely retain, and ſtrangely excite motion. We are always to remember alſo that air, even in the coldeſt places, has always a ſtrong vibratory motion, and therefore may often excite theſe motions in theſe bodies; as on the other hand ſolutions are often immediately performed by means of the motion peculiar to the *Menſtruum* ariſing from it; while another motion of a different kind, and proceeding from a different cauſe, would not produce the effect. Thus, for inſtance, if a fine piece of Engliſh chalk be calcined in a ſtrong fire, or even in the focus of a burning-glaſs, it will ſcarce alter its nature by this violent motion, nor again by being expoſed to a hot or cold air, either at reſt, or agitated by winds; and though if long boiled in water, or a brine of ſalt of tartar, it will not diſſolve; yet it immediately melts and diſappears when put into cold vinegar. Whence we ſee there is a very great difference between the motion excited by the reciprocal force of the ſolvent and ſolvend, and the motion excited by fire, air, water, and impulſe. The acrimony of a *Menſtruum*, with reſpect to a human body, ſo as to excite pain, corrode or conſume the parts thereof, is no ſign that ſuch a *Menſtruum* is ſuited to diſſolve other bodies, as appears from oil of vitriol, ſpirit of nitre, ſpirit of ſalt, and *aqua regia*, which though they readily conſume fleſh, yet do not conſume or diſſolve wax and ſulphur, though theſe two may be eaſily diſſolved in the body. Many bodies incapable of ſolution in certain *Menſtruums*, may be ſuited for diſſolving therein, by being previouſly diſſolved in other *Menſtruums*. Thus if common ſulphur be boiled ever ſo long in alcohol, it diſſolves no more than a ſtone in water; but if the ſulphur be firſt melted with ſalt of tartar into a duſky maſs, the alcohol will then diſſolve it; ſo alſo powdered antimony remains untouched after boiling in alcohol; but if firſt boiled to a dry maſs in an alkaline lixivium, this maſs preſently yields a golden tincture to alcohol. Some chemiſts have conceived ſo highly of this regular and ſucceſſive application of different *Menſtruums*, particularly Mr. Boyle and Mr. Homberg, that they ſay even metals may by this means be reſolved into their component running mercury and fixing ſulphur. Thus they aſſert, that if ſilver be firſt diſſolved in ſpirit of nitre, and then long digeſted with pure fixed alkali, and afterwards ſeveral times ſublimed with ſal armoniac, it will at length, by means of theſe reſuſcitating ſalts, afford a true running mercury; in which operation the acids procure an entrance for the alkalis into the ſubſtance of the metal, as the fixed alkalis procure admiſſion to the volatile ones, which elſe could not enter. Boerhaave waves diſputing upon the point, whether the metals can be thus reſolved into their running mercuries, and only affirms, that after many trials, he was never able to effect it. *Boerh.* Chem. part 1. p. 562. ſeq.

It is an error to think a *Menſtruum* cannot be too ſtrong. Oil of vitriol diluted with ſeveral times its weight of water, diſſolves iron beſt. So aqua fortis diluted works beſt in lead. And Mr. Boyle makes the like obſervation as to the ſolution of ſilver. Works Abr. vol. 1. p. 165.

Animal MENSTRUUM. There are of the animal *Menſtruums* very many both of the natural and artificial kind; the natural are blood, ſerum, gall, urine, ſaliva, rennet, whey, buttermilk, *&c.* moſt of which, being properly employed, will either produce or diſcharge colours, and might be made ſerviceable in the painting and dying trades. Thus recent urine diſcharges the common ink out of linnen, *&c.* Blood affords, by proper management, the noble Pruſſian blue; and gall is a natural yellow, well deſerving to be treated in the manner of blood in that preparation. Of the artificial kind are the ſpirit of urine produced by chemiſtry, which ſerves to produce, alter and deſtroy a vaſt number of colours. The liquors diſtilled from recent, or fermented whey, buttermilk, *&c.* might be alſo found of great value; and variouſly compounding theſe ſeveral animal ſubſtances, even by random trials, or chance experiments, new diſcoveries in colours might be made; though much more, probably, by a right reaſoning and analogy. As for inſtance, the common bones burnt to a blackneſs, being found to afford the bone black, the experiment was eaſily transferred to ivory, and ſo the ivory black was diſcovered: And ſo of the reſt. *Shaw*'s Lectures. p. 183.

MENSTRUUM *Peracutum*. Mr. Boyle gives the name of *Menſtruum peracutum* to a *Menſtruum* made by pouring on the rectified oil of butter of antimony as much ſtrong ſpirit of nitre as would ſerve to precipitate out of it all the bezoarticum minerale; and then with a ſmart fire diſtilling off the liquor which would come over, and cohobating it upon the antimonial powder. Works Abr. vol. 1. p. 260, 377.

He put ſome highly refined gold into a large proportion of this *Menſtruum peracutum*, where it diſſolved ſlowly and quietly; and he found at the bottom of the glaſs a conſiderable quantity of a white powder, which the *Menſtruum* would not touch, and which was alſo indiſſoluble in aqua regia. The ſolution of gold being abſtracted, and the gold again reduced into a body, yielded, upon a ſecond ſolution, more of the white powder. This powder he melted down into a metal, anſwering in colour, malleability, ſolubility in aqua fortis, and in bitterneſs to the taſte of that ſolution, to ſilver. Hence he infers, that notwithſtanding the ſuppoſed unchangeableneſs of gold, this experiment ſhews it to be really changeable into ſilver, or at leaſt into a new kind of metal very different from gold. And he therefore concludes, that there is no impoſſibility in the nature of the thing, that one metal ſhould be tranſmuted into another. Ibid. p. 260—262.

By diſſolving gold in this *Menſtruum peracutum*, Mr. Boyle alſo tells us, he made the gold riſe in the retort, in the top and neck of which it was found in the form of yellow and reddiſh ſublimate. Works abr. vol. 1. p. 263, 377.

We do not find that Mr. Boyle gave the name of *Menſtruum peracutum* to the *Menſtruum* he extracted from bread, as it is ſaid he did, in the Cyclopædia, under the head MENSTRUUM. See Boyle's Works Abr. vol. 1. p. 34, 49.

MENTHA, *Mint*, the name of a well known 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 arched, and the lower is divided into three ſegments; and the whole is ſo diſpoſed, that at firſt ſight the flower appears a four-leav'd one, or at leaſt one regularly divided into four ſegments. The piſtil ariſes from the cup, and is fixed in the manner of a nail into the hinder part of the flower, and ſurrounded with four embryos which afterwards become ſo many ſeeds, and are contained in the cup of the flower.

The ſpecies of *Mint*, enumerated by Mr. Tournefort, are theſe: 1. The common round-leav'd wild *Mint*. 2. The purple-flower'd round-leav'd wild *Mint*. 3. The verticillated garden *Mint*, with the ſmell of baſil. 4. The common curled-leav'd verticillated *Mint*. 5. The round-leav'd ſpiked curled *Mint*. 6. The beautiful Daniſh or German curled *Mint*. 7. The round-leav'd ſpiked wild *Mint*. 8. The great roundiſh-leav'd marſh or Water *Mint*. 9. The great round-leav'd Marſh *Mint*, with variegated leaves. 10. The hairy verticillate field *Mint*. 11. The rounder-leav'd verticillate field *Mint*, with an aromatic ſmell. 12 The ſpiked *Mint*, with variegated leaves. 13. The narrow-leav'd ſpiked *Mint*. 14. The ſmooth narrow-leav'd wild *Mint*, with rugged leaves, and a ſtrong ſcent. 15. The long blackiſh-leav'd leſs hairy wild *Mint*. 16. The common thick ſpiked pepper *Mint*. 17. The long-leav'd horſe *Mint*. 18. The longer-leav'd water *Mint*. 19. The water *Mint*, commonly called *Pennyroyal*. 20. The common white-flowered *Pennyroyal*. 21. The water *Mint*, called by many authors *male Pennyroyal*. 22 The ſmalleſt woolly water *Mint*. 23. The ſavory-leav'd water *Mint*. *Tourn.* Inſt. p. 189. See the article MINT.

MENYANTHES, *Buckbean*, in botany, the name of a genus of plants, the characters of which are theſe: The flower conſiſts of one leaf, is funnel-ſhap'd, and divided into ſeveral ſegments at the edges. From the cup there ariſes a piſtil, which is fixed in the manner of a nail to the hinder part of the flower, and afterwards becomes a fruit or ſhelly caſe, uſually of an oblong figure, bivalve, and full of ſmall roundiſh ſeeds.

The ſpecies of this plant, enumerated by Mr. Tournefort, are theſe: 1. The broad-leav'd trifoliate marſh *Menyanthes*, called by many writers, *Trifolium paluſtre*, and by us, *Marſh Trefoil*, or *Buckbean*. 2. The narrow-leav'd trifoliate marſh *Menyanthes*. And 3. The American white-flower'd *Menyanthes*, with leaves like thoſe of the water lilly. *Tourn.* Inſt. p. 117.

The characters of *Menyanthes*, according to Linnæus, are theſe: The cup is a perianthium conſiſting of one leaf, divided into five ſegments at the end, and is placed erect, and

remains

remains after the flower is fallen. The flower conſiſts of a ſingle petal, in form of a ſhort cylindric and ſomewhat open-mouth'd tube. The rim beyond the middle is divided into five ſegments, the jags being open, obtuſe, bent backward, and covered with a woolly hairyneſs. The ſtamina are five ſhort and tapering filaments, and the antheræ are acute, bifid at the baſes, and erect. The germen of the piſtil is of a conic form; the ſtyle is cylindric, and nearly of the length of the flower; and the ſtigma is bifid and compreſſed. The fruit is an oval capſule, containing only one cell, and ſurrounded with the cup. The ſeeds are very numerous, ſmall, and of an oval figure. *Linnæi* Gen. Plant. p. 64.

MENTZELIA, in botany, the name of a genus of plants, the characters of which are theſe: The perianthium conſiſts of one leaf, divided into five expanded ſegments. Theſe are lanceolated and deciduous, and terminate in a very long germen. The flower conſiſts of five ovated petals, which ſtand expanded, and are ſomewhat longer than the ſegments of the cup. The ſtamina are numerous erect ſetaceous filaments; the antheræ are ſimple; the germen of the piſtil is of a cylindric figure, and is extremely long, and ſtands under the cup; the ſtyle is ſetaceous, and of the length of the flower; the ſtigma is ſimple; the fruit is a long capſule, of a cylindric clavated form, containing only one cell, in which there are lodged numerous ſmall and roundiſh ſeeds. *Linnæi* Gen. Plant. p. 236. *Plumier*, Gen. 6.

MERCATORUM *Feſtum*, among the Romans, a feſtival kept by the mercantile people on the ides or 15th of May, in honour of Mercury, to whom they ſacrificed a ſow; then ſprinkling themſelves with the water of a fountain called *aqua mercurii*, they prayed the god to proſper their trade. *Danet*, in voc.

MERCURIALIS, *Mercury*, in botany, the name of a genus of plants, the characters of which are theſe: The flower is of the apetalous kind, conſiſting only of a number of ſtamina placed in a cup. Theſe flowers are barren, and the embryo ſeeds appear on other plants of the ſame ſpecies, which have no flowers. Theſe finally become a fruit compoſed of two capſules, containing a roundiſh ſeed.

The ſpecies of *Mercurialis* enumerated by Mr. Tournefort, are theſe: 1. The teſticulated *Mercury*, commonly called the male *Mercury*. 2. The ſpiked *Mercury*, commonly, but improperly called, the *female Mercury*; this being truly the male, and the teſticulate the female, thoſe teſticles containing the ſeeds. 3. The mountain teſticulate *Mercury*, called *Cynocrambe*, or *Dogs Mercury*. 4. The ſpiked cynocrambe, or dogs *Mercury*. 5. The ſhrubby hoary teſticulate *Mercury*, called *Phyllon*. 6. The ſpiked *Phyllon*, or ſhrub hoary *Mercury*. 7. The Portugal ſhrub almond-leav'd teſticulate *Mercury*. 8. The ſpiked almond-leav'd ſhrub ſpiked *Mercury*. 9. The round-leav'd three-mouths *Mercury*, the male and female kinds. *Tourn.* Inſt. p. 534.

Mercurialis is of an emollient nature, and eaten in the manner of ſpinach, which, when cultivated in a garden, it greatly excels. If eaten largely, it opens the bowels. A cataplaſm of the leaves is much recommended in pains of the limbs, in tumours, and even in ulcers, which it cleanſes and diſpoſes to heal. Poor people in country places uſe it as a cataplaſm for the rheumatiſm, and even for the gout, with ſucceſs. In the ſhops, it is chiefly kept as an ingredient in decoctions for glyſters.

MERCURIFICATION, in metallurgic chemiſtry, the obtaining the *Mercury* from metallic minerals in its fluid form. For the effecting this, thoſe who have been engaged in theſe reſearches have propoſed three methods. The firſt is by means of a certain mercury, ſo prepared as to have a diſſolving power, by which it could take up the mercuries of metals in the ſame manner as water diſſolves ſalt from aſhes. The ſecond is by means of certain regenerating ſalts, ſuch as ſal armoniac, which are to detain the more earthy parts of metals, and leave their mercuries ſeparate or ſeparable from them by ſublimation or otherwiſe; and the third method is by means of a large lens or burning-glaſs, in the focus whereof if any metal be applied, its mercurial part is ſaid to ſeparate and go off in fume, which when collected and condenſed, appears to be running mercury. *Shaw*'s Lectures, p. 160. The firſt of theſe methods would be very eaſy, if the proper mercury were to be readily produced; the ſecond is extremely laborious, and requires much patience and reiteration. But the third ſeems eaſy enough, and practicable to advantage, when a glaſs of three or four foot in diameter is at hand, the ſky ſerene, and the ſun ſhines ſtrong.

MERCURY (*Cycl.*) — The manner of ſeparating *Mercury* from its ore, when not ſulphureous, is this: Take a pound of the ore beat to powder; this with the aſſayer muſt ſtand for one centner; put this into a glaſs retort, coated half way to its neck, which muſt be long, and turned back with ſuch declivity, that a glaſs recipient may be applied perpendicularly to it. The retort muſt be of ſuch a ſize, that the belly of it may be filled nearly two thirds with the ore; and muſt be placed ſo that nothing of the fluid, adherent to the neck of it, may fall into the cavity of the belly, but that the whole may run forward into the recipient, which muſt be filled with cold water: This muſt be ſo placed as to receive the noſe of the retort about one half inch into the water. The joints need not be luted. *Cramer*'s Art of Aſſaying, p. 350.

Let the retort be ſurrounded with burning coals, placed at a diſtance, leſt it burſt; by degrees bring the coals nearer, and at length cloſe to the retort; add freſh charcoal, and make it ſlightly red hot. When this fire has been continued an hour, take off the recipient, firſt ſtriking the neck of the retort to throw off the looſe drops that may hang there; and in the bottom of the water you will find the *Mercury*. This proceſs may be alſo performed in a ſand heat; but the bottom of the retort muſt touch the bottom of the veſſel that contains the ſand, and that be made red hot. The *Mercury* is to be ſeparated from the water by filtration.

The ſuppoſition of a ſympathy between *Mercury* and gold has been the great baſis of the attempts of the alchemiſts of all times, toward the making gold of it. But if they mean that the common *Mercury* has this ſympathy with gold, the contrary is proved by that remarkable proceſs, in which it appears that *Mercury* will incaleſce with that metal. If they mean that *Mercury* which they call the ſeed of metals, it is hard to offer any thing in argument againſt it, this being a ſort of ideal ſubſtance which no body has yet ſeen. It is much diſputed by the alchemiſts, whether there be or be not any ſuch thing as *Mercury* that will heat or incaleſce with gold, or produce a ſenſible heat in the maſs, on being only ſimply mixed with that metal reduced to fine parts. It has been ſaid by ſome, that thoſe *Mercuries* which they call *Mercurii Corporum*; that is, ſuch as have been extracted from the compleat metals by certain proceſſes, which they keep as inviolable ſecrets, will incaleſce on the mixture with gold; and on this they build their proceſſes. But the negative part of the queſtion is more generally maintained, the famous *Mercuries* of metals being held as non-entities with them; and even the ſearchers after tranſmutation of metals have in general acknowledged, that they themſelves never ſaw any ſuch incaleſcence of *Mercury* with gold, though they had heard others ſpeak of it as a thing they had ſeen. A *Mercury*, however, was ſome years ago produced before the Royal Society, which in the hands of the preſident himſelf, on the faireſt trial, did incaleſce with that metal. Phil. Tranſ. N°. 122.

Among the ſeveral methods recommended for the fixing this fluid metal into ſolid ſilver, oil of talc, and oil of the human fæces, are the moſt ſtrongly affirmed to be the infallible mediums. The firſt of theſe which has been ſo much miſunderſtood, by reaſon of its name, as to be ſearched for in the ſtone talc, is truly an oil prepared from the flowers of zink. See the article *Oil of* TALC.

The other is required to be clear and colourleſs as water, and without any ill ſmell. Theſe were qualities ſo difficultly to be found in an oil of that fætid matter, that both the one and the other of theſe oils were looked upon by many as impracticable proceſſes. But after the firſt had been made by two or three chemiſts, Mr. Homberg at length hit upon the laſt, but without finding any the leaſt tendency to ſuch an effect in it, or any change at all produced by it on *Mercury*, after ever ſo long digeſtion, or ever ſo many proceſſes. Mem. Acad. Par. 1711.

If *Mercury* be diſſolved in aqua fortis, ſo that the ſolution be clear and total, and if whilſt it is yet warm ſome lead filings be poured in by degrees, the lead will be precipitated into a white powder, and the *Mercury* reduced to a maſs of running quick-ſilver. *Boyle*'s Works abr. vol. 1. p. 318.

Mercury may be diſſolved in vegetable acids. This is done by reducing it to a calx by a long digeſtion. A ſcruple of this calx may be diſſolved in an ounce of diſtilled vinegar, in a boiling heat. The ſolution being filtred and expoſed to the cold, will in part be changed into fine cryſtals. This calx diſſolves likewiſe in the juice of lemons, rheniſh wine, and other vegetable acids.

But a precipitate of *Mercury* made from its ſolution in aqua fortis, by means of oil of tartar *per deliquium*, and well edulcorated by boiling water, is more eaſily diſſolved in diſtilled vinegar. It may even be diſſolved cold without digeſtion. *Marggraf.* in Mem. de L'Acad. de Berlin, 1746.

Boerhaave has obſerved, 1. that quickſilver, however well purified, yields always a ſoft black powder, of a ſharp braſſy taſte, when long expoſed to violent conquaſſation, or to a degree of heat, twice as great as that of animals. 2. Heat, near as ſtrong as what is neceſſary for diſtilling quickſilver, changes the greater part of *Mercury*, if not all of it, into a heavy, ſhining, red, friable powder, of a ſharp nauſeous taſte, which long and violently diſorders the human body, and diſpoſes it to excretions. 3. The fluid quickſilver remaining after this red powder is ſeparated, is more fluid, and of leſs ſpecific weight than common *Mercury*. 4. All the black, and near the whole red powder, can be brought into the former fluid ſtate, by a more intenſe heat; and this revivified quickſilver enjoys all the properties of common *Mercury*.

The experiments on *Mercury* above-mentioned were ſent by Boerhaave to the Royal Society. He ſent an account of others to the Royal Academy of Sciences at Paris. The concluſions from theſe experiments are, that he could not change quickſilver into any other metal, and that no quickſilver was

to be got from lead or tin. See Mem. de l'Acad. Royal. des Scienc. 1734.

Mercury diſſolved by rubbing it ſtrongly with any chemical oil, or with Venice turpentine, has been given to the quantity of a ſcruple, half a dram, or two ſcruples in a day. Such pills keep ſome people's belly open, others they purge, and a gentle ptyaliſm has ſometimes been occaſioned, nay, a high ſalivation has been raiſed by them. See Medic. Eſſ. Edinb.

Dr. Dover, in his Phyſician's Legacy to his country, having recommended crude *Mercury* or quickſilver as a moſt beneficial medicine for ſeveral diſeaſes, it had for ſome time a great run at London, which occaſioned the writing a great many pamphlets for and againſt it. Dr. Cheyne alſo greatly recommends this medicine in his treatiſe, entituled, *The Rational Method of curing Diſeaſes.*

The authors of the medical eſſays of Edinburgh aſſure us, that though ſome they knew had taken an ounce or two of crude *Mercury* each morning for ſeveral weeks, yet they knew no inſtance of its encreaſing any of the ſenſible evacuations; but they have been told, that ſome who uſed it thus, had paſſed ſome of it with their urine, and that the hands of others, taking this medicine, had tinged their ſnuff-boxes, *&c.*

But we have an account of the effects of crude *Mercury* on a perſon who had the advice of his phyſician for the taking it, in a remarkable caſe recorded in the Philoſophical Tranſactions, about the time when Dr. Dover had brought it into ſuch general uſe; and as the effects of it, in this caſe, may ſerve to caution people as to the uſe of it, it may be proper to give the ſubſtance of it, which is this: A perſon had long been ſubject to great difficulty in going to ſtool, for which he at length took ſeveral ounces of crude *Mercury* at different times, but without relief. Upon the opening of the abdomen there iſſued out a great quantity of wind, before the ſtomach or guts were wounded. The ſtomach was empty, and its inner coat violently inflamed. The ſmall guts were, in many places, fouled with a black powder reſembling Æthiops mineral, and in ſeveral parts of them were found ſmall globules of quickſilver. The black powder was doubtleſs the quickſilver altered into a ſort of æthiops in the body. The colon was inflamed and diſtended, and contained ſix quarts of liquid excrement, among which was a great deal of crude *Mercury*, and of the ſame black powder. This gut alſo was inflamed on the outſide, and had formed an abſceſs where it adhered to the omentum; the other guts in contact with this part alſo ſhared this diſorder. In the lower part of the colon the coats became ſchirrous, and the paſſage was very ſmall. Some of the valves were alſo become ſchirrous, and obſtructed the paſſage, and a ſmall plumb-ſtone was found buried in the villoſe coat of this inteſtine. This had alſo formed a ſmall abſceſs, which diſcharged itſelf into the pelvis. What part of theſe ſymptoms was owing to the taking the quickſilver is eaſy ſeen, and ſuch effects may be guarded againſt for the future, by obſerving the ſtate of the patient before it is given. Philoſ. Tranſ. N°. 442. p. 295.

Chemiſts having obſerved that ſome ſimple preparations of antimony and *Mercury* had ſurprizing effects in the cure of obſtinate diſtempers, employed their art to change theſe Herculean medicines into various ſhapes, to ſeparate their noxious and uſeleſs parts, and to combine their active principles. To theſe labours are owing the butter and cinnabar of antimony, *Mercurius vitæ*, bezoard mineral, ſolar, lunar, jovial, and ſeveral other preparations, on which the moſt exorbitant encomiums have been laviſhed. But with all this care, many of theſe remained unactive, and others incorrigible, and unfit for uſe. However it is certain that theſe two minerals, properly combined, have wonderful effects. We have, in the medical eſſays of Edinburgh, a preparation of Dr. Plummers, which is much recommended from the experience of its effects. See PLUMMER's *Æthiops.*

Mercury is often uſed in anatomical preparations, eſpecially for ſuch parts that do not eaſily retain air, as the lungs, or ſpleen, and glans penis. See *Monro* in Med. Eſſ. Edinb. vol. 3. art. 10. But it is to be obſerved, that the quickſilver does conſiderable damage to the ſmall cells of the lungs and glans.

Beſide the numerous other phænomena attending this remarkable mineral, the light it gives when ſhaken in a glaſs tube, which proceeds from electricity, is not to be omitted. If *Mercury* be encloſed in a glaſs tube, cloſe ſtopped, that tube is found, on being rubbed, to give greatly more light than when it had no *Mercury* in it. When this tube has been rubbed, after raiſing ſucceſſively its extremities, that the *Mercury* might flow from one end to the other, one ſees a light creeping in a ſerpentine manner all along the tube; that is to ſay, the *Mercury* is all luminous. The *Mercury* being made to run along the tube afterwards without rubbing it, was found to emit ſome light, though much leſs than before; this proves that the friction of the *Mercury* againſt the glaſs, in running along, does in ſome meaſure electrify the glaſs, as the rubbing it with the hand does, only it is in a much leſs degree. This is more plainly proved by laying ſome very light down near the tube, for this will be attracted by the electricity raiſed by the running of the *Mercury*, and will riſe to that part of the glaſs along which the *Mercury* runs; and it is very plain from this, that what has been long known in the world under the name of the *phoſphorus* of the barometer, is not a phoſphorus, but merely a light raiſed by electricity, the *Mercury* electrifying the tube. Phil. Tranſ. N°. 484.

If *Mercury* be put into large exhauſted tubes, and theſe afterwards rubbed to excite their electricity, it is obſerved that they give, on all ſides, rays of a very bright and very lively light.

Calcin'd MERCURY, *Mercurius Calcinatus*, a new and more expreſſive name for the preparation of *Mercury*, commonly called *precipitate per ſe.* It is made by ſetting purified quickſilver for ſeveral months in a ſand heat, in a glaſs veſſel with a broad bottom, and opening it to the air by a ſmall hole, till it is reduced to a red powder.

The quickſilver muſt have a communication with the external air, as is neceſſary to the calcining of all the metals. This opening is beſt made, not as in the common bolt-heads, but at the lower end of a ſtem, going into the body of the glaſs; that if the quickſilver riſe with the heat, it may not, by aſcending into the ſtem, be removed out of the heat that is to calcine it. *Pemberton*'s Lond. Diſp. p. 225.

Coralline MERCURY, *Mercurius Corallinus*, the name given in the London Diſpenſatory to a preparation of *Mercury*, commonly known by the name of *arcanum corallinum.* It is prepared in this manner: Pour upon the red corroſive *Mercury*, commonly called *red precipitate*, thrice its weight of rectified ſpirit of wine, digeſt them together in a gentle heat for two or three days, often ſhaking the phial, then ſet fire to the ſpirit, and continue ſtirring the powder till the ſpirit is burnt away. *Pemberton*'s Lond. Diſp. p. 227.

This operation proceeds upon the principle of ſpirit of wine dulcifying acid ſpirits.

Oil of MERCURY, the name given by the chemiſts to a preparation of *Mercury* in a fluid form, by means of a ſtrong acid. The preparation is this: Calcine *Mercury* with oil of vitriol to a dry ſnowy calx; ſuffer it to cool, then put it into a glaſs, and pour upon it an equal quantity of oil of vitriol; let this boil away almoſt to a dryneſs, carefully avoiding the poiſonous fumes; then increaſe the fire, and by degrees reduce it to a dryneſs again; which is, in this ſtate, a very difficult and tedious taſk. When the powder is dry, put the ſame quantity of oil of vitriol again to it, and proceed as before: At length it will ſcarce dry by means of ever ſo long or ſtrong a fire, but only ceaſe flowing freely, and become ſomewhat rigid like a fixed oil. It is then highly ſharp, cauſtic, and not to be touched, like the *ignis gehennæ* of Paracelſus. By this means the *Mercury* is ſo fixed with the oil of vitriol, as not to be evaporated, or fly off, by the action of a very violent fire. *Boerh.* Chem. p. 317.

By this proceſs we ſee the method of impregnating, ſaturating, and incerating metals by acids to any degree, and alſo of fixing, in a great degree, volatile *Mercury* by them; but no metal is hence to be expected, for in whatever manner *Mercury* is fixed with acids, it is always recoverable again in its priſtine ſtate, by grinding it with twice its weight of iron filings, and diſtilling in a glaſs retort, with the greateſt degree of a ſand heat. Ibid. p. 320.

Corroſive Sublimate of MERCURY. Mr. Boulduc deſcribes an eaſy manner of making corroſive ſublimate. He pours equal quantities of quickſilver and dephlegmated oil of vitriol into a retort, then draws off part of the acid, which does not incorporate with the quickſilver; the fire is continued till the white maſs of diſſolved *Mercury* is dry, when he ſpeedily mixes it with equal parts of dried ſea ſalt, and ſublimes it in the common way.

MERCURY, *Mercurialis*, in botany and medicine. See the article MERCURIALIS.

MERCURIUS *Dulcis.* *Mercurius Dulcis* in large doſes, with cinnabar of antimony, is recommended in nervous diſeaſes, palſy, hemiplegia, epilepſy, and apoplexy. Med. Eſſ. Edinb.

Mr. Dictericus gives us theſe rules for knowing whether ſublimate is ſufficiently edulcorated in making *Mercurius Dulcis.* If after rubbing the *Mercury* on gold, the gold becomes only pale, and not white, the *Mercury* is dulcified enough; or if ſweet *Mercury* becomes black when mixed with lime-water, it is fit for uſe; but if either the gold becomes white, or the *Mercury* is of a brown or yellow colour, after mixing with lime-water, it is not ſufficiently dulcified. Commerc. Norem. 1737. hebd. 29. §. 2.

MERCURIUS *Emeticus Flavus*, a name given in the late London Diſpenſatory to the mercurial preparation commonly known by the name of *turbith mineral.* *Pemberton*'s Lond. Diſp. p. 228.

MERCURIUS *Vitæ* may, according to Mr. Boyle, be moderated in its evacuating quality, by continually ſtirring it in a flat glazed earthen veſſel, over a fire, till it emits no fumes, and turns of a grey colour; and he thinks this is the *Mercurius Vitæ purgans* ſo often mentioned by Riverius. *Boyle*, Works Abr. vol. 1. p. 74.

Mr. Godfrey obſerves, that what is called *Mercurius Vitæ*, prepared of ſublimate mercury and antimony, has no *Mercury* in it, but is the reguline part of the antimony, with the acid of the ſublimate; and what remains is the *Mercury*

formed into cinnabar by the ſulphur of the antimony. Miſcel. vere Util. p. 58.

MERCY, in law, is uſed for the arbitrament of the king or judge, in puniſhing offences, not directly cenſured by law. *Blount*, *Cowel*.

MERDESENGI, in the materia medica of the Arabians, a name given by Serapio to litharge. Aviſenna calls this ſubſtance *mardac*, and it has been erroneouſly ſuppoſed from this, that *mardac* and *Merdeſengi* were not the ſame ſubſtance; but this is a falſe conjecture. See the article MARDAC.

MERDIVORÆ, the *Dung Eaters*, in natural hiſtory, the name given by authors to ſeveral flies which feed on excrements of different animals. Of theſe there are three kinds very common among us, the *coprophagos*, which is of a dun colour, with a reddiſh head, and a white ſtreak along the middle of it. The red *dung-fly*, which has ſilvery wings, a red body, and black ſhoulders. And 3. The green one, which is of a very glittering hue, and has ſilvery wings.

MERGANSER, in zoology, the name of a large water fowl, called in Engliſh, the *Gooſander*, and by ſome authors, the *Harle*. See MERGUS.

Its common weight is four pounds, its body is oblong, and its back broad and flat. Its head, and the upper part of its neck, is in the male of a fine bluiſh or greeniſh black, very bright and ſhining; the lower part of its neck is white, and the middle of the back, part of the neck and part of the wings are black, the reſt are grey; the tail is grey; all the under part of the body is of a faint aſh-colour. The beak is near four inches long, hooked and pointed at the end, and ſerrated, and is part black and part red. The feet and legs are red; the three fore toes are joined by a membrane, but the hinder one looſe, yet that is encreaſed in breadth by a ſmall membrane. Its head feathers ſtand looſe, and make the head look larger than it is; but it has not, properly ſpeaking, the creſt which many of the birds of the ſame genus have. *Ray*, Ornithol. p. 253.

This is the figure of the male *Merganſer*; the female differs ſo much from this, as to be not only eſteemed a different bird by the common people, but even deſcribed as ſuch by authors. It is called by our people the *Dundiver*, or *Sparling Fowl*, and by authors, *mergus cirratus longiroſter*, the long-beak'd creſted diver. The great difference, however, is, that the female is of a ſomewhat reddiſh brown on the head, and has a creſt. See the article DUNDIVER.

MERETRIX, among the Romans. The *Meretrices* were the better ſort of curtezans, and differed much from the *proſtibulæ*, or common proſtitutes, who had bills or inſcriptions, *tituli*, over their doors, and were ready at all times to entertain their cuſtomers; whereas the *Meretrices* entertained none but at night.

The *Meretrices* were diſtinguiſhed from the matrons by their dreſs, being obliged to wear the *toga* and ſhort tunics, like thoſe of the men; whereas the matrons wore the *ſtola*, which was a garment that reached down to their feet, as did likewiſe their *palla*, or outer robe. *Pitiſc.*

MERGEN, a word uſed by ſome of the chemical writers to expreſs coral.

MERGUS, in the Linnæan ſyſtem of zoology, the name of a diſtinct genus of birds, of the order of the anſeres. The diſtinguiſhing characteriſtic of this genus is, that the beak is ſomewhat cylindric, and has a crooked point. *Linnæi* Syſt. Natur. p. 46.

The characters of this genus, according to Mr. Ray, are theſe: The feet are webbed, the three fore toes being connected by a membrane, but the hinder toe is left looſe. The beak is narrow, hooked at the end, and ſerrated.

Of this genus are the *merganſer*, or gooſander, the female of which ſpecies is called the *dundiver*. 2. The *albellus* of Aldrovand. 3. The *ſerula* of the Venetians. Which ſee under their ſeveral heads. And laſtly, the *Mergus Rhein*; commonly called ſimply by the name *Mergus*. *Ray*'s Ornithol. p. 254.

This laſt is of the ſize of a duck, and ſomewhat reſembles that bird in ſhape. It is all over very beautifully variegated with black and white. Its beak is black; and its belly is variegated with grey, with the black inſtead of white. Its tail is black; its legs brown, and the membrane of its feet black. Notwithſtanding that this ſeems deſcribed as a different ſpecies by authors, there is much room to ſuſpect that it is the ſame with our *albellus*. *Aldrovand.* de Avib. T. 3. p. 275. *Ray*'s Ornithol. p. 254.

MERGUS *Albellus Dictus*, in zoology, the name of the common *Mergus*, called *Mergus cirratus major*, the greater creſted diver, and *Mergus Rhein*, the diver of the Rhine, and commonly known in England by the name of the *ſmew*.

Its common weight is a pound and a half, and its beak is an inch and half in length. Its head and neck are white, except that it has a large black ſpot ending in a point, and ſurrounding the bottom of that tuft of feathers which hang from the back part of the head, and are what authors call the *cirrus* or *creſt*; and another oblong black ſtreak which runs from the angles of the beak to the eyes. Its throat, breaſt, and belly, are all ſnow white, and its back all over of a fine deep black; but its ſhoulder feathers, which are long and hang over the back, in part on each ſide, are white. Near the joining of the wings to the back, there are two or three arched black lines; and on the lower part of the neck there is another line, making a ſort of ring of the ſame colour. The wing feathers are partly black, partly white. Its beak is of a lead-colour'd grey, large at the baſe, and tapering to a ſharp hooked point. In the female the head is reddiſh, the throat is white; but there is a ſort of circle of a browniſh colour on the breaſt. Its upper part alſo is almoſt all grey, and it has no creſt. It feeds on fiſh, and is very common on our coaſts. *Ray*'s Ornithol. p. 254.

MERGUS *Cirratus Minor*, in zoology, a name by which Geſner calls the *capo negro*, a ſpecies of duck, called in Engliſh, the tufted duck, from its having a tuft of feathers, of an inch and half in length, hanging from the back of its head. *Geſner*, de Avib.

MERIDIONAL (*Cycl.*)—MERIDIONAL *Parts*. To find the *Meridional Parts* to any ſpheroid, with the ſame exactneſs as in a ſphere.

Let the ſemi-diameter of the equator be to the diſtance of the focus of the generating ellipſe from the center as m to 1. Let A repreſent the latitude for which the *meridional* parts are required, s the ſine of this latitude, the radius being unit; find the ark B, whoſe ſine is $\frac{s}{m}$; take the logarithmic tangent of half the complement of B from the common tables; ſubtract this logarithmic tangent from 10.0000000, or the logarithmic tangent of 45°; multiply the remainder by $\frac{7915.7044678978}{m}$, &c. and the product ſubtracted from the *meridional* parts in the ſphere, computed in the uſual manner for the latitude A, will give the *meridional* parts expreſſed in minutes for the ſame latitude in the ſpheroid, provided it be oblate.

Example: If $mm : 1 :: 1000 : 22$, then the greateſt difference of the *meridional* parts in the ſphere and ſpheroid is 76.0929 minutes: In other caſes it is found by multiplying the remainder above-mentioned by 1174.078.

When the ſpheroid is oblong, the difference of the *meridional* parts in the ſphere and ſpheroid, for the ſame latitude, is then determined by a circular ark. Phil. Tranſ. N. 461. Sect. 14. See alſo *Maclaurin*'s Fluxions, art. 895—899.

Mr. Murdoch has ſolved this problem by infinite ſeries, and has computed a table of *meridional* parts for an oblate ſpheroid, ſuch as is mentioned in the foregoing example. See his Treat. intituled, *Mercator*'s *Sailing applied to the true Figure of the Earth*, Lond. 1741. 4°.

MERIS, in muſic, an appellation given by Mr. Sauveur to the forty third part of an octave. See Mem. Acad. Scienc. 1701. The word is Greek, μερις, a part.

MERLANGUS, in ichthyography, a name given by Bellonius, and ſome other authors, to a ſmall ſpecies of whiting or *aſellus mollis*, called by the Venetians, *mollo*, and by ſome other nations, the *capelon*. *Willughby*'s Hiſt. Piſc. p. 171. See the article MOLLO.

MERLANUS, a name given by ſome writers in ichthyography to the common whiting or *aſellus mollis ſive albus*. *Rondelet.* de Piſc. p. 97. See the article WHITING.

MERLUCIUS, in zoology, the name of a fiſh commonly called the *hake*, and by ſome authors the *aſellus alter*.

It is a moderately large fiſh, growing to two foot or more in in length, and reſembling the common pike in figure, from whence it has its name, *Merlucius*, *quaſi maris lucius*, the ſea pike. It in ſome meaſure reſembles the common whiting in colour, the back being of a pale greyiſh hue, and the belly white. It is covered with ſmall ſcales. Its head is broad and flat, and its mouth very wide, as in the freſh water pike. The jaws are both, but eſpecially the lower, armed with long ſharp teeth, with others ſmaller and ſhorter between them. The eyes are large, and their iris of a fine yellow. It has two fins on the back, the firſt near the head, the other not far diſtant from it, and ſo long as to reach nearly to the tail. Its gill-fins are narrow, and its belly-fins are placed very high. Its tail is not forked. It is caught in the Engliſh and other ſeas, and is a valuable fiſh for the table. *Ray*'s Ichthyogr. p. 174.

MEROPS, in zoology, the name of a bird called alſo *apiaſter*, and in Engliſh the *bee-eater*.

It reſembles the king-fiſher in ſhape, and is of the ſize of a black-bird. Its beak is long, black, and a little crooked, and the iriſes of its eyes of a fine red. Its head is long and large. The feathers growing at the inſertion of the upper chap are of a bluiſh green; but thoſe on the middle of the head are white; the crown, however, a little backwarder is of a reddiſh brown, ſometimes with a ſlight admixture of green; and there runs on each ſide a black line from the angle of the beak through the orbit of the eyes; its neck and ſhoulders are green, but with a caſt of redneſs; and its belly and breaſt are blue. The tips of the long wing feathers are blackiſh, and the reſt are variegated with a bright green and a fine orange colour. Its tail is of a fine blue, and the two middle feathers of it are longer than any of the others. Its legs are very ſhort and thick, and are of the ſame form with the

the kingfiſher's. It is very common in Italy, and extremely ſo in the iſland of Crete; but is not known in England. It feeds on bees and other inſects, and ſometimes on ſeeds. See Tab. of Bird, N°. 17. *Ray*'s Ornithol. p. 102.

MEROS, in zoology, the name of a very large American fiſh, growing to five or ſix feet long, and called by the Braſilians, *cugupu-guacu*. Its head is very large, and its mouth wide and toothleſs. Its eyes have a black pupil and a yellow iris. It has five fins, one running the whole length of the back, and reaching nearly to the tail; the anterior part of this is narrow, and armed with ſmall but ſharp ſpines; the other part is broader, and ſuſtained by ſofter rays. Behind the anus is one like the hinder part of that on the back, and two others behind the gills, which are large and broad. The tail fin is very large and broad, and much more ſo at its extremity than at its origin. Its ſcales are ſmall. Its head, back, and ſides, are of a browniſh grey, and its belly white. It is accounted a well taſted fiſh. See Tab. of Fiſhes, N°. 53. *Ray*'s Ichthyography, p. 303.

MERULA, in ornithology, the name of the black-bird, a bird of the turdus or thruſh kind, of which there are ſeveral ſpecies. 1. The common kind, well known in our hedges. 2. The kind called the *paſſer ſolitarius*, or ſolitary ſparrow. See PASSER. 3. The *Cæruleus*, of which there are two kinds. See CÆRULEUS. 5. The Braſilian *Black-bird*, remarkable for the ſhortneſs and crookedneſs of its beak, and for its remarkably beautiful colours. Its tail and wings are black, and the reſt of its body of a fine beautiful deep red. Its legs and feet are black, or of a browniſh grey. Its wing feathers alſo have ſome ſlight variegations of red. 6. The *Merula Roſea*, or roſe-coloured black bird; this is ſmaller than the common kind, and its back, breaſt and wings are of a pale red or damaſk roſe-colour. Its wings and tail black. 7. The red-breaſted Indian *Black-bird*, called by the Braſilians *jacapu*. See JACAPU. 8. The *Merula Torquata*, or ring amzell. See AMZELL. Beſide theſe there is the *Merula Montana*, or common amzell: And the *Merula Bicolor*: And two other birds, called *Merula Congeneres* deſcribed by Aldrovandus, but not now known. See Tab. of Birds, N°. 29, 30. and *Ray*'s Ornithol. p. 140.

MERULA, in ichthyology, the name of a ſea fiſh of the turdus or wraſſe kind, of a ſhort and flat figure, and all over of a dull and dead bluiſh black. The back, ſides, and belly, are all of this colour, as are alſo even the fins and tail. It is a fiſh not much eſteemed, being of an inſipid watery taſte, but is ſold among the poorer ſort in the Italian markets. *Rondelet*. de Piſc. L. 6. c. 5. p. 172.

MERULA *Aquatica*, the name of a bird, called the *water ouzel* in Engliſh.

It is about the ſize of the common black-bird, but has a ſhorter body, and a thicker neck. Its beak is ſtrait, ſharp, and black, and its head, and the upper part of its neck, are of a browniſh black. Its back and wings are variegated with black and grey; its throat and breaſt are of a ſnow white; but the belly toward the tail is black; its tail is ſhort, and it is very thick feathered, as are in general all the water birds. It frequents waters, and is very common in many parts of Germany, nor much leſs ſo in the northern counties of England. It feeds on fiſh, and ſometimes on inſects, and though not a web-footed fowl, will ſometimes dive under water after its prey. *Ray*'s Ornithol. p. 104.

MERULA *Fluviatilis*, in ichthyology, a name given by Schoneveldt, and ſome other writers, to the common tench. Theſe are whimſical and arbitrary names, and expreſs nothing. Artedi has much better diſtinguiſhed the fiſh, having taken away even its generical name, and reduced it to the *cyprini*, of which genus it is evidently a ſpecies: He has called it the *black mucous cyprinus*, with an even, not forked or invected tail. This is a name by which it can never be miſtaken. *Artedi* Gen. Piſ.

MERULA *Saxatilis*, a name given by ſome to the *tordo marino*. See the article TORDO *Marino*.

MERZENIUS, in botany, a name uſed by ſome authors for marjoram. *Ger*. Emac. Ind. 2.

MES-AIR, in the manege, is a manege half *terra a terra*, and half corvet. See the articles TERRA *a Terra*, and CORVET, *Cycl.*

MESANGIA, in natural hiſtory, the name of a bird common in France and Italy; it is of the ſize and ſhape of the ficedula, and differs from it in very little, except the having a black ſpot upon the head. This ſeems to be the *melancoryphos* of the antients, who ſuppoſed, as many do at this time, that the ficedula changed into this bird. The ficedula, or fig-eater, comes into the gardens in France only at the time when the figs, which are its proper food, are ripe: Theſe it devours in an inſatiable manner, and as ſoon as it has done with them, goes away again. Soon after this the *Meſangia* or black cap appears, and is ſuppoſed to be the ſame bird, with the addition of this beautiful ornament. The antients were very fond of this imaginary change of one bird into another; and Ariſtotle tells us that the upupa is the ſame bird with the cuckow, only changed in the colour and diſpoſition of its feathers. Æſchylus tells us in the ſame manner, according to the opinion of his times, that the cuckow ſings all the ſummer, and after that diſappears; and that ſoon afterwards it comes again in a new form, with a plume upon its head, and is called the *upupa*.

MESAZONTES, Μεσαζοντες, officers under the emperors of Conſtantinople. See the article MEDIATOR.

MESE, in the Greek muſic, was the ultimate note of the meſon tetrachord, and anſwers to Guido's *a la mi re*. *Wallis*, Append. *Ptolem.* Harm. p. 157. See the article DIAGRAM.

MESEMBRYANTHEMUM, in botany, the name by which Dillenius, Linnæus, and others, have called the plants uſually named *Ficoides*. *Linnæi* Gen. Pl. p. 250.

MESENTERICA *Febris*, a name given by ſome authors to a peculiar kind of acute fever, called by our Sydenham, *nova febris* in a peculiar treatiſe; and by Heiſter more properly the ſtomachic or inteſtinal fever. See the article INTESTINALIS *Febris*.

MESERA, a name given by ſome medicinal writers to the Alexandrian tutty.

MESENTERIC (*Cycl.*)—MESENTERIC or MESERAIC *Arteries*. Ruyſch [a] painted the *meſeraic* arteries and veins as having different courſes in the diſtribution of their branches in the inteſtines. Albinus [b] attributes this miſtake to Ruyſch's having injected the arteries at one part of the inteſtines, and the veins at another; and by a figure repreſenting the internal cellular membrane of the ilium, with both arteries and veins injected, ſhews their courſes to be the ſame.—[[a] Adv. Dec. 3. Tab. 1. fig. 4, 5, 6, 7. [b] Diſſert. de Arter. & Ven. Inteſtin. ap Med. Eſſ. Edinb.] See the article MESENTERIC, *Cycl.*

MESIRE, a name given by Aviſenna to a diſtemperature of the liver, attended with a ſenſe of heavineſs, tumour, inflammation, and pungent pain, and always with thirſt, a dry mouth, and a parched black tongue.

MESITICUM, among the Romans, a toll paid for a place to ſell goods in the forum. *Pitiſc.* in voc.

MESMARCHURES, in the manege. See the article PASTERN.

MESOCHORUS, Μεσοχορος, among the antients. The *meſochori* were muſicians who preſided in concerts, and by beating a deſk in a regular manner with their feet, directed the meaſure of the muſic. For this purpoſe in the theatre they wore wooden clogs on their feet, that they might be better heard, which were called by the Greeks, *Crupezia*. *Hofm.* Lex. in voc.

MESOCHORUS, among the Romans, was alſo uſed for a perſon in public aſſemblies, appointed to give the ſignal for acclamation at the proper time, that all might join in it at once. *Pitiſc.* in voc. See the article ACCLAMATION.

MESOCUROS, Μεσοκυρος, in antiquity, an actreſs in tragedies who had the middle part of her head ſhaven: But others think that *Meſocuros* ſignifies a girl, or very young woman. *Hofm.* in voc.

MESOGLOSSI, a name given by ſome writers to the muſcles of the tongue, more uſually called by anatomiſts, the *Genioglooſſi*.

MESOPYCNI, Μεσοπυκνοι, in the antient muſic, was an appellation given to ſuch chords as formed the middle notes of the ſpiſſa. There were five *Meſopycni* in the ſcale. See the articles PYCNI and SPISSUM.

MESORO, in ichthyology, a name given by Salvian to that fiſh which we call the butterfly-fiſh, the blennus or belennius of other authors. It is diſtinguiſhed by Artedi by the name of the *blennus*, with a furrow between the eyes, and a large ſpot in the back fin. Salvian has taken his name from the common appellation of this fiſh among the Italian fiſhermen. See the article BLENNUS.

MESORO is alſo uſed by the Italians for the fiſh commonly called the *uranoſcope* or *ſtar-gazer*. It is a ſpecies of the trachini, and is diſtinguiſhed by Artedi under the name of the *trachinus*, with many beards on the lower jaw. *Willughby*, Hiſt. Piſc. p. 132.

MESOTHENAR, a flat and nearly triangular muſcle, lying between the firſt phalanx of the thumb and the bottom of the palm of the hand. It is inſerted by a very broad baſis in the ligament which connects the os magnum to that which ſupports the thumb. It is likewiſe inſerted along the internal or angular part of that bone of the metacarpus which ſupports the middle finger, and in the ſmall extremity of that which anſwers to the index; from thence the fibres contracting to an angle, terminate in a flat tendon of different breadths, which is inſerted in that ſide of the head of the firſt phalanx of the thumb, which is turned to the hollow of the hand, and in the neighbouring part of the baſis of the ſecond phalanx, by means of the ſecond ſeſamoide bone belonging to that joint. *Winſlow*'s Anatomy, p. 197.

MESPILEUS *Lapis*, in natural hiſtory, a name given to ſome ſpecies of the echinitæ, from their reſemblance to the ripe fruit of a medlar. This was a name given them before they were much known, and they were ſome time afterwards called, from their five lines on the ſurface, *pentexoche*.

MESPILUS, the *Medlar*, 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 foliaceous cup of which becomes afterwards a fruit of a roundiſh figure, coronated at the end, fleſhy,

fleſhy, ſoft, and unicapſular, containing ſeveral ſtones, each having an oblong kernel. See Tab. of Botany, Claſs 21.

The ſpecies of *Meſpilus* enumerated by Mr. Tournefort, are theſe: 1. The common wild *Medlar*, or German *Medlar*, with bay-like, not ſerrated leaves. 2. The greater bay-leav'd *Medlar*. 3. The great bay-leav'd *Medlar*, with an early-ripe, oblong, ſoft, and ſweet-taſted fruit. 4. The great bay-leav'd *Maple*, with a ſoft ſweet-taſted ſmaller fruit. 5. The *Medlar* with a middle-ſized oblong auſtere and ill-taſted fruit, with the corona always cloſed. 6. The parſley-leav'd *Meſpilus*, called the *lazerole*. 7. The double-flowered jagged apium-leav'd *Meſpilus*. 8. The *Lazerole*, with a large deep red and well-taſted fruit. 9. the *Lazerole*, with a ſmaller yelloviſh fruit. 10. The wild ſmall-fruited yelloviſh white *Lazerole*, with a turbinated fruit. 11. The Canada ſervice-leav'd *Meſpilus*. 12. The prickly *Meſpilus*, with pear-like, ſhining, and denticulated leaves, and with very beautiful red fruit. 13. The common apium-leav'd prickly *Meſpilus*, called the white thorn. 14. The common *white Thorn*, with double flowers. 15. The almond-leav'd prickly *Meſpilus*. 16. The barren wild trifoliate apium-leav'd *Meſpilus*, with very ſtrong thorns. 17. The large-fruited wild *Meſpilus*, with ſtrong prickles, and with hairy palmated apium leaves. 18. The roundiſh-leav'd *Meſpilus*, with black ſweetiſh fruit. 19. The roundiſh-leav'd *Meſpilus*, with red fruit. And 20. The American *Meſpilus*, with red fruit, and with broad leaves prickly underneath. *Tourn.* Inſt. p. 644. See the article MEDLAR.

MESSE *da Capella*, in the Italian muſic, is uſed for maſſes ſung by the grand chorus. In theſe, various fugues, double counter-points, and other ornaments, are uſed *Broſſard.*

MESSE *Concertate*, in the Italian muſic, is a maſs wherein the parts reciting are intermixed with choruſſes. *Broſſard.*

MESUA, in botany, the name of a genus of plants, the characters of which are theſe: The perianthium is permanent, and conſiſts of four ſmall oval leaves. The flower conſiſts of four large hollow and rounded petals. The ſtamina are numerous filaments, of the length of the cup. The antheræ are ſimple. The germen of the piſtil is roundiſh. The ſtyle is ſimple; and the ſtigma indented in four places. The fruit is a roundiſh, pointed, coriaceous capſule, with four longitudinal ſutures. It is compoſed of four valves, and contains four large fleſhy, obtuſe, three-corner'd, and turbinated ſeeds bedded in it. *Linnæi* Gen. Plant. p. 235. *Hort.* Mal. vol. 3. p. 53.

METACAL, an Ægyptian weight, uſed in the weighing of pearls, and conſiſting either of a carrat and a half, or of two carrats. Sixteen of theſe carrats make a dram, each of the carrats weighing four grains, and twelve drams an ounce. *Pocock*'s Ægypt. p. 175.

METACARPIUS, a ſmall very fleſhy muſcle, ſituated obliquely between the large internal annular or tranſverſe ligament of the carpus, and the whole inſide of the fourth metacarpal bone.

It is fixed by a ſmall ſhort tendon to the os orbiculare, and to the neighbouring part of the large ligament of the carpus; from thence its fibres run more or leſs obliquely toward the inſide of the fourth metacarpal bone, in the outer edge of which they are inſerted. The fibres of this muſcle are of unequal lengths, and extend all the way to the articulation of the firſt phalanx of the little finger, with the fourth metacarpal bone; but they have no manner of relation to that finger. *Winſlow*'s Anatomy, p. 194.

METACARPUS (*Cycl.*)—The antient anatomiſts reckoned five bones in the *metacarpus*, including that bone which is now looked upon to be the firſt phalanx of the thumb, the rejecting which from among them, has reduced the number to the four we allow. Theſe bones are all long, thicker at their extremities than in the middle, and of unequal length and bigneſs: The two firſt are ſometimes, though very rarely, equal, and the others leſſen by degrees from them. Anatomiſts, in their deſcriptions, divide each of theſe bones into a middle and two extremities, or into a baſis, body, and head. The baſes of them all are angular, and turned toward the carpus, and their head rounded like condyles, and turned toward the fingers. Both extremities are covered with cartilages, and the heads remain for a long time very diſtinct epiphyſes.

The firſt bone of the metacarpus is longeſt and largeſt, and ſupports the fore finger; its baſis is a little hollow, anſwering to the digital ſide of the os pyramidale of the carpus. On the outer edge there is a ſmall angular notch, and on the cubital edge of the baſis is a ſmall lateral ſide, which is articulated with the baſis of the ſecond bone. The inner edge is terminated laterally by an oblique angle, which is articulated with the neighbouring angle in the baſis of the os magnum; round the baſis are inequalities and depreſſions for the ligaments and articular glands. The outſide of the body of the bone is broader toward the head than toward the baſis.

The ſecond bone of the *Metacarpus* ſupports the middle finger, and has this very peculiar in it, that its baſis is very oblique, terminating at the outer edge by an angular point toward the firſt bone. By the triangular ſide of its baſis it is articulated with the baſis of the os magnum, and by its lateral ſides with thoſe of the firſt and third bones of the *Metacarpus*. The third bone is that which ſupports the ring finger, being leſs than the firſt and ſecond. Its baſis is irregularly triangular, and proportionably leſs than the two former, and by the principal ſide thereof, it is articulated with the firſt half of the ſide of the os unciforme; the ſmall lateral ſides of the baſis join thoſe of the ſecond and fourth bone. The fourth bone ſupports the little finger; the principal ſide of the baſis of this, inſtead of being triangular, as in other bones, is all of an equal breadth, a little oblique, and ſome part of it gently convex, the reſt gently concave, and articulated with the ſecond half of the ſide of the os unciforme; by its lateral ſide it joins the correſponding ſide of the baſis of the third bone, but in a much looſer manner than in the other articulations of that kind. In the oppoſite ſide there is a ſmall tuberoſity. *Winſlow*'s Anatomy, p. 86.

Fractures of the METACARPUS. In fractures of the hand or *Metacarpus*, the beſt method of reducing and replacing the bones, is, to extend the hand upon a ſmooth table, and while an aſſiſtant holds the whole hand evenly in that poſture, the ſurgeon is to replace the bones; and when that is carefully and perfectly done, to ſecure them with a proper bandage. *Heiſter*, Surg. p. 129.

Luxation of the METACARPUS. The four ſmall bones in the palm of the hand are ſometimes luxated from the carpus to which their upper parts are connected; this happens from external violences, not unfrequently, notwithſtanding that theſe bones naturally muſt much reſiſt ſuch a luxation; for the two carpal bones, which are ſeated in the middle between the two external ones, cannot be diſlocated to either ſide, as the two external ones, which ſuſtain the firſt and little fingers, cannot be luxated inwardly, but are very eaſily driven outward; and each of them may be luxated on the fore or back part of the hand; but which ever of theſe happens, the particular diſorder may be diſcovered and examined by feeling and inſpecting, and the cure may be performed by extending the hand on a flat board or table, and replacing with the thumb whatever of the bones have ſtarted from their natural ſituation. *Heiſter*'s Surg. p. 166.

METACHORESIS, a word uſed by Galen to expreſs a receſs of a morbid humour from one part of the body to another, a thing very common in many diſtempers.

METACOE, in botany, a name given by the people of Guinea to a plant, of which they are very fond, becauſe of its virtues as a balſamic and vulnerary. Its leaves, being bruiſed and applied to a freſh wound, cure it. They have alſo another uſe for it, twiſting the dried leaves into a ſort of match for their muſkets. Phil. Tranſ. N°. 232.

METAGITNION, Μεταγειτνιων, in chronology, the ſecond month of the Athenian year. It contained twenty-nine days, and anſwered to the latter part of our July and beginning of Auguſt. The Bœotians called it *Panemus*, and the people of Syracuſe, *Carnius*.

It was ſo called from *Metagitnia*, one of Apollo's feſtivals kept in it. Vid. *Potter*, Archæol. Græc. T. 1. p. 414.

METAL (*Cycl.*)—Experiments on *Metals*, made with the great burning-glaſs at Paris, have proved, that all the imperfect metals, copper, iron, tin, and lead, are compoſed only of two parts, a ſulphur or oily matter, and a more denſe ſubſtance, called their earth, capable of vitrification. That from this oil or ſulphur proceed the opacity, the glittering brightneſs, and the malleability of theſe metals; that this ſulphur or oil ſeems no way different from the oils of vegetables and animals, and that it is the ſame in all the four imperfect *Metals*, and in mercury: That theſe four metals have a different ſubſtance for their baſe, the earth of each vitrifying in a different manner; and that to this is owing their difference from one another. Mem. Acad. Par. 1709.

Specific Gravity of METALS. The ſpecific gravity of *Metals* can never be very exactly determin'd, for it varies a little from many cauſes; firſt, according to the different heat of the atmoſphere, which expands water, and other fluids, infinitely more than it does ſolid bodies; and by that unequal diminution of the weight, makes it impoſſible to aſſign them a conſtant proportion, unleſs the heat be determined with the greateſt exactneſs. Secondly, according to the ſeveral degrees of purity in the water, which difference is ſometimes found not inconſiderable. Thirdly, according to the different purity of the *Metals*; for there is hardly any *Metal* found ſo very pure, but that it may be eaſily demonſtrated to be mixed with ſome others. Fourthly, according to the different weight of the atmoſphere itſelf; though the effects of its variations be not ſo conſiderable as of the reſt. *Cramer*, Art. Aſſay. p. 4.

Hence it is that there are, in a manner, as many different accounts of the ſpecific gravities of *Metals* as there are authors who have given an account of their experiments on the ſubject. However, except the *Metals* be of a very great impurity, the ſum of all the variations reſulting from all theſe cauſes, is not ſufficient to hinder any *Metal* from being certainly diſtinguiſhed from any other *Metal*, by its ſpecific gravity.

Slight variations in hydroſtatical experiments are indeed neither new things, nor are they by any means avoidable, either

either in making these or other experiments of affinity to them. By way of proof to such as may distrust this, from their never having made such experiments themselves, two very eminent testimonies may be produced. That most industrious and diligent mathematician Mersennus candidly acknowledges, that when he has occasion to mention the experiments of the learned Ghetaldus, and of the accurate French engineer Monsieur Petit, with his own, there will be often a variety of weight of some few grains; but he says, it is only like the variety of astronomical observations, which do almost always differ also by a few minutes or seconds; and to this he afterwards adds, that he expected not an exact uniformity between the observations of Ghetaldus, *&c.* already made, and the trials of any new experimenter, who would go through the work again. And our famous experimenter the lord Verulam confesses, that it is not to be doubted but that many of the bodies which he has set down in the table he has given, of their dimensions and weights, differ in the same species or denomination, some being heavier than others, and that therefore there is some contingency in the affair; so that tis not necessary that the individuals he made his trials upon should be exact standards of the weight of their respective species, or should, which makes directly to our present purpose, agree altogether to a tittle with the experiments of other men. *Boyle*, Hydrost. Experim. in Pref.

But this scarce evitable imperfection of hydrostatical experiments does not hinder, but that by their help we may make good estimates of the weights and bulks of very many bodies; and these estimates will be found not only preferable to those that can be made of the same bodies by geometrical instruments, but accurate enough to be very useful on a great number and variety of occasions.

METALS *for Specula.* In the making reflecting telescopes, the greatest article of all is the hitting upon a proper *Metal* for the specula. The common search is for a white and hard *Metal*, that shall be bright and durable; but Sir Isaac Newton advises, that at the same time great care must be taken that the *Metal* be not full of holes or pores, which, though so small as to be only discoverable by the microscope, yet will greatly impede the office of the speculum. This *Metal* may seem to take a very fine polish, but, in reality, the edges of these small pores will wear away faster in the polishing, than any other part of the *Metal*, and then however polite the *Metal* may seem, yet it will not reflect with such an accurate regularity as it ought to do. Thus tin-glass, mixed with the common bell-*Metal*, renders it more white and capable of reflecting a greater quantity of light than it otherwise would do; but then the fumes of this semi-*Metal* raised in the fusion like so many aërial bubbles, fill the *Metal* with microscopic pores. White arsenic both blanches the *Metal*, and renders it rather more dense than before, giving it no microscopical pores, unless the fusion has been too violent. The stellate regulus of Mars is recommended by the same gentleman to farther trials.

When the proper mixture is hit upon for the making such a *Metal*, there requires yet great caution in the polishing it. Whatever this is done with ought to be of the most extreme fineness, for if otherwise, its particles will scratch the face of the *Metal*, and make such microscopical holes as the tin-glass gives in the other instance. The proportion of arsenic is to be judged by trials, but something between a sixth and an eighth part of the weight of the copper seems to be the just proportion; when there is much less than an eighth, the *Metal* wants of its whiteness and brightness; and when much more, it is rendered too brittle. The method of making the mixture is this: The copper is first to be melted alone, and then the arsenic is to be put in; but while this mixture is stirred, great care must be taken to avoid the poisonous fumes. When the copper and arsenic are mixed, the tin is to be put in; this soon melts, and then the whole is to be stirred together, and poured off. Some add silver; but it is found, on trial, that this does as much harm in rendering the *Metal* soft, as it does good in rendering it white and luminous. Six ounces of copper, two ounces of tin, and one ounce of arsenic, seems one of the best proportions. It is to be carefully managed in the fire, and not kept too long in fusion, lest it grow porous by that means. Phil. Trans. N°. 81.

Colours from METALS. As metals have a strong texture in their metalline form, so they preserve their natural colours durably, unless corroded or dissolved by particular menstruums, after which their solutions strike particular durable colours, or afford the strongest stains.

Iron dissolved in stale small beer gives the beautiful yellow used in callico printing; when sublimed with sal armoniac it also affords a yellow: And the common iron-moulds made by ink are owing to the iron dissolved in the copperas of which ink is made.

Copper melted with zink appears of a gold colour; dissolved in aqua fortis, it affords a beautiful green; and in any alkali, a beautiful blue. And these solutions may be reduced to dry colours by crystallization or evaporation; and the same *Metal*, precipitated out of aqua fortis with common salts, gives the turquoise colour to white glass.

Tin, a white or colourless *Metal*, affords a light blue colour, when fluxed with antimony and nitre. The same *Metal* is necessary in striking the scarlet dye, with aqua fortis and cochineal; and its calx, by strong infusion, turns to a glass of an opal colour.

Lead, corroded by the fumes of vinegar, gives the fine white cerus; burnt in a strong naked fire, it becomes the strong red lead or minium; and melted into a glass with sand, is of the hyacinth colour. *Shaw*'s Lectures, p. 171.

Silver being dissolved in aqua fortis, if chalk be put to the solution, turns of a beautiful purple or amethyst colour; and its own solution, though pale as water, durably stains the nails, skin, or hair, brown or black.

Quicksilver mixed with brimstone makes a black mass, and this, by sublimation, affords the beautiful red pigment, called cinnabar, or vermillion; and the solution of quicksilver being precipitated with common salt, yields a snow-white powder, which also turns black by being mixed with sulphur.

Gold, dissolved in aqua regia, affords a fine yellow liquor, which stains animal substances beautifully purple; and if the solution be sufficiently weakened with water, and mixed with a solution of tin, a fine red or purple powder may be procured, very useful for staining of glass and pastes to a beautiful red.

Fluxes of METALS. See the article FLUXES.

Granulation of METALS. See the article GRANULATION.

Medicines from METALS. All medicines that have lead in their composition, are scarce to be trusted for internal use; for we have numerous instances of the poisonous nature of this *Metal*, in the workers at the white lead or cerus-houses, and indeed in all who work on that *Metal*: And it were enough to banish the internal use of *saccharum saturni*, and the *tinctura antiphthisica*, to read in the *Miscellanea Curiosa*, Decad. 3. Obs. 30. how many men were poisoned at a time by drinking of prick'd wine, which had been rendered sweet by litharge.

Metals, however, do not act in the body unless dissolved; whence large quantities of crude mercury being swallowed, prove harmless for want of a proper menstruum to dissolve it in the stomach: But when crude mercury is dissolved in its proper menstruum, as in the making corrosive sublimate, we see it becomes one of the strongest poisons. Lead, Iron, and copper, being much more easily dissolved than quicksilver, are seldom taken without some remarkable effect, which must always prove the greater, the more of an acid humour, or in case of copper, even an alkaline is lodged in the stomach or intestines. The internal use of the crystals of silver, though sometimes successfully given in dropsical cases, should hardly be trusted, on account of their corrosive acrimony, which has sometimes occasioned bloody stools, and extreme weakness. The common tinctures of copper and solutions of blue vitriol, can scarce be taken internally with safety; as being not only emetic, but in some degree corrosive and poisonous. Even the *aurum fulminans* cannot be safely given till thoroughly washed from its salts; and even then if it meet with an acid solvent in the stomach, it may do very great mischief. Iron and tin have not been found so pernicious in the body, but rather beneficial, especially iron, when properly prepared and used.

Metallic bodies corroded by acids, generally erode when applied to sores. Some of these, sublimate mercury, for instance, and particularly arsenic, have shaken the whole frame of the body, when applied externally; and mercurial preparations do sometimes enter the blood, and produce a salivation. Med. Ess. Edinb. vol. 5. art. 24.

Salts of METALS. The salts of the several *Metals* have been medicines long known in the world, and are of excellent use in the cure of many diseases: But they might be of yet infinitely more service to the world, if a happier way of extracting them could be found than the general one now in use, of doing it by acids, and such strong and corrosive menstruums. Beside the mischiefs these menstruums bring as corrosives, which is assuredly much less than is vulgarly supposed, because they lose the greater part of this in acting on the *Metal*, they produce a great number of bad effects, and render the salts unfit for a great number of uses, by making them all vitriols, that is, by converting them into salts, which, like the common native vitriols, have a septic and violently acrimonious quality. The crystals, or salt of silver, called by the chemists, lunar vitriol, are a plain instance of this.

Borrichius and Kunkell devised another method to be used for obtaining the salts of *Metals*. This was the use of fire instead of acids, as the menstruum that should prey upon the *Metal*, and seeking the salts of all *Metals* from the mere action of a reverberatory furnace; but this method, though a very laudable attempt, yet is by no means calculated to be of general use, because the quantity of salts thus obtained is very small, and that obtained with great pains and expence. Kunkell has given the world an account of the effects of another method of treating *Metals*, of which he relates wonders; but

but he conceals the method. The ſolemn manner in which he declares the fact, however, ſeems to imply, that what he relates is truth; and he every where ſpeaks from his own perſonal knowledge, and the work of his own hands. The menſtruum he uſed was known by himſelf and many others, at Hall in Saxony, under the name of *Eſſentia Dulcis*; he ſacredly affirms, that this was neither acid nor corroſive, even in the ſlighteſt degree; that it left behind it no fæces, no ſaline nor earthy matter on evaporation alone; and that it more approached to the nature of ſpirit of wine, than to any other known liquid. He ſays, that this liquor diſſolved even gold, and that ſo perfectly, that it would all riſe with the liquor in diſtillation. Mercury being diſſolved in it, and the ſolution diſtilled in a retort, he ſays, that only a ſmall quantity of earthy matter remained in the retort, which was white, of a ſpongy texture, and fixed in the fire; and that the reſt of the body of the quickſilver was converted into a thin colourleſs and pellucid ſpirit in the receiver: And that gold, treated in the ſame manner, and diſtilled with a very gentle heat, was left at the bottom of the retort in form of a reſin; and that this reſin was ſoluble in common rectified ſpirit of wine, as was alſo the earth of the mercury; and that ſome days after the ſolution of this laſt earth, the ſalt with which this ſubſtance abounded, would ſeparate itſelf from the menſtruum, and form regular cryſtals at the ſide of the glaſs. This, he ſays, is the true ſalt of mercury, containing all the virtues of that *Metal*, and not converted into a vitriol or corroſive ſubſtance, by means of the menſtruum uſed to extract it.

When the ſalt has thus formed as many ſhoots as it will yield by this proceſs, the remaining liquor is to be evaporated gently, and there will be found a like ſalt at the bottom of the veſſel, of a white colour, an agreeable ſmell, and inſipid to the taſte: This, he ſays, is ſo fixed in the fire, that it is no more to de deſtroyed or altered by it, like the *Metal* from which it is obtained. It readily melts into a maſs in the fire; but if it be not immediately after that taken off from the fire, it will run through whatever veſſel it is melted in.

The author attributes to this ſalt all the wonderful virtues that the metal it is made from is known to poſſeſs; and gives inſtances of cures performed by it, which are ſo well atteſted, as ſcarce to leave any doubt of his veracity. He ſays, it works mildly by ſtool, urine, and ſweat. The caſes he gives of cures performed by it, are theſe: Two women, who were very bad with the venereal diſeaſe, two men in the laſt ſtages of hectic fevers, ſeveral perſons in bad kinds of the ſmall pox, and ſome in peripneumonies. The reſin-like ſubſtance into which gold is converted by the ſame operation, he ſays alſo may be transformed in the ſame manner into a white and ſubtile ſalt, of a very penetrating taſte; and to this he attributes great virtues in the cure of hæmorrhages and epileptic caſes, and adds, that it is an ingredient of the black compound powder, ſo famed for epileptic caſes, prepared at the public orphan hoſpital at Hall. *Kunkel*'s Diſſert. de Sal Met.

That a diſcovery of a manner of extracting the ſalts of *Metals* thus without the help of acids would be of great uſe to the world, is very evident, and the ſolemn manner in which this author aſſerts the having done it, ſeems to infer a probability of its being arrived at by others. He is very blameworthy in not declaring the method; but perhaps ſome hints may be gathered from what he has been pleaſed to declare about it.

Prince's METAL. See the article PRINCE.

METALLIC (*Cycl.*)—The antients have uſed this word very frequently as an epithet in the diſtinctions of the ſeveral ſubſtances which they have treated of. But it is to be obſerved, that the various writers have taken the word in a very different ſenſe. The medical writers in general mean by it ſomething of the mineral kind, that more or leſs partakes of the nature of ſome one of the metals, and that is wholly different from earths, ſtones, &c. In this ſenſe they call the *Lapis Armenus*, which indeed is properly not a ſtone, though we call it ſo, but an ore of copper, *metallic*; and by this term alone they diſtinguiſh it from the laps lazuli, which they call a ſtone. The naturaliſts, on the other hand, make no ſuch diſtinction, but call every thing *metallic* that is obtained out of the bowels of the earth; and thus ſtones, earths, ſalts, and even the liquid bitumens, are by them called *metallic* ſubſtances. The terms *metallic* oil, and *metallic* pitch, are found in the Greek naturaliſts, as the names of the *Petroleum* and *Piſſaſphaltum*; but the medical writers of the ſame time diſtinguiſh theſe by the name *Oryctæ*, which is properly foſſil, a word of a very wide ſenſe, taking in every thing produced in the earth; but the particular ones, which contained the particles of metals in a more or leſs perfect form, they ſeparated from theſe, and treated diſtinctly of under the name of the *Metallics*; chalk, ſand, earth, and ſtones of all kinds, are called by the Greek naturaliſts *metalla*, and the Latins have ſometimes uſed the word *metallum* for *lapis* a ſtone.

METALLIC *Germination*. See the article GERMINATION.

METALLIC *Vegetation*. See the article VEGETATION.

METALLORUM *Mater*. See the article MATER *Metallorum*.

METAPEDIUM, in natural hiſtory, a name given by ſome authors to a kind of ſtone, called by others *metatarſum*, and ſuppoſed to imitate a human foot. It is only a luſus naturæ in the formation of a common pebble.

METAPTOSIS, a word uſed by many phyſical writers to expreſs a change of one diſtemper into another, whether it be by *diadoche* or *diadexis*, as it is called; when the change is for the better, and the morbid matter removes from a more noble to an ignoble part: Or by *metaſtaſis*, when the change is for the worſe, and the morbid matter removes from an ignoble to a more noble part.

METASTASIS, Μεταστασις, *Remotio*, in rhetoric, is uſed for the removing the blame from the perſon accuſed to another perſon, or laying it upon ſomething as a cauſe. Thus Adam's excuſing himſelf by blaming Eve, is an example of the former; and the laying the crime of drunkenneſs upon the wine, is an inſtance of the latter. *Voſſ.* Rhet. l. 1. p. 147.

METATARSUM, in natural hiſtory, a name given by authors to a ſort of ſtone, ſuppoſed to repreſent a human foot. See the article METAPEDIUM.

METATARSIUS, a fleſhy maſs lying under the ſole of the foot, fixed by one end in the fore-part of the great tuberoſity of the os calcis, and running forward from thence, terminates in a kind of ſhort tendon, which is fixed in the tuberoſity, and poſterior part of the lower ſide of the fifth bone of the *Metatarſus*. It may move this bone, much after the ſame manner as the metacarpus moves the fourth bone of the metacarpus. *Winſlow*'s Anatomy, p. 226.

METATHESIS, a word uſed by medical writers for a change of place in ſuch humours, or other diſeaſed parts, as cannot be abſolutely removed or ſent off. Thus a *Metatheſis* of a cataract is a depreſſion thereof, ſo that it no longer ſhuts out the light.

METATOR, among the Romans, a quarter-maſter. Out of every legion a tribune, and ſome centurions, were appointed to go before the army, in order to chuſe a place for a camp, and aſſign and mark out quarters to each legion. *Pitiſc.* Lex. Antiq. in voc.

METAXA, a word uſed by ſome medical writers to expreſs ſilk.

METEGAVEL, in our old writers, a tribute or rent paid in victuals; which was a thing uſual in this kingdom, as well with the king's tenants as others, till the reign of king Henry the firſt. *Blount.*

The word is Saxon, *metegavel*; i. e. *cibi gablum, ſeu vectigal.*

METEL, in natural hiſtory, the name of a ſort of *nux vomica*, of the ſame ſhape with the common kind, but ſomewhat larger.

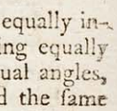
METEMPSYCHI, in church hiſtory, heretics, who, in imitation of the Pythagoreans, maintained the tranſmigration of ſouls. *Hofm.* Lex. in voc. See the article METEMPSYCHOSIS, *Cycl.*

METESSIB, an officer of the eaſtern nations, who has the care and overſeeing of all the public weights and meaſures, and ſees that things are made juſtly according to them. *Pocock*'s Egypt, p. 166.

METHOD (*Cycl.*)—The ſupreme law of the philoſophical *Method* is, to premiſe that which is neceſſary towards the underſtanding or eſtabliſhing what follows. *Wolf.* Diſc. Prælim. Logic. c. 4.

The mathematical and philoſophical *Method* are the ſame, as may be ſeen by the practice of the geometers of antiquity, who conſtantly obſerve the law here mentioned. Id. ib.

Several authors, as Ramus, Meſſrs. de Port Royal, &c. have accuſed Euclid of want of *Method*. Had theſe gentlemen attended to the ſupreme law of all true *Method*, they would have been more cautious in their cenſures. The jeſuit Caſtel has renewed this groundleſs accuſation; and to convince his reader how much he excels the antients, he begins his geometry by a *petitio principii*. Thus to prove that the oppoſite angles *a*, *b*, as alſo *c*, *d* are equal. He aſſumes this principle, that the two lines whoſe interſection forms theſe angles, are equally inclined to each other above and below. Now, being equally inclined to each other, is the ſame as forming equal angles, which is the very thing to be proved [a]. We find the ſame confuſion of thought, which he introduces by way of illuſtration, in his doctrine of parallel lines; not to mention the abſurdity of *parallels being as it were one broad line* [b].—[a *Caſtel.* Math. Univerſ. p. 264. b Ib. p. 271.]



METHOD *of Maximis & Minimis*. See the article MAXIMUM, *Cycl.* and *Suppl.*

METHODISTS, in botany, perſons who have attempted that ſtudy upon certain principles, and have beſtowed their labours upn the diſpoſition and arrangement of plants, and allotting them proper and diſtinctive names. *Linnæi* Syſt. Nat. p. 1.

METOPIUM, in botany, a name given by Pliny to the plant which produces the gum ammoniacum. He ſays that the antient Greeks called it alſo by this name, but in that he errs. See the article AMMONIACUM.

METRENCHYTES, a name given by chirurgical writers to a ſort of ſyringe, contrived on purpoſe for injecting medicinal ſubſtances into the womb.

METRETES, the name of a measure used among the antients, containing somewhat more than nine gallons.

METROCELIDES, a word used by medical writers to express a mark made by the imagination of the mother on the fœtus in utero.

METRONOMI, Μετρονομοι, among the Athenians, officers that inspected all sorts of measures, except those of corn; there were five of them in the city, and double that number in the *Pyræus*, in which the greatest mart in Attica was kept. *Potter*, Archæol. l. 1. c. 15. T. 1. p. 83.

METROPTOSIS, a word used by some medical authors to express a falling down of the womb, or prolapsus uteri. There is a plaster calculated to be of service against this case, and called hence, *emplastrum metroptoticum*.

METTESHEP, or METTENSCHEP, in our old writers, an acknowledgment paid in a certain measure of corn; or a fine or penalty imposed on tenants, for their defaults in not doing their customary services of cutting the lords corn. Paroch. Antiq. 495.

METUPORANGA, in zoology, the name of a Brasilian bird, called also by some *Tepetototl*, and by Aldrovand by the too general name *Gallus Indicus*.

It much approaches to the Gallinaceous fowls, called *Mitu* and *Pauxi*, of the same country, but differs from them in having no tail, if the descriptions of authors are accurate, and from the *mitu* in having a protuberance of the size of a cherry over the top of its beak. *Marggrave*'s Hist. Brasil. *Aldrov.* de Avib.

METYS, a word used by many of the antient writers to express a substance collected by bees, in order to the stopping up cracks and crevices in their hives.

The old authors mention three kinds of substances used by the bees on this occasion, the *Metys*, *Pissoceros*, and *Propolis*. The moderns use only the latter term to express every thing of this kind. The *Metys* and *Pissoceros* seeming to have been only the same *Propolis*, more or less mixed with wax. This substance is a resin, of a middle consistence between the hard and the fluid ones. It is usually of a reddish brown on the surface, and yellow within, and is collected from several trees, of which the poplar seems to be the principal, and the willow the next. *Reaumur*'s Hist. Inf. vol. 10. p. 83. See the article PROPOLIS.

MEVIUM, a name mentioned by *Fallopius* and others, as given by some medical writers to the venereal disease.

MEUM, in botany, the name of a genus of umbelliferous plants, the characters of which are these: The flower is of the rosaceous kind, consisting of several petals, arranged in a circular form, and standing on a cup which afterwards becomes a fruit, composed of two oblong seeds, which are gibbose and striated on one side, and flat and plain on the other. To this it may be added, that the leaves are finely divided, and stand on branched stalks. There is only one known species of this genus. The plants usually called by this name, and different from the common *Meum*, being all species of fennel; and Mr. Tournefort observes, that this answers so well to all the characters of fennel, that he should have made it no more than a species of that genus, but in compliment to its having been so long received under a separate name. *Tourn.* Inst. p. 312.

The root of *Meum* is esteemed by some a very great medicine in malignant diseases.

It is also esteemed an attenuant, and is prescribed wherever there are thick humours to be evacuated. It is given in asthma's, and all obstructions of the lungs, and is by many recommended in flatulencies, colics, and suppressions of urine, and of the menses. Dioscorides and Galen tell us, that the too frequent use of this medicine, or the taking it in too large doses, will occasion violent pains in the head. It may be given in substance from half a dram to two scruples, or from a dram to two drams in infusion. *Geoffroy*, Mat. Med. vol. 2. p. 105.

It ought to be chosen as long and large as can be had, round, not flatted, plump, and full, and of an aromatic smell, and a somewhat acrid taste, and such as is not dusty or worm-eaten. It is sudorific and diuretic; but the principal use now made of it is only as an ingredient in the Venice treacle.

MEUTANG, in botany, the name of a flower much esteemed by the Chinese, which, on that account, they call the king of flowers. It is larger than our rose, and imitates its figure, only its leaves are more expanded. As its smell comes short of that of the rose, so in beauty the rose is outdone by it. It has no prickles, and its colour is a mixture of white with purple, but so as to incline most to white; yet sometimes there are found reddish and yellow ones. The tree it grows on is not unlike our alder tree, and is cultivated throughout that large empire with great care, being covered in the summer time with a shade to defend it from the scorching heat of the sun. *Hofm.* Lex. in voc.

MEZEREUM, the female *spurge laurel*, in botany, a species of thymelæa. See the article THYMELÆA.

The bark of the root of this shrub, or the inner bark of the trunk, are prescribed by some in dropsies, and other cases where strong purges are necessary; but it is so violent, that it ought never to be used internally. Externally it is used as a seaton, to draw a copious discharge from the ear in inflammations of the eyes.

MEZUZOTH, in the Jewish customs, certain pieces of parchment which the Jews fix to the door-posts of their houses, taking that literally which Moses commands them [a], saying, "Thou shalt never forget the laws of thy God, but thou "shalt write them upon the posts of thy house, and on thy "gates." This expression means nothing else, but that thou shalt always remember them, whether thou comest into thy house, or goest out. But the Hebrew doctors imagined, that the law-giver meant something more than this. They pretended that, to avoid making themselves ridiculous, by writing the commandments of God without their doors, or rather to avoid exposing them to the profanation of the wicked, they ought at least to write them on a parchment, and to enclose it in something. Therefore they wrote these words upon a square piece of parchment, prepared on purpose, with a particular ink, and a square kind of character, Deut. vi. 4, 5, 6, 7, 8, 9. "Hear O Israel, the Lord our "God is one Lord, &c." Then they left a little space, and afterwards went on, Deut. xi. 13. "And it shall come "to pass, if thou shalt hearken diligently to my command-"ments, &c." as far as, "Thou shalt write them upon "the door-posts of thy house, &c." After this they rolled up the parchment, and put it into a case of reeds, or other matter; they wrote on the end of the case the word *Shadai*, which is one of the names of God; they put it at the doors of their houses, chambers, and all places most frequented; they fixed it to the knockers of the door, on the right side; and as often as they entered in, or went out, they touched it in this place with the end of their finger, which they afterwards kissed out of devotion. The Hebrew word *Mezuza* properly signifies the door-posts of an house; but it is also given to this roll of parchment now mentioned. Leo of Modena may be here consulted [b].—[[a] Deut. vi. 9. [b] Ceremon. of the Jews, part 1. c. 1. *Calmet.* Diction. Bibl.]

MEZZA *Pausa*, in the Italian music, *half a pause*, intimates that the part wherein it is found must lie still the time of a semi-breve in common time. See the article PAUSE.

MEZZA *Tirata*. See the article TIRATA.

MEZZO *Soprano*, in the Italian music, is the high tenor, which has the cleff C on the second line.

MICA, in natural history, a name given by authors who have written of fossils to many of the bractearia, or small spangled talcs, whether in pure masses of themselves, or immersed in the matter of other fossils.

The principal kinds of these are the white and the yellow, from their colour and splendid appearance, called the silver and gold glimmer, or *Mica aurea* and *Mica argentea*.

Of each of these there are several kinds, as many of the yellow and white bractearia, more or less, deserve the name; but the most considerable species are those called by Dr. Hill the *bractearium lucidum aureum bracteis parvis*, and the *bractearium argenteum lucidum bracteis variis*, the bright gold-colour'd bractearium with small spangles, and the bright silvery bractearium with variously sized spangles. These have frequently led people of sanguine imaginations, who have met with them in different places, to suppose they had found ores of gold and silver, but they, in reality, contain not the least grain of either of those metals, and are mere talc in small flakes, accidentally colour'd. The yellow kind is found in many parts of the world, but no where so plentifully as in Arabia and Ægypt. In Germany and France there is also considerable plenty of it, and in our American plantations it is found in great abundance; nor is England without it even in various forms. We have some of it in pure homogene masses, some mixed among stony matter, some among sand. The white is extremely plentiful in Silesia and Bohemia, as also in France, Italy, and England. It is like the former, found either pure, or mixed among the matter of stone, and makes a very glittering and beautiful appearance. *Hill*'s Hist. of Foss. p. 77, seq.

MICARAGUÆ *Pomum*, a name given by some authors to the Spanish pear. *Chabræus*, p. 596.

MICHAH, a word used by some of the chemical writers to express copper.

MICHALALATLI, in zoology, a name by which Nieremberg informs us, some of the Mexicans call the *achalalactli*. See the article ACHALALACTLI.

MICHELIA, in botany, the name of a genus of plants established by Dr. Amman, the characters of which are these: The flower is monopetalous and of an anomalous kind, it is tubular, and opens into a kind of bilabiated mouth. The pistil arises from the cup and finally becomes a fleshy fruit, containing a kernel, or stone, divided into two cells, each of which contains one seed. This rises to the size of a shrub, its branches are covered with a deep green bark, and do not grow strait and even, but variously intorted; they send out many small shoots, and are armed with very sharp thorns of half an inch long; the leaves are about an inch and half long, and an inch broad; they stand on short pedicles, and are of a pleasant green on the upper side, and whitish underneath. The branches usually terminate in long

and

and loose spikes of yellow flowers; these are each divided into four very uneven segments, the upper segment is very large and is arched; but the lower, and the side ones are much smaller and bend outwards. In the middle of the segments there stand two yellow stamina, sustaining each a round yellow head; the pistil arises between these, and is of the same colour, length, and thickness, with the stamina. The cup is very short, consisting only of one leaf; it is green and is divided in its upper part into two or three obtuse segments: The fruit is round and fleshy of the size of a walnut, green while young, but yellow when ripe, composed of a large quantity of a pale coloured pulp, surrounding a stone of an oval figure divided into two cells; in each of which is contained one kernel or seed. Act. Petropol. Vol. 8. p. 219.

MICROCOSMETER, a name given by Dolœus to an imaginary being, which he supposes to reside in the brain, and direct all the actions.

MICROCOUSTICS, the same with *microphones*. See the article MICROPHONES.

MICROPHONES, instruments contrived to magnify small sounds, as *microscopes* do small objects.

MICROSCOPE (*Cycl.*)—compound *Microscopes* sometimes exhibit a fallacious appearance, by representing convex objects, concave, and *vice versa*. See Philos. Transf. N°. 476. p. 387. See some accounts of the famous Leuwenhoek's *Microscopes* in the Philosophical Transactions, N°. 380. & 458.

The solar or *camera obscura Microscope*, and the *Microscope* for opaque objects, are the invention of Dr. Luberkhun; and have been executed by Mr. Cuff in England. Phil. Transf. N°. 458. p. 516, & 518.

Camera obscura MICROSCOPE. See *Solar* MICROSCOPE.

MICROSCOPE *for opaque objects*. The *Microscope* for opake objects remedies the inconvenience of having the dark side of an object next the eye: For by means of a concave speculum of silver, highly polished, in whose center a magnifying lens is placed, the object is so strongly illuminated, that it may be examined with ease. Phil. Transf. N°. 458. Sect. 9.

Solar MICROSCOPE. The *Solar Microscope* is composed of a tube, a looking-glass, a convex lens, and a *Microscope*. The tube is brass, near two inches in diameter, fixed in a circular collar of mahogany; which, turning round at pleasure, in a square frame, may be adjusted easily to a hole in the shutter of a window, in such a manner, that no light can pass into the room but through the aforesaid tube. Fastened to the frame by hinges, on the side that goes without the window, is a looking-glass, which, by means of a jointed brass wire coming through the frame, may be moved either vertically or horizontally, to throw the sun's rays through the brass tube into the darkened room. The end of the brass tube without the shutter has a convex lens, to collect the rays, and bring them to a focus; and on the end within the room, Wilson's pocket *Microscope* is screwed, with the object to be examined, applied to it in a slider. The sun's rays being directed by the looking-glass through the tube upon the object, the image or picture of the object is thrown distinctly and beautifully upon a screen of white paper; and may be magnified beyond the imagination of those who have not seen it. Phil. Transf. N°. 458. Sect. 9.

MICROSCOPIC *Objects*. All things too minute to be viewed distinctly by the naked eye, are proper objects for the *Microscope*. Mr. Hook has distinguished them to be exceeding small bodies, exceeding small pores, or exceeding small motions.

Exceeding small bodies must either be the parts of larger bodies, or things, the whole of which is exceedingly minute, such as small seeds, insects, sands, salts, &c.

Exceeding small pores are the interstices between the solid parts of bodies, as in stones, minerals, shells, &c. or the mouths of minute vessels in vegetables, or the pores in the skin, bones, and other parts of animals.

Exceeding small motions are the movements of the several parts or members of minute animals, or the motion of the fluids, contained either in animal or vegetable bodies. Under one or other of these three heads, almost every thing about us affords us matter of observation, and may conduce both to our amusement and instruction.

An examination of these objects, however, so as to discover truth, requires a great deal of attention, care, and patience, with some skill and dexterity, to be acquired chiefly by practice, in the preparing, managing, and applying them to the *Microscope*.

Whatever object offers itself as the subject of our examination, the size, contexture, and nature of it, are first to be considered, in order to apply it to such glasses, and in such a manner as may shew it best. The first step should always be to view the whole together, with such a magnifier as can take it in all at once, and after this the several parts of it may the more fitly be examined, whether remaining on the object or separated from it. The smaller the parts are which are to be examined, the more powerful should be the magnifiers employed; the transparency or opacity of the object must also be considered, and the glasses employed accordingly suited thereto, for a transparent object will bear a much greater magnifier than one which is opake, since the nearness that a glass must be placed at, unavoidably darkens an object if in its own nature opake, and renders it very difficult to be seen, unless by the help of the apparatus contrived for that purpose, which has a silver speculum. Most objects however become transparent by being divided into extremely thin parts. *Baker's* Microsc. p. 52.

The nature of the object also, whether it be alive or dead, a solid, or a fluid, an animal, a vegetable, or a mineral substance, must likewise be considered, and all the circumstances of it attended to, that we may apply it in the most advantageous manner. If it be a living object, care must be taken not to squeeze or injure it, that we may see it in its natural state and full perfection. If it be a fluid, and that too thick, it must be diluted with water; and if too thin, we should let some of its watery parts evaporate. Some substances are fittest for observation when dry, others when moistened; some when fresh, and others after they have been kept some time.

Light is the next thing to be taken care of, for on this the truth of all our observations depends; and a very little observation will shew how very different objects appear in one degree of it to what they do in another; so that every new object should be viewed in all degrees of light, from the greatest glare of brightness to perfect obscurity, and that in all positions to each degree, till we hit upon the certain form and figure of it. In many objects it is very difficult to distinguish between a prominency and a depression, a black shadow and a black stain, and in colour between a bright reflection and whiteness. The eye of a fly in one kind of light appears like a lattice drilled full of holes, in the sun-shine like a solid substance covered with golden nails, in one position like a surface covered with pyramids, in another with cones, and in others with still different shapes.

The degree of light must always be suited to the object, if that be dark it must be seen in a full and strong light; but if transparent, the light should be proportionably weak; for which reason there is a contrivance both in the single and double *Microscope* to cut off abundance of the rays, when such transparent objects are to be examined by the largest magnifiers. The light of a candle for many objects, and especially for such as are very bright and transparent, and very minute, is preferable to day-light; for others a serene day-light is best; but sun shine is the worst light of all, for it is reflected from objects with so much glare, and exhibits such gaudy colours, that nothing can be determined from it with any certainty. This however, is not to be extended to the solar, or *camera obscura Microscope*; for in that nothing but sun-shine can do, and the brighter that is the better; but in that way we do not see the object itself on which the sun-shine is cast, but only the image or shadow of it exhibited on a screen; and therefore no confusion can arise from the glaring reflection of the sun's rays from the object to the eye, which is the case in other *Microscopes*. But then in that solar way we must rest contented with viewing the true form and shape of an object, without expecting to find its natural colour; since no shadow can possibly wear the colour of the body it represents,

Most objects require also some management in order to bring them properly before the glasses. If they are flat and transparent and such as will not be injured by pressure, the best way is to enclose them in sliders between two Muscovy talcs or isinglasses. This way the feathers of butterflies, the scales of fishes, and the farinæ of flowers may be very conveniently preserved, as also the parts of insects, the whole bodies of minute ones, and a great number of other things. These are to be kept in sliders, each containing three, four, or more holes, and these must not be filled promiscuously; but all the things preserved in one slider should be such as require one and the same magnifying power to view them, that there may not be a necessity of changing the glasses for every object; and the sliders should be marked with the number of the magnifier it is proper to be viewed with. In placing the objects in the sliders, it is always proper to have a small magnifier, of about an inch focus, in your hand, to examine and adjust them by, before they are fixed down with the rings.

Small living objects, such as lice, fleas, bugs, mites, minute spiders, &c. may be placed between these talcs without injuring them, if care be taken to lay on the brass rings without pressing them down, and they will remain alive many weeks in this manner; but if they are too large to be treated thus, they should be either preserved between two concave glasses, or else viewed immediately, by holding them in the pliers, or sticking them on the point at the other end of that instrument.

If fluids come under examination, to discover the animalcules in them, a small drop is to be taken with a hair pencil, or on the nib of a clean pen, and placed on a plate of glass; and if they are too numerous to be thus seen distinctly, some water warmed by holding it in the mouth must be added to the drop, and they will then separate and be seen distinctly. This is particularly necessary in viewing the animalcules in the *semen masculinum* of all creatures; which, tho' extremely minute, are always so numerous, that without this caution their true form can seldom be seen. But if we are to see the salts in a fluid, the contrary method must be observed, and

the plate of glaſs muſt be held gently over the fire, till part of the liquor is evaporated.

The diſſection of minute animals, as lice, fleas, &c. requires patience and care; but it may be done very accurately by means of a needle and a fine lancet, placing the creature in a drop of water, for then the parts will readily unfold themſelves, and the ſtomach, guts, &c. be very diſtinctly ſeen.

Theſe ſeem the beſt ways of preſerving tranſparent objects; but the opake ones, ſuch as ſeeds, woods, &c. require a very different treatment, and are beſt preſerved and viewed in the following manner.

Cut cards into ſmall ſlips about half an inch long, and a tenth of an inch broad; wet theſe half-way of their length in gum-water, and with that faſten on ſeveral parcels of the object, and as the ſpots of cards are of different colours, ſuch ſhould be choſen for every object as are the moſt different from its own colours. Theſe are very convenient for viewing by the *Microſcope* made for opake objects with the ſilvered ſpeculum; but they are proper for any *Microſcope*, that can view opake bodies.

A ſmall box ſhould be contrived for theſe ſlips, with little ſhallow holes for the reception of each; and this is conveniently done, by cutting pieces of paſte-board, ſuch as the covers of books are made of, to the ſize of the box, ſo that they will juſt go into it, and then cutting holes through them with a ſmall chiſſel, of the ſhape of the ſlips of card, theſe paſte-boards having then a paper paſted over their bottom, are cells very proper for the reception of theſe ſlips, which may be taken out by means of a pair of plyers, and will be always ready for uſe.

Great caution is to be uſed in forming a judgment on what is ſeen by the *Microſcope*, if the objects are extended, or contracted, by force or drineſs.

Nothing can be determined about them, without making the proper allowances; and different lights and poſitions will often ſhew the ſame object as very different from itſelf. There is no advantage in any greater magnifier than ſuch as is capable of ſhewing the object in view diſtinctly; and the leſs the glaſs magnifies, the more pleaſantly the object is always ſeen.

The colours of objects are very little to be depended on, as ſeen by the *Microſcope*; for their ſeveral component particles being by this means removed to great diſtances from one another, may give reflexions very different from what they would, if ſeen by the naked eye.

The motions of living creatures alſo, or of the fluids contained in their bodies, are by no means to be haſtily judged of, from what we ſee by the *Microſcope*, without due conſideration; for as the moving body, and the ſpace wherein it moves, are magnified, the motion muſt be ſo too; and therefore that rapidity with which the blood ſeems to paſs through the veſſels of ſmall animals muſt be judged of accordingly: Suppoſe, for inſtance, that a horſe and a mouſe move their limbs exactly at the ſame time, if the horſe runs a mile while the mouſe runs fifty yards; tho' the number of ſteps are the ſame in both, the motion of the horſe muſt notwithſtanding be allowed the ſwifteſt; and the motion of a mite, as viewed by the naked eye, or through the *Microſcope*, is perhaps not leſs different. *Baker*'s Microſcope, p. 62.

MICTUS *Cruentus*. See the article *Bloody* URINE.

MID-*Feather*, in the Engliſh ſalt-works, the name given to a ſort of partition placed in the middle of the furnace, over which the pan is ſet for boiling the ſea-water or brine into ſalt.

This partition divides the body of the furnace into two chambers. See the article SALT.

MID-*Ship Beam*. See the article BEAM, *Cycl.*

MIDA, in natural hiſtory, the name of a worm or maggot, of which is produced the purple fly, found on bean-flowers, and thence called the bean-fly.

MIDAD *Alhendi*, in the materia medica of the Arabians, a name given to the common indigo blue.

The expreſs meaning of the words is Indian ink; but this is an erroneous name, founded on Pliny's miſunderſtanding the words of Dioſcorides. The Greeks in general have called the common writing ink *Melan*; but they have alſo uſed this word *Melan* as an adjective, expreſſive not only of black, but of deep blue. Thus Theophraſtus has called both the violet flowers and the fine deep blue ſapphires, *Melanes*. Pliny, finding him call the indigo when of a very fine and deep colour, *Melan Indicon*, thought it to be different from the common indigo, and thence ſuppoſed it a ſort of Indian ink. Thus Indian ink has become a ſort of name for this blue.

MIDDLING-*Teeth*, in the manege, are the four teeth of a horſe that come out at three years and a half, in the room of other four foal-teeth, ſeated between the nippers and the corner-teeth; from which ſituation they derive the title of *Middling*. There's one of them above, and one below, on each ſide of the jaws. See the article TEETH.

MIDYON, a word uſed by Theophraſtus, as the name of a ſpecies of oak. It is preſcribed by ſome of the old phyſicians, in their compoſitions; but is uſually ſuppoſed to ſtand there, by an error of the copies; the word meant being miſy.

MIFRES, a name by which ſome writers have called aſphaltum. See the article ASPHALTA.

MIGRATING-*Bog*.—Theſe ſoft maſſes of earth have been ſometimes known to move out of their place. An inſtance of this there was in Ireland, in the year 1697, about Charleville, in the county of Limerick. There was heard for ſome time a noiſe under ground like that of thunder at a great diſtance, or almoſt ſpent; and ſoon after this the earth of a large bog in the neighbourhood began to move, and a hill or riſing ſituated in the middle of it ſtood no longer above the level of the reſt, but ſunk flat.

The *bog* not only moved itſelf, but moved with the neighbouring paſture-lands, tho' ſeparated by a large and deep ditch; the motion continued a conſiderable time, and the ſurface of the moving earth roſe into a ſort of waves, but without breaking up or burſting any where. The paſture-land roſe very high, and was carried on in the ſame motion till it reſted upon a neighbouring meadow, the whole ſurface of which it covered, remaining ſixteen feet deep upon its ſurface. The whole quantity of the bog was torn from its former ſeat, and left great gaps in the earth where it had joined, which threw up foul water, and very ſtinking vapours. *Phil. Tranſ.* N° 233.

All the country came in to ſee ſo ſtrange a ſight as this, for it continued moving a long time; but few gueſſed the true cauſe of it, which was this: A more than ordinary wet ſpring occaſioned the riſing of the bog to a great height in one part, and thence propagated itſelf through the whole bog; ſo that the hill in the midſt was undermined, and naturally ſunk flat; this and the greater than ordinary weight of this large bog preſſing upon the adjoining paſture-land, forced up its foundations, which were only a looſe ſand. This was puſhed on ſideways where there was a deſcent from the bog, and at length having given the bog more room, all was quiet and remained in that ſtate. The bog was more than forty acres of ground.

MIGRATING-*Birds*. See the article *Birds of* PASSAGE.

MIHA, in the materia medica, a name uſed by ſome authors for ſtyrax. *Ger.* Emac. Ind. 2.

MILAX, a name by which *ſmilax* is often meant by the Greek writers. The adding or taking away the letter *s* from words beginning with an *m*, was a thing common and indifferent among them. This name is however one of the ſynonimous terms of the Greeks, ſometimes being uſed as the name of the yew-tree, and ſometimes as that of the creeping plant we call *ſmilax* at this time. Dioſcorides, and Galen, and moſt of the later Greek authors, call the tree *Milax*, and the herb ſmilax, as if there were a difference between the two names; but this is not regularly kept up by any of them, and in the antients is not regarded at all; there being no more difference between the words *Smilax* and *Milax*, than between ſmaragdus and maragdus, as that word, the name of the emerald, is at times variouſly written.

MILDEW (*Cycl.*)—Some have ſuppoſed the blight and *Mildew* to be both the ſame thing, but very erroneouſly. The *Mildew*, properly ſo called, ſometimes reſts upon the leaves of trees in form of a fatty juice, and ſometimes on the ears of corn; it is tough and viſcous to the touch, and the ſun's heat drying it up, it becomes yet more viſcous and hard, and ſo daubs over the young grains in the ear, that they can never after expand themſelves properly, nor grow to their due ſize or weight. Bearded wheat is leſs ſubject to the *Mildew*, than the common ſort; and it is obſerved, that newly dung'd lands are more ſubject to the *Mildew*, than others. The moſt happy remedy for this is out of the farmer's power, but often happens naturally; this is a ſmart ſhower of rain, and immediately afterwards a briſk wind. This wholly diſperſes it.

If the *Mildew* is ſeen before the ſun has any power, it has been recommended by many, to ſend two men into the field with a long cord, each holding one end, and drawing this along through the ears, the dew will be diſlodged from them before the ſun's heat is able to dry it to that viſcous ſtate in which it does the miſchief. Some alſo ſay, that lands which have for many years been ſubject to *Mildews*, have been cured of it by ſowing ſoot with the corn, or immediately after it. See the article BLIGHT.

MILE (*Cycl.*)—In Scotland the *Mile* is equal to 1184 paces, every pace being five feet; ſo that the Scotch *Mile* contains 5920 feet. Tr. Pract. Geom. p. 4. See the article MEASURE.

MILIARIUM, the name of a tall and narrow veſſel, uſed in the bathing of the antients, for heating water to any degree, to give warmth to the reſt. See Mem. Acad. Inſcript. Vol. I. p. 127.

MILIARY *Fever*. See the article PURPUREA *Febris*.

MILIOLUM, a word uſed by ſome medical writers, to expreſs a ſmall tumor in the eye-lid, of the ſize and ſhape of a ſeed of the common millet.

MILITARY *Rewards*. See the article REWARDS.

MILIUM, *Millet*, in the Linnæan ſyſtem of botany, makes a diſtinct genus of plants; the diſtinguiſhing characters of which are, that the calyx is a glume containing ſeveral flowers, and compoſed of three valves, which are of an oval figure and pointed;

pointed; the two inner ones are placed oppoſite to one another; the third is ſituated behind one of theſe. The flower is ſmaller than the cup, and is made up of two valves which are of an oval figure, and one of them much ſmaller than the other. The ſtamina are three very ſhort capillary filaments, the antheræ are oblong, the germen of the piſtil is roundiſh, the ſtyles are two in number and are very ſlender, the ſtigmata are like pencils. The flower incloſes the ſeed, and does not open to let it fall out. The ſeed is ſingle, and of a roundiſh figure. *Linnæi* Gen. Plant. p. 17. See Tab. 1. of Botany, Claſs 15.

Millet is reckoned by Pliny the moſt fertile of all grain; one grain of it producing three Roman ſextaries. *Hoffm.* Lex. in voc. See the article SEXTARIUS, *Cycl.*

MILIUM *Arundinaceum*, in botany, a name by which ſome authors call the lacrymæ Jobi, or Job's tears. *Herm.* Cat. p. 426.

MILIUM *Indicum*, in botany, a name by which ſome authors call the maize, or Indian wheat. *Park.* Theatr. 1138.

MILK (*Cycl.*)— *Milk* is evidently one of the beſt nouriſhments of the body; and it is not wonderful that it ſhould prove ſo, when we conſider that in all caſes of nouriſhment the proximate matter taken to nouriſh ought to be as like as may be to the body to be nouriſhed by it. We ſubſiſt by the ſame things by which we are generated, and even while in the ſtate of a fœtus in the womb, we are nouriſhed not by blood, as ſome ſuppoſe, but by a lacteous juice, which is ſeparated from the blood in the uterus by means of the placenta, as it is in the breaſts of women who give ſuck, by glandules and tubuli deſtined for that purpoſe. Meats which we daily feed upon paſs down into the ſtomach indeed in their own form, but they do not nouriſh us till they are changed into chyle, or a milky liquor.

Milk being analyſed is found to be compoſed of fatty, ſerous, and terreſtrial parts; and theſe its conſtituent principles being eaſily mixed and ſeparated again, are made of it matter for the nouriſhment of the different parts of the body. The ſerous part, which is alſo nitrous, being a proper vehicle to convey through the veſſels the fatty parts, which are as well adapted to all the offices of nutrition as any ſubſtance can be. It is eaſy to infer from this account of *Milk*, that it is not only a proper food for children, but for grown people alſo; but proper regulations are to be obſerved as to its uſe in particular caſes; no aliment any more than this being capable of ſuiting all conſtitutions and circumſtances. Meat in the ſtomach is converted into chyle, or a ſubſtance like *Milk*; this chyle paſſes into the heart through the blood-veſſels, and its fineſt and moſt ſpirituous parts are there tranſmuted into the red part of the blood; and after this the other groſſer parts of it are by different elaborations transformed into bile, and the ſeveral other humours in the body. It is evident that theſe humours, as well as the blood itſelf, muſt all have a ſupply; and that meat cannot give this ſupply, till it is converted into chyle or *Milk*; how much labour then is ſav'd the animal functions by giving at once into the ſtomach chyle ready form'd, that is *Milk*; and in caſes where the action or juices of that organ are ſo debilitated as not to be of power to convert the meat into chyle, what remains but that the perſon muſt die ſlowly, by a want of the ſupplies of the ſeveral fluids of the body, if ſomething be not given that is capable of paſſing into the blood with leſs preparation than meats are; and what is ſo proper on ſuch an occaſion as *Milk*, which is already ſo nearly allied to the nature of the fluid that ſhould have been there ſeparated from meat, that it will readily ſupply all its offices.

MILK-*Diet* is uſeful in the gout and ſtone. See the article STONE.

Dr. Cheyne recommends *Milk* and ſeed-diet with water for drink, as the ſureſt preſervative againſt diſeaſes, and cure of them. See the articles CANCER, PALSY, FITS, GOUT and STONE.

Upon opening a vein, eſpecially after meals, *Milk* is ſometimes found inſtead of blood. See Phil. Tranſ. N°. 6. pag. 100.

The ſalt of *Milk* may be prepared by boiling whey to one half, then filtrating it; the coction and filtration is to be continued, till the liquor becomes of the conſiſtence of a ſyrup. This being put into a cellar to chryſtallize, the ſalt will be formed into a cake of a ſaccharine taſte, reſembling manna.

This preparation is Dr. Gaubius's, and is ſomewhat different from that which Valentini, in his *Medicina Nov. Antiq.* alledges to be the famous ſaccharum lactis, ſo much cried up by Lodovicus Feſti, and recommended by others as an infallible cure for the gout. Med. Eſſ. Edinb.

MILK *of Sulphur*. See the article SULPHUR *Precipitatum*.

MILK, in the wine trade. The coopers know very well the uſe of ſkim'd *Milk*, which makes an innocent and efficacious forcing for the fining down of all white wines, arracks, and ſmall ſpirits; but is by no means to be uſed to red wines, becauſe it diſcharges their colour. Thus, if a few quarts of well-ſkim'd *Milk* be put to a hogſhead of red wine, it will ſoon precipitate the greater part of the colour, and leave the whole nearly white; and this is of known uſe in the turning red wines when prick'd into white; in which a ſmall degree of acidity is not ſo much perceived. *Shaw*'s Lect. p. 209.

Milk is, from this quality, of diſcharging colour from wines, of uſe alſo to the wine-coopers, for the whitening of wines that have acquired a brown colour from the caſk, or from having been haſtily boiled before fermenting; for the addition of a little ſkim'd *Milk* in theſe caſes, precipitates the brown colour, and leaves the wines almoſt limpid, or of what they call a water whiteneſs, which is much coveted abroad in wines, as well as in brandies.

Womens MILK.— The *Milk* is often a very troubleſome and dangerous thing to women in their lyings-in, and ſubjects them to many painful diſorders. About the third or fourth day after delivery they are uſually affected with chilneſſes and ſhiverings, which are well known to be owing to that cauſe, and are therefore not to be treated as a diſeaſe, nor any medicines to be given in them; only it is proper to keep the perſon warm, and promote perſpiration, eſpecially in the breaſts. Sometimes indeed this ſymptom is joined with a febrile heat, or a real inflammatory fever, which is then to be taken off by the proper means. See the article *Inflammatory* FEVER.

Very frequently there come on inflammations of the breaſts, of the erſypelous kind; theſe are uſually taken off by the external uſe of ſpirit of wine and camphor with a little ſaffron in it, and by carefully keeping the parts warm.

The *Milk* often proves very difficult to be drawn out; this is to be helped by the keeping the body carefully open by caminative and emollient clyſters, by keeping up a gentle diaphoreſis, and by attemperating medicines mixed with the milder alexipharmics. The breaſts are all the time to be kept carefully covered with flannel, and gently preſſed and rubbed at times; and finally they are to be drawn by means of a pipe, or by the mouth of an experienced perſon.

Deficiency of MILK, is alſo a very common complaint, and it is in ſome caſes abſolute, there being no *Milk* at all derived into the breaſts; in others, it is only a partial one, there being ſome *Milk*, though not enough to ſupply the child with nouriſhment. A total deficiency of *Milk* moſt frequently happens to perſons who have their firſt child when ſomewhat advanced in years, and to ſuch as are of a choleric diſpoſition; but a partial deficiency of it is often owing to a ſaltneſs of the ſerum, and ſometimes to the want of nouriſhments, and often is brought on by ſorrow.

When ſaline and bilious humours are in fault, then lac lunæ, calcin'd cryſtal, and other abſorbent powders, become of great uſe: Some alſo preſcribe the powder of earth-worms carefully dried, and the voiding the humours by ſtool, by means of gentle purges: When a want of nouriſhment is the only occaſion of it, the *Milk* may always be recovered in a proper quantity by means of good foods, with *Milk* and other nouriſhing fluids.

An over-abundance of MILK is as common a complaint, as a deficiency of it, and requires as much care in the treatment, otherwiſe the perſon is frequently ſubject to nodes and abſceſſes in the breaſt. The proper remedies are the eating and drinking more ſparingly, and the letting two children ſuck inſtead of one.

Many people do not ſuckle their children, and therefore find it neceſſary to drive away their *Milk* abſolutely. This is beſt done by taking internally the digeſtive ſalts, with diaphoretic and diuretic medicines. Externally, it is proper to apply to the breaſts bags of the dried leaves of parſley, mint, chervile, *&c.* with the ſeeds of coriander and parſley, and a little camphor; and ſpirit of wine with camphor, and a little ſaffron is to be rubbed in, or linnen rags wetted in it and applied. Cerates may alſo be made of white wax melted in oil of almonds, with a little camphor, and applied to the breaſts freſh every morning and evening, or oftner if neceſſary.

A too great thinneſs of the MILK, is another common complaint with nurſes; this is to be laid ſometimes to the diet, ſometimes to the concoction, and ſometimes to the unnatural tenuity of the humors; in this caſe the *Milk* is often perfectly watery, and the child is thrown into an atrophy by it. The remedies for this are, a change of diet, and a purging of the primæ viæ by ſome gentle cathartic, and afterwards a ſtrengthening of them by bitters, and ſtomachic medicines. Sometimes alſo, it is neceſſary to evacuate the ſerous humours by the common phlegmagogues, ſuch as jalap in proper doſes mixed with a little powder'd ginger, which is an excellent corrective for it.

The *Milk* is ſometimes ſalt to the taſte, and ſometimes of a bilious yellow colour; and theſe diſtemperatures of it uſually throw the child into colics, diarrhœa's, vomitings, cutaneous eruptions, with ſcabs, and ſometimes abſolute ulcerations, and ſometimes into fevers. In this caſe, the nurſe or parent is to take the abſorbents and nitrous medicines, with intermediate purges; thus, powders of crabs-eyes, oyſter-ſhells, and purified nitre, with ſmall doſes of rhubarb between whiles, often perfect a cure; but during the courſe of taking theſe remedies, and for ſome time afterwards, the diet muſt be under ſome regulations, particularly ſalt foods are to be avoided; and all acids, aromatics, and ſtrong liquors, either wholly let alone, or taken very ſparingly. The perſon muſt alſo carefully avoid all violent paſſions of the mind, as anger, fear,

fear, and the like; and from all violent emotions of the body.

A contrary extreme to the thinneſs and watery appearance of the *Milk* before deſcribed, is, *a mucous thickneſs of it*. This is principally troubleſome and dangerous to the parent, as it is apt to bring on tumors and nodes in the breaſt. The method of treatment in this caſe, is to give gentle alexipharmics for ſome days, then the gentle laxative medicines in ſmall doſes, and finally to allow a moderate uſe of wine.

Stagnations of the MILK. Theſe are very frequent in lyings-in, and are to be diſcuſſed by the ſame method as was before ordered for the ſending it back, in caſes where perſons do not chooſe to give ſuck; and, to the things there directed, may be added, the internal uſe of ſperma-ceti and of calcin'd mountain cryſtals, in powder; and externally, cataplaſms of ſperma-ceti with ſome volatile urinous ſalt, and the gentle compreſſion of the breaſts by wearing ſtrait cloths about that part.

Nodes of the Breaſts often ariſe from the abundance and the mucous nature of the *Milk*. They are to be diſcuſſed by plaſters of ſperma-ceti, with anniſe, parſley, and coriander ſeeds; and by gently rubbing with a ſoft fleſh-bruſh, as alſo by wearing ſome animal's ſkin that has a thick fur on it, which at once ſerves the double office of warmth and a gentle friction.

Abſceſſes of the Breaſts very often happen alſo from the ſame cauſes; and theſe when there appears no hopes of diſcuſſing them are always to be brought to ſuppuration as quick as poſſible. A maturating plaſter is to be laid on the parts that are to be broke, and the other parts are to be rubbed with ſpirit of wine and camphor, and ſaffron infuſed in it. When the matter in the abſceſs is ripe, if the ſkin do not burſt of itſelf it is to be immediately opened with a lancet; after this a plaſter of equal parts of diachylon ſimplex and that with the gums, with a little comphor mixed in it is to be applied; and afterwards digeſtives are to be wholly avoided, and no dreſſings but balſamics allowed. The liquor of myrrh, or a mixture of eſſence of myrrh and amber and ſpirit of turpentine, make an admirable dreſſing; and internally, gentle purges are to be given, and the milder dieuretics, with the nitrous and ſaline medicines.

Cracks and fiſſures of the Nipples, is another terribly troubleſome complaint with thoſe who give ſuck. The beſt applications to theſe, are the oil of eggs with the liquamen of the buds of the poplar, oil of wax, linſeed oil ſhook together with the whites and yelks of eggs, a liniment made of marygold-flowers and freſh butter, an ointment of liquorice, and the liquor produced from the flowers of mullein and marygolds, heated together in an oven. The ſucking out the *Milk*, by means of a glaſs pipe, is very neceſſary during the continuance of this complaint; but the beſt method of preventing it, is the applying white wax to the nipples for ſome time before, as well as after the time of the labour.

The Smallneſs of the Nipples is a trouble to many nurſes; theſe when the complaint is only owing to their lying-in, the breaſts are to be forced out by the ſucking of a robuſt child of ſix or more months old, by the application of the common glaſs-pipe firſt made warm, and by the ſucking of a grown perſon experienced in ſuch caſes: All natural accidents of this kind may be cured by this means; but often the nipples have been ſo forced in by ſtays, at the very time of their growth in young girls, and this force continued ſo long, that no art is able to recal them to their natural ſtate, or make them fit for an infant to ſuck from.

The miſchiefs that ſometimes attend perſons who have given ſuck, in the weaning of children, or on the death of a child, and the *Milk* being left undrawn out, are to be avoided, by letting ſome other child ſuck a little at a time, and that leſs and leſs every day, and by drawing afterwards a little every day with a pipe.

It is very common among nurſes to be extremely ſcrupulous about diet, and to require the niceſt foods for the creating good *Milk*; but it is evident, that though ſome care is neceſſary to this purpoſe, yet it is not this; for the poorer people, who live on the coarſeſt food, often have the richeſt *Milk*. The whole neceſſary caution ſeems to conſiſt in avoiding exceſs, and feeding as much as poſſible on ſimple foods, without too many vegetables, and not to lead too ſedentary a life.

Things hard of digeſtion are to be abſtained from, as alſo acids; too ſalt meats, and all flatulent things, and the acrid and aromatic things, are to be very carefully meddled with; ſince, tho' they do not affect the mother, they ſeldom fail to bring diſtempers upon the child. There is no better drink for thoſe who give ſuck than malt liquors, when they are well ſettled and clear. Stronger things, even wine in thoſe who are habituated to it, tho' it do not hurt them, is to be refrained from, ſince it ſubjects the child to convulſions and many other diſorders.

Over large draughts of cold liquors, and the expoſing the breaſts too much to the cold, are often the cauſes of very great diſorders both in the mother and the child. Gentle exerciſe, and motion of the body in general, is highly ſerviceable to nurſes, as is alſo that of the breaſts in particular. The gently ſhaking and preſſing them throwing off the aqueous part of the *Milk*, and filling the lactiferous ducts more freely and copiouſly, than would otherwiſe be done. The improper methods of dreſs in ſome places, and ſqueezing the girls into ſlenderneſs by ſtrait ſtays, often occations the lactiferous ducts to be ſo contracted, and the nipples ſo repreſſed, that no art can afterwards bring the perſon to be properly qualified for ſuckling a child. *Junker*'s Conſp. Med. p. 732, ſeq.

Violent paſſions of the mind are extremely injurious to thoſe who give ſuck. It is very common to ſee nodes and abſceſſes of the breaſts brought on by theſe alone, and eryſipelatous inflammations are as frequent in perſons of other habits, from the ſame cauſes. The child alſo is often thrown into diarrhœa's, by it; and in general, it is a very neceſſary rule to ſqueeze and ſhake the breaſts to diſcharge the *Milk* after a great fright, or a violent fit of paſſion, before the child is ſuffered to ſuck. If the menſes appear at the time of giving ſuck, the child is uſually greatly injured by the alteration the *Milk* ſuffers.

When women are newly lain in, if the breaſts become turgid, and there is danger of the *Milk*'s coagulating in them, the child if it be ſtrong ſhould be immediately put to ſuck; but if otherwiſe, the breaſts are to be gently ſhaken and preſſed to diſcharge the redundance, or another child, or grown perſon, put to ſuck them.

Extract of MILK, a ſweet dry extract of cows milk made by evaporation.

Fred. Hoffman recommends this extract boiled with pure water to the quantity of what is exhaled of the *Milk*, as an excellent drink in many diſorders, where *Milk* itſelf is not proper. See his Diſſert. *de ſaluberrima ſeri lact. virtut.* oper. Tom. VI. p. 13.

Milk is often thought improper with purgatives, and it certainly does render ſome perſons coſtive; but this does not hold generally, nor perhaps for a long time, even in thoſe whom it may ſo affect at firſt. Hoffman recommends an ounce of manna diſſolved in a pint of *Milk* as a good laxative.

Moon's MILK. See the article LAC *Lunæ*.

MILK-WORT. See the article LACTARIA.

MILK-*wort*, in botany. See the article GLAUX.

MILL (*Cycl.*)—MILL-*Dams*. A very firm way of making theſe in a quick or running ſand, which is uſually found a very troubleſome circumſtance in the making them, is by laying the foundation with unſlacked lime; which, by ſlacking among the ſand, runs together into a hard ſtone, which gives a very firm and ſure foundation. *Plot*'s Staffordſhire, p. 336.

MILL-*Stones*. The *Mill-ſtones* which we find preſerved from antient times, are all ſmall and very different from thoſe in uſe at preſent. Thoreſby mentions two or three ſuch found in England, among other Roman antiquities, which were but twenty inches broad; and there is great reaſon to believe that the Romans, as well as the Egyptians of old, and the antient Jews, did not employ horſes, or wind, or water, as we do, to turn their *Mills*, but made their ſlaves and captives of war do this laborious work; they were in this ſervice placed behind theſe *Mill-ſtones*, and puſhed them on with all their force. Sampſon, when a priſoner to the Philiſtines, was treated no better, but was condemned to the *Mill-ſtone* in his priſon. The runner or looſe *Mill-ſtone* in this ſort of grinding, was uſually very heavy for its ſize, being as thick as broad. This is the *Mill-ſtone* which it is expreſly prohibited in Scripture to take in pledge, as lying looſe it was more eaſily removed. The Talmudiſts have a ſtory, that the Chaldæans made the young men of the captivity carry *Mill-ſtones* with them to Babylon, where there ſeems to have been a ſcarcity at that time; and hence, probably, their paraphraſe renders the text "have borne the *Mills*, or *Mill-ſtones*;" which might thus be true, in a literal ſenſe. They have alſo a proverbial expreſſion of a man with a *Mill-ſtone* about his neck; which they uſe to expreſs, a man under the ſevereſt weight of affliction. This alſo plainly refers to theſe ſmall ſort of ſtones.

MILLAINS, according to Mr. Wingate, are the third ſubdiviſion of the primes in Gunter's line; and expreſs the thouſandth parts of ſuch primes.

MILLEFOLIUM, *Yarrow*, in botany, the name of a genus of plants, the characters of which are theſe: The flower is of the radiated kind; its diſk is compoſed of floſcules, and its outer edge of ſemi-floſcules, which all ſtand up on the embryo-ſeeds, and are contained in one general ſquammoſe cup, of a ſort of cylindric figure. The embryo's finally ripen into ſlender ſeeds; to this it is to be added, that the leaves are always finely divided, and the flowers are collected into tufts.

The ſpecies of *Yarrow*, enumerated by Mr. Tournefort, are theſe: 1. The great white-flowered *Yarrow*, called Achillæa. 2. The common white-flowered *Yarrow*. 3. The great purple-flowered *Yarrow*. 4. The common *Yarrow*, with purple flowers. 5. The noble *Yarrow*, or ſcented *Yarrow*. 6. The Montpelier ſweet *Yarrow*. 7. The hoary alpine *Yarrow*, with fleſh-coloured flowers. 8. The hoary alpine *Yarrow*, with beautiful flowers. 9. The woolly yellow *Yarrow*. *Tourn.* Inſt. p. 495.

The

The common *Yarrow* which is in flower on our ditch-banks, and in dry paſtures the greateſt part of the ſummer, is a much nobler medicine than is ſuppoſed. The medical writers have ſaid much of it as a vulnerary, and recommended its external uſe in tumors and ulcers; and internally, as a remedy for hæmorrhages of all kinds; in which caſes experience ſhews us, that a ſtrong decoction of the whole plant, roots and leaves, does wonders. The flowers of this plant have the ſingular property of yielding a fine deep blue oil, by diſtillation. The flowers of Chamæmile do the ſame; but we do not know any other plant, except theſe two, that do it.

MILLEMORBIA, in botany, a name given by ſome authors to the ſcrophularia, or figwort, from its ſuppoſed virtues in many diſeaſes. *Ger.* Emac. Ind. 2.

MILLEPEDA, in conchyliology, the name given by authors to a ſpecies of murex of the ſpider ſhell-kind, ſo called from the great number of prominences in the ſhape of points called feet in this ſeries of ſhells, which ariſe from its lip which is greatly extended. The body of the ſhell is full of bumps and tubercles, and the tail is long and crooked. See the article MUREX.

MILLEPEDES (*Cycl.*)—Well-known inſects, uſed on many occaſions in medicine. This inſect is otherwiſe called *Aſellus*, or *Oneſcus*, in Engliſh the *Wood-louſe*. Mr. Ray deſcribes ſeven different ſpecies of this inſect, ſome of which we ſee every day, others are more rare. Theſe are, 1. The common *Millepes*, called the *Aſellus Aſininus*; this is thinner and flatter than the blue kind, and carries antennæ ſtrait forward, and its colour is a pale browniſh grey; the laſt ring of its body is acute, not annular, and the appendages of the ſides are forked, as is alſo the tail. This kind is common in old walls, and under the barks of old trees. 2. The greater blue or livid *Millepes*; this is conſiderably larger than the former, and is of a duſky bluiſh black colour; the laſt ring of its body is annular, not pointed, its tail is not forked; its body, like that of the former, is divided into fourteen rings, and it eaſily rolls itſelf up into a round ball. 3. The great ſea *Aſellus*; this is three times as large as the common kind, its body is divided into twelve rings, its eyes are large and round, the antennæ are long, and are compoſed only of three points, the tail is double, and has four horns; its colour is ſomewhat paler than the common kind. 4. The mountain *Aſellus*; this is of the ſize of the livid kind, and in the ſame manner rolls itſelf up when touched; its body is divided into eleven rings, and its colour is a mixture of black and red. 5. The great Cornwall *Aſellus*; this is about an inch in length, its antennæ are very long, it has fourteen feet, and is of a reddiſh brown colour; it is diſtinguiſhed from all the other kinds by the ſhape of its tail, which is a flat lamina, divided into three points at the end; the eyes are ſmall and black, and the body is compoſed only of ſeven rings beſide the head and tail; the feet have all a ſort of hooks at their end, and the hinder legs are longer than any of the others. 6. The *Aſellus aquaticus*, or water *Millepes*; this is ſomewhat ſmaller and ſlenderer than the common kind, its antennæ are very ſlender, and its colour is a pale browniſh grey, with a dark ſtreak running down the back; its body conſiſts of ſeven joints, each of which has a pair of legs; its hinder pair of legs are longer than the others, and it has another peculiar mark, which is, there are two very ſlender horns iſſuing from the tail, and making a kind of fork. The 7th kind is the ſhort ſea *Millepes*; this is broader as well as ſhorter than the common kind, and has two appendages on each ſide the tail, which it uſes in ſwimming; this is of the ſame colour with the common kind, but has a black liſt running down the back; the eyes are ſmall, the body conſiſts of ten joints, beſides the broad tail; it rolls itſelf up in the manner of the blue *Wood-louſe*, and has under each ring of the body, beſide a pair of legs, two fins that ſerve it in ſwimming. *Ray*'s Hiſt. Inſ. p. 41.

The firſt and ſecond kinds are uſed in common in medicine; but the ſecond or blue kind, which rolls itſelf up into a ball, is the proper medicinal kind.

Beſide theſe proper *Aſelli*, there are ſome other ſpecies commonly called *Pulices marini*, which ſeem greatly to approach to their nature. Theſe are, 1. The horned ſea *pulex*; its body is compoſed of twelve joints, it has ſeven pair of legs, and the hinder ones are longer than the others, the antennæ are a pair of very large horns, and at the baſe of theſe there ſtand two other very ſhort and ſlender ones: It has fins to ſwim with, and it is of a whitiſh colour, and very ſlender body. 2. The *pulex marinus* of Bellonius; this is of the ſhape of the common *aſelli*, but ſomewhat ſlenderer and rounder bodied, and its legs are much longer; its back is brown, its eyes are large and black, and the antennæ are articulated and have two ſmall ones growing from their roots; its body is pellucid, and it moves very ſwiftly in the water; the tail is compoſed of a large bundle of hairs. This is found in great plenty under ſtones by the ſides of rivers near the ſea. 3. The freſh-water *pulex*; this differs very little from the laſt ſpecies, but is ſingular in the places it inhabits, which are the banks and mud of hot ſprings, in which no other animal can live. *Ray*'s Hiſt. Inſect. p. 44.

MILLEPORA, in botany, a name by which Linnæus diſtinguiſhes that genus of ſea-plants, of a hard ſtructure and full of holes, which are not ſtellate or radiated, in which it differs from the madrepora.

MILLERS-*Thumb*, in ichthyology, an Engliſh name for the fiſh called alſo the bull-head, and by authors the cottus. See the article BULL-HEAD.

Some are ſo erroneous as to ſuppoſe this fiſh, and the loach to be the ſame. See the articles LOACH, and COBITIS.

MILLIARIA *Cohors*, in antiquity. See the article COHORS *Equitata*.

MILLMOTH, in natural hiſtory, the name of an inſect approaching to the nature of the beetle, but having no ſheath wings. It is common in the abodes of millers and bakers, and other perſons who deal in meal.

MILPHOSIS, a word uſed by the antient medical writers, as a name of the diſeaſe of the eye-lids, by which the hairs fall off from them, and the edges become red and tumid.

MILTOS, in the natural hiſtory of the antients, the name of what we call reddle, a red earth of the ochreous kind, uſed in painting. The Greeks uſed the word in a leſs determinate ſenſe, and called all the red earths by this name, with adjectives derived from the names of the places where they were found, *&c.* to denote their differences.

Many however have thought too boldly, that the cinnabar found native, and called by the Greeks *minium*, was alſo comprehended under this name; but for this there is no warrant, and the paſſage in Pliny which gave birth to the opinion, is merely an error in the copies from the falſe pointing; and all that Pliny ſeems really to have meant, was, that the Greeks called reddle by the name of *Miltos*, and minium by that of cinnabar. Reddle ſeems to have been of very antient uſe in painting; for we have plain teſtimony in Homer, that it was uſed by the Greeks in the time of the Trojan war, that poet calling their ſhips by an epithet which ſignifies their being painted with reddle; and the accounts of the earlieſt painters, which tell us that they uſed only four colours, make reddle to be one of theſe four. *Hill*'s Theophraſt. p. 124. See the articles REDDLE and RUBRICA.

MILVAGO, in ichthyology, a name given by Geſner and ſome others, to a fiſh called by authors in general *milvus* and *cuculus*, and by ſome *lucerna*, and the flying fiſh. It is a ſpecies of the trigla, and is called by Artedi the trigla, with a ſnout bifid at the extremity, and the ſide-lines forked near the tail. See the article TRIGLA.

MILUS, μιλος, a name given by the Greek writers to a plant uſed in garlands, and ſometimes to a tree. Theophraſtus evidently uſes it as the name of a tree, and Crato as that of a garland herb.

It ſhould ſeem by compariſon of what they ſay of this *Milus*, that it is no other than a corruption of the word *milax*, or *ſmilax*. This we know was uſed as the name of the yew-tree, and alſo as the name of that climbing plant which we at this time call ſmilax; and what ſtrengthens the opinion is, that this creeping ſmilax was one of the common herbs uſed in garlands, having got into eſteem on theſe occaſions by the length and toughneſs of its branches, which were eaſily twiſted into any form, and wound round about whatever they pleaſed.

Pliny tells us, that it was a melancholy herb, and not fit for garlands; becauſe it had been once a virgin, and was turned into this form in conſequence of an unhappy love for the inconſtant youth crocus; but if this were to have been an objection to the uſe of theſe plants among the antients, thoſe garlands muſt have been either very thin, or made of paltry weeds; for the fancy of their poets had ſcarce let any flower or herb worthy obſervation paſs without ſome ſuch hiſtory.

There ſeems to have been no plant uſed ſo frequently in the rites of Bacchus as the *ſmilax*, or this climbing herb; and this is by the earlieſt writers ſometimes called *Milax*, or *Milos*, and ſometimes *Smilax*; ſo that it ſhould ſeem that they were only the ſame word differently ſpelt.

Euripides frequently mentions it in his Bacchi, and ſometimes celebrates it in flower, ſometimes in fruit, calling it καλλικαρπος, and ανθεσφορος, the elegant fruited and the flowery ſmilax; and this laſt ſenſe of it Pliny has taken, calling it *anthophorus*, the flowery ſmilax. Athenæus, in his fifth book, mentions the bacchides as carrying ſpears covered with vines, ivy, and ſmilax, or *Milos*. In this ſenſe of ornamenting garlands, ſpears, *&c.* they meant only the herb ſmilax, not the yew-tree.

MILVUS, the *flying fiſh*, the name of a fiſh remarkable for the length and ſize of its gill-fins, which it ſometimes makes uſe of to fly with: It is of the cuculus or gurnard kind, and is called by ſome the rondine, and by others the falcone. See Tab. of fiſhes, N°. 41.

Its general ſize is about ſix inches in length; its head is broad and flatted, and its body long and rounded, and very ſlender toward the tail. The ſpace of the forehead between the eyes is large and hollow, and the whole head is covered with a ſtrong bony cruſt; this is rough and of ſeveral colours, as blue, yellow, and purple: This cruſt covers alſo ſome part of the back, and terminates in two very long and ſtrong ſpines, which lie down upon the back: It is covered with very hard ſcales, every one of which riſes into a ſharp tubercle in the middle. The back is of the ſame colours with the head, but

ſomewhat

ſomewhat duſkier. Its eyes are large, and the coverings of the gills terminate on each ſide in a very long and ſharp thorn, which is ſerrated on the outſide. The mouth is ſmall, and is placed low in the head; and its jaws are granulated, rather than toothed. Its belly is white, and its tail forked. Its gill-fins, commonly called its wings, are ſo long as when laid cloſe to the body to reach to the tail, and they are as it were double, a ſmall fin compoſed of a ſeries of ſhort nerves or rays connected by a ſmall membrane ſtanding before each. Theſe wings are of an olive colour on their upper ſide, and are ſpotted with very beautiful blue ſpots near their edges. *Willughby*'s Hiſt. Piſc. p. 284.

This fiſh, when it pleaſes, is able to riſe out of the water and fly to a conſiderable diſtance in the air; but when its wings are dry, is obliged to plunge again into the water to moiſten them. It does this often, when purſued by an enemy; and whole ſhoals have been ſeen thus flying together. It is common in the Mediterranean, and ſome other ſeas; but is not known in ours, nor in any of the colder climates.

MILVUS, in ornithology, the name of the common kite: A bird diſtinguiſhed from all other birds of prey, by its forked tail. It remains with us the whole year; but in many other countries is a bird of paſſage. *Ray*'s Ornithol. p. 41.

MILVUS *Æruginoſus*, in zoology, the name of the moor-buzzard; a bird of the long-wing'd hawk kind, ſmaller than the common buzzard, and not ſo flat on the head. Its beak is large and crooked, covered with a greeniſh yellow ſkin near the top, and black in other places. Its mouth is bluiſh within. Its head is of a whitiſh orange colour, variegated with black ſtreaks; its throat is of the ſame colour; and all the reſt of its body, as well back as belly, is of a duſky ruſt colour, only that in each wing there is a yellowiſh white ſpot; and the feathers at the root of the tail are yellowiſh. Its legs are long and ſlender, and of a yellowiſh colour. The inſide of its wing-feathers are whitiſh. It is common with us about heaths and marſhes. *Ray*'s Ornithol. p. 42.

MIMOSA, the *ſenſitive plant*, in botany, the name of a genus of plants, the characters of which are theſe: The flowers are uſually collected into tufts or heads, and each conſiſt of one leaf of a fennel-like ſhape, containing a great number of ſtamina: The piſtil ariſes from the bottom of the flower, and finally becomes either a ſimple bivalve pod containing a number of oblong ſeeds, or elſe a compound one made up of ſeveral parts joined to one another by a ſort of tranſverſe articulation, each containing one roundiſh ſeed. To this it is to be added, that the leaves of all this genus of plants, when touched, become capable of a ſort of reciprocal motion. *Tourn.* Hiſt. p. 605.

The ſpecies of *Mimoſa*, enumerated by Mr. Tournefort, are theſe: 1. The common *ſenſitive ſhrub*. 2. The prickly and more *ſenſitive Mimoſa*. 3. The broad-leav'd *ſenſitive plant*, with pods collected in round cluſters. 4. The Jamaica *ſenſitive plant*. 5. The prickly Pernambuco *Mimoſa*. See the article SENSITIVE *Plant*.

MINA, or MNA, among the antient Greeks, a piece of money worth an hundred drachmas.

The *Mina* was ſomewhat more than three pounds Sterling; ſixty *Minæ* made the Attic talent. *Danet.* in voc. See the article COIN, *Cycl.*

MINCA, a name given by the antients to a very coarſe and bad kind of myrrh.

MINCHA, in the Jewiſh cuſtoms, offerings of meal, cakes, or biſcuits, made in the temple of the Lord [a]. The Seventy have ſometimes preſerved this word in their tranſlation [b]; but inſtead of *Mincha* they read *Manaa*, which doubtleſs was the received pronunciation in their time. We find *Manaa* in the ſame ſenſe, in Baruch i. 10 [c].—[[a] Levit. ii. 3, *&c.* [b] See the Greek of Jerem. xvii. 26. Dan. ii. 46. 2 Kings viii. 5, 9. xvii. 7. xx. 12. 2 Chron. vii. 7. Nehem. xiii. 5, 9, *&c.* [c] *Calmet.* Dict. Bibl.]

MINE (*Cycl.*)—The diſcovery of *Mines* is not always attended with a certainty of advantage. The firſt thing to be conſidered in regard to it, is whether it can be dug to profit; and to be able to determine in this reſpect, we are duly to weigh the nature and ſituation of the place, and compare the reſult of the whole with the profit from the richneſs of the ore, and the charges of digging, ſmelting, and working it.

A *Mine* is either found in a mountain, a hill, a valley, or a flat; of theſe, mountains and hills are dug with greateſt eaſe and conveniency, chiefly becauſe the drains and burrows, that is, the adits and avenues may be here readily cut both to drain off the water, and to form gangways for bringing out the ore. In whatever place the *Mine* lies we are to look for the veins, which rains or other accidents may have diſcovered; and where ſuch a vein is found, if it be tolerably large and rich, it is beſt to open the *Mine* there. Otherwiſe the moſt commodious place for ſituation is to be choſen, that is, neither on a flat, nor on the tops of mountains, but in their ſides. *Shaw*'s Lectures, p. 244.

The beſt ſituation for a *Mine*, is a mountainous, woody, wholeſome ſpot, of a ſafe eaſy aſcent, and bordering upon a navigable river. For wood is indiſpenſably neceſſary for making the engines and inſtruments, building the huts, fencing in the works, and working the ores. But tho' wood ſhould be wanting, if a navigable river be nigh, that may be ſupplied, as water-carriage is cheap. Water however muſt never be wanting. This is beſt ſupplied by a large river, and is neceſſary on a thouſand occaſions, to waſh the ores, turn the works, *&c.* Good convenience of carriage muſt alſo be regarded, both for the carrying the ore or metal to market, and the bringing neceſſaries to the workmen: For proviſions are ſeldom to be found where there are *Mines*. See the articles DIGGING, MINING, and TRACING.

MINE-*Dial*, is a box and needle with a braſs-ring divided into 360 degrees, with ſeveral dials graduated thereon; generally thus made for the uſe of *Miners*.

MINERAL (*Cycl.*)—*Engliſh*-MINERALS. Dr. Woodward has obſerv'd, that the Engliſh *Minerals* are much more valuable and numerous, than has been generally ſuppoſed. Fullers-earth, a thing ſo cheap as to be diſregarded by many, he obſerves, is of almoſt as much value to our commerce, as any article of foreign production. The property this earth has of imbibing oil and greaſe, is not confined to the trifling ſervice of taking out accidental ſtains in clothes, but it is of ſo much uſe in cleanſing the wool and the cloth made of it, that we could never have flouriſhed in the cloth-trade in the manner we have done, had we not this foſſil among us ſo very plentiful and cheap, and at the ſame time ſo excellently good. This earth is one inſtance of the pre-eminence of our ſoil above others. Another inſtance we have in our black-lead or wadd, a *Mineral* of great uſe and value in ſeveral branches of trade and arts; and which is found no where fine and good, except in England, and in our colonies; and that of the laſt place, tho' better than the black-lead of other nations, is greatly inferior to our own.

The amber and jet of England are found in conſiderable quantity, and are equal to thoſe of any other part of the world. Our cannal-coal comes very near the beauty of jet; and even our common coal for firing is greatly ſuperior in goodneſs, to that of any other part of the world, and is no where found in ſuch vaſt plenty as with us. The Engliſh earths and gravel are well known to be ſuperior to thoſe of other countries, in none of which ſuch graſs-plats or ſuch gravel-walks are to be ſeen, as in the Engliſh gardens. We have ſtones, ſlates, flags, and the other neceſſary foſſils for building, in ſufficient plenty.

Vitriol and alum are found in greater plenty in England, than in any other country; and are ſo eaſily worked or procured from their ores, that we can ſell them cheaper than any other people. *Woodw.* Cat. Foſ. Vol. I. p. 5.

Tin is another article in which England has always had a great pre-eminence; the county of Cornwall alone produces more tin than all the world beſide; and the tin of England is well known to excel that of other nations, as well in value as in quantity.

Lead ore is alſo richer in England than in any other country, and is found in greater quantity here than any where elſe; beſide this, it runs more kindly in the fire, and requires leſs trouble and expence in the working, than any other lead; and is, when wrought, much finer and more ductile, than any other lead.

This does not ariſe from any peculiarity in the metal, for lead is the ſame in all countries, when equally purified; but the ſpar which lies about, and is mixed with our lead-ore, is of ſuch a nature and diſpoſition, that it is eaſily wrought upon and readily parts from it, leaving the metal more pure than it can be procured by the common large operations in other countries; ſo that they are forced to ſend it away much leſs pure than ours is.

Copper and iron are alſo found in England in very great plenty, and ſeveral ores of theſe metals have of late been brought into uſe, which were not known before the modern improvements in chemiſtry.

MINERAL *Waters*. See the article *Mineral* WATERS.

Earth of MINERAL *Waters*. See the article EARTH.

MINERAL *Juices*. See the article JUICE.

MINERAL *Courts*, *Curiæ Minerales*, in law, courts for regulating the concerns of lead-mines; as *ſtannary courts* are for tin. *Blount*.

MINERVALIA, among the Romans, called alſo *Quinquatria*, were feaſts celebrated in honour of Minerva. They began March 19th, and laſted five days. The firſt day was ſpent in prayers to the goddeſs; the reſt in offering ſacrifice, ſeeing gladiators fight, acting tragedies upon mount Albanus, and reciting pieces of wit, wherein the conqueror had a prize given him. Scholars had then a vacation, and made a preſent to their maſters, which was called *Minerval*.

MINICULATOR, among the Romans, a ſervant who embelliſhed any writing with *Minium*. *Hoffm.* Lex. in voc. See the article MINIUM, *Cycl.* and *Suppl.*

MINING, the ſinking or digging into the earth in ſearch of metals, or other valuable foſſils.

The neceſſity of cleaving and opening rocks has been always accounted one of the moſt troubleſome articles in the buſineſs of *Mining*; they being often compoſed of ſuch ſtone as tools can work but very ſlowly upon in the common ways. Fire and gunpowder have been the two things principally had recourſe to on theſe occaſions; and both ſucceſsfully, but in dif-

ferent ways. The fire calcines ſtones, and they then eaſily become ſhattered to pieces, and give way to tools that would not touch them before; but in this caſe, beſide the expence of wood, the hindrance of the labourers is an article to be conſidered, for the rocks are made ſo hot all about the place where the fire has been, that the people cannot get to work again of a day or two, and then the effect of fire reaches but a little way in the rock.

Gunpowder makes its way much farther, and at the ſame time is much cheaper and does not delay the work, but the labourers may go on immediately afterwards. There have been many ways contrived of uſing this, but one of the ſimpleſt and beſt, ſeems that delivered by Mr. Beaumont, in the Philoſophical Tranſactions. For this there are only three ſimple inſtruments required, a borier, a gun, and the quinet or wedge. Theſe are the names the *Miners* on Mendip hills give the inſtruments. The borier is an iron inſtrument, ſteeled at the end; it is two foot two inches long, and is ſomewhat thicker at the ſteel'd end than in any other part: The uſe of this is to make the hole in the rock deep enough to receive the powder. The gun is about ſix inches long, and an inch and quarter in diameter; and has a hole drilled through it, to receive the priming. The quinet is a wedge of iron of about ſix inches long, and ſo ſhaped that its flat part on one ſide joins with a flat part in the gun made to receive it, and by that means the gun is faſtned very firmly in its place. Philoſoph. Tranſ. N°. 167. p. 854.

The manner of uſing theſe inſtruments, is this: One man holds the borier on the rock, turning it round while another forces its point in by blows of a large hammer on the other end. When the hole is made ſomewhat deeper than the length of the gun, they dry it with a rag, and then put into it two or three ounces of powder; over this they lay a paper, and then they put the gun into the hole, and faſten it in by driving in the quinet or wedge againſt its flat part. When the powder and gun are thus fixed, they paſs down a wire through the hole drilled in the gun, and with this they pierce a hole through the paper which covers the powder; they then prime the gun, and lay a train with a lighted match; but all go out of the *Mine* before the gunpowder takes fire, and as ſoon as it has gone off they go down to work again, finding the rock ſplit and the inſtruments unhurt. The paper in this caſe is put over the powder only that the tools may be ſafely employed in driving down the gun and the quinet, becauſe were not the powder covered it might do miſchief to the workmen by going off by ſome ſpark cauſed by ſtriking either againſt thoſe inſtruments or againſt the rock itſelf.

MINIUM, (*Cycl.*) in the natural hiſtory of the antients, a name given to what we now call *Cinnabar*. A native mineral of a ſhinining red colour, out of which quickſilver was extracted.

This native mineral becoming much in uſe, was ſoon adulterated, and that commonly with lead ore calcined to a redneſs; and hence, after the two words *Minium* and *Cinnabar* had been long uſed in common, the cinnabar became retained only to the native mineral, and the *Minium* to that adulterated with lead-ore, or to the red adulterating matter alone, which is the ſenſe in which it is ſtill uſed.

The word *Cinnabar* however, by which they at laſt diſtinguiſhed it, among the oldeſt writers on medicine, was uſed as the name of a very different ſubſtance, a vegetable juice of a ſtrong red colour, called by us dragon's blood, and among them long believed to be the dry'd blood of dragons; and when the antients called the mineral body here deſcribed by the ſame name, they always diſtinguiſhed the other cinnabar, where they had occaſion to name it, according to their uſual method by an adjective derived from the name of the place whence it was brought, calling it *cinnabari Indicum*, the Indian cinnabar.

The native *cinnabar* of the antients was the ſame with ours at this time, and was found in the ſame variety of forms. Theophraſtus tells us, that it was hard and ſtony, and that they had it from Spain and Colchis, where it was produced among the rocks. *Hill*'s Theophraſt. p. 140.

Many have ſuppoſed, from the name of a factitious *cinnabar* among the moſt antient writers, that they were acquainted with our method of making the artificial *cinnabar*; but this was by no means the caſe. What they called factitious *cinnabar*, was, according to the ſame Theophraſtus, no other than a fine arenaceous ſubſtance of a ſcarlet colour, and very bright and ſhining, which they had from one particular place only, which was in the country above Epheſus. This they carefully collected, and rubbed to a fine powder, in veſſels made of ſtone, and afterwards waſhed it in other veſſels of braſs or of wood; the coarſer matter they went to work upon again, rubbing and waſhing it as before, till by theſe repeated powderings and waſhings they ſeparated all the pure cinnabar, which always ſunk to the bottom of the veſſels, leaving the accidental foulneſſes at top.

The factitious *cinnabar* of the antients, was therefore no other than a preparation of a native mineral, which contained a quantity of true cinnabar mixed among a large quantity of other matter, and the operation conſiſted in nothing but the ſeparating it from its other matter. The invention of this is attributed to one Callias, an Athenian, who belonged to the ſilver mines; and was diſcovered, as moſt other things have been, by accident. This man had got together a vaſt quantity of this ſand, ſuppoſing from its colour and brightneſs that it contained gold; and tho' he found himſelf miſtaken in that, yet the working on it in hopes of diſcovering that precious metal diſcovered to him this excellent paint. See the article CINNABAR, *Cycl.* & *Suppl.*

The method in which *Minium* is made in large quantities with us, is this: They firſt burn lead in a furnace into a kind of litharge, by continually ſtirring it while melted with an iron rake; this they afterwards grind with two pair of ſtones, which deliver it from one to another, the firſt pair grinding it coarſer, the ſecond finer; theſe are worked by means of a mill which moves ſix pair of them at once. When thus reduced to a fine powder, it is waſhed and then put into a furnace, and is burnt with a reverberatory fire for two or three days, all the while they continue ſtirring it with a large iron rake, hung on a ſwivel or iron hook; and toward the end of the time they watch its being of the right colour. When this is doing, the fire muſt not be carried beyond a certain degree, leſt the matter clod and run together. *Ray*'s Engliſh Words, p. 138.

MINIUM, in medicine, is uſed externally; it obtunds the acrimony of the humors, allays inflammations, and is excellent in the cleanſing and healing of old ulcers: It is uſed, on theſe occaſions, in many of the plaſters and ointments of the ſhops.

MINORATIO, a word uſed by the antients to expreſs a ſlight or moderate evacuation, only ſerving to leſſen the humors, not to carry them off.

MINOW, or MINIM, in ichthyology, a name given by the Engliſh to the ſmall fiſh, called by authors the phoxinus. According to the new Artedian ſyſtem, this is a ſpecies of the cyprinus. See the articles CYPRINUS, and PHOXINUS.

MINT (*Cycl.*)—All the ſorts of *Mint* of which we have ſeveral propagated in gardens for medicinal uſe, are to be propagated by parting the roots in ſpring, or planting cuttings in any of the ſummer months, but they muſt have a moiſt ſoil; and if the weather proves dry, they will require very frequent waterings, after they are firſt planted. They ſhould be planted in beds of four foot width, with walks two foot wide between them, and ſhould be ſet at five inches diſtance. And they ſpread ſo faſt at the roots that the beds ſhould never ſtand above three years before they are taken up and tranſplanted; for the roots after this time will mat and clog together, ſo as to choak one anotber. *Miller*'s Gardener's Dict. See the article MENTHA.

Many people are fond of *Mint* ſallad early in the ſpring; the way to propagate this, is to take up ſome roots of *Mint* before Chriſtmas, and plant them pretty cloſe upon a moderate hot bed, covering them an inch deep with freſh earth; the beds muſt then be covered either with mats, or frames and glaſſes, and in a month's time the *Mint* will come up and will ſoon be fit for uſe.

When *Mint* is cut for drying, it ſhould be done juſt when it is in flower, and muſt always be done in a dry day; for if cut in wet weather, the leaves will change black. It ſhould then be ty'd in ſmall bunches, and hung in a ſhady place upon lines.

If the ſoil be good, *Mint* will afford three crops every ſpring; but after July, they ſeldom are ſo good, ſo that the ſhoots made after that time ſhould be ſuffered to remain till the end of September, to be cut for drying. After this cutting there ſhould be about an inch of freſh earth ſifted over them, which will make them ſhoot much better the following ſpring.

No plant grows ſo vigorouſly and readily in water as *Mint*; and therefore none is ſo proper to try experiments in vegetation upon.

It is generally ſuppoſed, that plants are the ſame in their taſte and virtues in whatever ſoil they grow; and this is true in regard to all of them, while they live and flouriſh; the greateſt difference being only in degree.

But plants removed into a ſoil in which they cannot thrive, but in which they will be killed in time, are often altered in their nature, before they periſh. This is inſtanced in nothing ſo clearly as in experiments made on *Mint*, growing in glaſſes of water. Let ſeveral ſhoots of the plant grow in this manner till very vigorous and ſtrong, and then place near one of them a glaſs of water in which ſea-ſalt is diſſolved, remove one of the roots from the freſh water into this, and the plant will be killed in a few days; and its leaves, ſtalk, and every part will taſte ſtrongly of ſea-ſalt, though none could be imbibed any other way than by this ſingle root. Let another plant of *Mint* be ſet near a bottle of ink, and one of its roots put into the ink, the whole plant will in a few days become black, and after that yellow, and will taſte of the copperas.

It is leſs wonderful that theſe unnatural ſalts ſhould affect the *Mint* in this manner, than that the infuſion of another plant ſhould do it; yet this is evidently the caſe. Let a quantity of the ſeeds of wild garlic be bruiſed and put into water, and let two or three of the roots of a vigorous plant of *Mint* growing in common water be put into this liquor, the whole plant will in a few days decay, and the whole plant being

chew'd in the mouth will be found to have a very ſtrong flavour of garlic.

MINT, in medicine, is a famous ſtomachic and carminative; it is alſo eſteemed a great cephalic. There is a ſimple water, and an eſſential oil of it kept in the ſhops. The plant itſelf is taken by way of infuſion or decoction, and enters many compoſitions for the above intentions.

MINUET, or MENUET, in muſic, a compoſition anſwering to a kind of dance of the ſame name, ſaid to be invented in Poitou; the motion whereof is triple. It has commonly two ſtrains, each played twice over; the firſt has four or eight bars; the laſt note of which ſhould be either the *dominant*, or *mediant* of the mode, never the final; and the ſecond has eight bars, it uſually ends on the final of the mode, with a pointed minim or whole bar. *Broſſard.*

MINUTE *Tithes*, *Minores Decimæ*, ſmall tithes of wool, lambs, pigs, butter, cheeſe, *&c.* 2 Inſt. 649. *Blount.*

MIRALETUS, in ichthyology, a name given by Bellonius and ſome other writers, to the ſpecies of ray, commonly called by others *raja oculata*. This is accurately diſtinguiſhed by Artedi, by the name of the ray with a ſmooth back and belly, and with a row of ſpines round the eyes, and three other rows of them on the tail.

MIRROR (*Cycl.*)—*Burning*-MIRRORS. An experiment has of late been tried with a machine invented by Mr. De Buffon at Paris, conſtructed of a number of *Mirrors*, which ſeems the great ſecret of Archimedes revived, and vindicates the credit of antiquity in this point.

The machine conſiſts of 140 ſmall plane *Mirrors*, each about four inches long, and three broad; theſe are fixed at about a quarter of an inch diſtance from each other upon a large wooden frame about ſix foot ſquare, ſtrengthened with many croſs-bars of wood; for the mounting of theſe *Mirrors* each of them has three moveable ſkrews, which the operator commands from behind, and which are ſo contrived that the *Mirror* can be inclined to any angle, and in any direction that meets the ſun; and by this means the ſolar image of each *Mirror* is made to coincide with all the reſt.

They firſt tried the experiment with only 24 of the *Mirrors*, which readily ſet on fire a combuſtible matter which they had prepared of pitch and tow daubed upon a deal-board, at the diſtance of ſixty-ſix French feet. The only difficulty that was found, was the making the ſolar images exactly coincide; but this was the fault of the apparatus. Philoſ. Tranſ. N°. 483.

This trial, and ſo much ſucceſs from it, engaged the inventor to puſh the attempt much farther; he put together therefore a kind of polyhaedron conſiſting of 168 pieces of plane looking-glaſs of ſix inches ſquare each, and by means of this with the faint ray of the ſun in the month of March he ſet on fire ſome boards of beech-wood at an hundred and fifty foot diſtance; and by increaſing the number of the *Mirrors*, he is in hopes of doing the ſame at nine hundred feet off. This machine has, beſide other advantages, the convenience of being able to burn downwards or horizontally, as one pleaſes; and it burns either in its diſtant focus, or in any nearer interval, which our common burning-glaſſes cannot do, their focus being wholly fixed and determined. And perhaps this machine may afford a manner of meaſuring either light or the different degrees of heat of burning bodies. The difficulty is to find the method of marking the degrees and of fixing a point of compariſon, for the point of kindling will not determine it, becauſe that chiefly depends upon the greater or leſs degree of inflammability of different combuſtible bodies. Phil. Tranſ. N°. 483.

MIROUETTE, in the manege, is uſed for a dapple bay. See the article DAPPLE.

MISADIR, or MIXADIR, a name given by ſome authors to ſal armoniac.

MISEN, MISSON, or MIZEN, in a ſhip, denotes either the maſt, or ſail of that name; but at ſea, they always mean the ſail when the word *Miſen* is uſed.

The uſe of the *Miſen* is, to keep the ſhip cloſe to a wind: Wherefore if a ſhip is apt to gripe too much, they uſe no *Miſen*. But it is often uſed when a ſhip rides at anchor, to back her a-ſtern; ſo that ſhe may not foul her anchor, on the turning of the tide; and ſometimes a ſhip lies a-try with her *Miſen* only. See the article MAST, *Cycl.*

Set the MISEN, at ſea, the word of command to fit the *Miſen*-ſail right as it ſhould ſtand.

MISEN-*Stay*, in a ſhip. See the article STAY, *Cycl.*

MISEN-*Yard*, in a ſhip. See the article YARD, *Cycl.*

MISERERE-*Mei*, (*Cycl.*) a name by which many authors call the *Iliaca Paſſio*, or what is vulgarly termed a twiſting of the guts. Medical writers diſtinguiſh this into three kinds: 1. The convolutionary. 2. The hernioſe. And 3dly, the obſtructionary.

In the convolutionary kind, the ſituation of the inteſtines in regard to one another is altered, and very frequently has a remarkable duplicature. In the hernioſe kind, the inteſtines, diſtended with fæces and with flatulencies, are received into the ſcrotum, or ſome other part, ſo as not eaſily to be reduced into their natural places. And in the obſtructionary, there is no other cauſe but a violent coſtiveneſs.

The *Miſerere* differs from the ordinary kinds of colic, in degree, as all the ſymptoms are greatly more violent in this caſe; and in its ſituation, as the ilion and ſmall guts are affected in this, and in the other colics uſually the larger; and it is always a much more dangerous caſe than an ordinary colic.

Signs of it. Theſe are extremely ſharp and violent pains acroſs the navel, a remarkable anxiety of mind, with frequent eructations and heartburn, and great internal heat; a violent obſtruction in the bowels, in which glyſters have very little or no effect; and as the diſeaſe increaſes, a vomiting, which, as it continues, at length brings up the ſtools by the mouth, with violent pains, and frequent faintings; after this, unleſs the medicines take place, there comes on an inflammation of the ilion, and thence a ſuppuration and mortification, on which the pains inſtantly go off, and the patient falls into cold ſweats, and dies in a very little time after. It is a very rare caſe, and though many colics are called by this name, yet in reality it is rarely met with. People, however, of all ages and ſexes, are equally ſubject to it from the following cauſes.

Cauſes of it. Theſe are either a convolution of the inteſtines, with an immediate inflammation, or a tumour in the parts of the inteſtine contained in the hernial ſack, and the uſe of violent and powerful aſtringent medicines bringing on ſuch a coſtiveneſs as never happens naturally. Violent commotions of the body in leaping, riding, or running, have been known ſometimes to bring on the diſeaſe, as alſo violent ſneezing and coughing, and the carrying of too great weights; as alſo crude foods, and ſuch as have been indurated by ſmoak, and flatulent and fermenting liquors. Sometimes alſo it has been evidently owing to worms killed in the bowels, and not voided by ſtool.

Prognoſtics in it. This is a very terrible diſeaſe, both in regard to the danger that attends it, and to the pain. In caſes where its origin is from a diſtortion and convolution of the inteſtines, there is very little hope of recovery; and when it ariſes from a hernia, it is very often fatal alſo, eſpecially when attended with an inflammation and plethora. Its mildeſt ſtate is when it ariſes only from indurated ſtools, and an obſtinate coſtiveneſs; this is uſually cured, if proper aſſiſtance be given in time.

Method of Cure. When a convolution of the inteſtines is the cauſe, the whole effort is to be uſed to explicate them; but this is a thing more eaſily conceiv'd in the mind than effected; to this purpoſe ſome recommend the ſwallowing of a muſket-bullet, others a globule of antimony, and others a pound of quickſilver, taking before-hand a ſpoonful or two of oil of ſweet almonds, and ordering motion by walking or riding afterwards; others adviſe the introducing the noſe of a pair of bellows into the orifice of the rectum, and blowing up into the inteſtines; but as that gut is uſually ſo conſtricted in this caſe, as ſcarce to admit the pipe of a clyſter apparatus, there is no great hope of ſucceeding in the other attempt; and others finally adviſe the throwing in the fume of tobacco. The diſcuſſion of the inflammation is ſcarce leſs neceſſary than the other; this is to be done by powders of nitre, cinnabar, and crabs eyes, taken four times a day, and by rubbing the abdomen with camphorated ſpirit of wine, in which ſaffron has been infuſed; bags of carminative ingredients, with camphor, may alſo be applied to the abdomen with good effect: And finally, if there be a plethoric habit, bleeding is a very neceſſary operation.

In caſes where this is occaſioned by a hernia, the firſt thing to be done is the reducing the inteſtine into its proper place. To this purpoſe the patient muſt lie upon his back, and emollient and carminative fomentations muſt be applied to the part, made of decoctions of marſhmallows, camomile flowers, and the ſeeds of aniſe fennel, and fœnugreek, boiled in milk; and, when there is no inflammation, fomentations of this kind may be applied in the manner of cataplaſms, by wetting a ſponge with them, and applying it to the part. An inflammation is carefully to be guarded againſt, by nitrous medicines, and by gentle diaphoretics, and as ſoon as the gut is replaced, clyſters muſt be given to bring on again a laxity of the bowels.

When the caſe only ariſes from an induration of the fæces, there are firſt to be given internally nitrous and cinnabarine medicines, to prevent or take off an inflammation, and at the ſame time clyſters are to be given, with the emollient decoctions, and a little nitre and camphor, with ſome oil; and if it be neceſſary for a yet farther ſtimulus, ſome venice ſoap may be added; acrid ſuppoſitories are to be introduced into the rectum, and the ſoap plaſter to be applied to the abdomen, or elſe ſpirit of wine camphorated is to be rubbed in; bags with carminative ingredients may alſo be applied warm, and where the ſtate is plethoric, bleeding is neceſſary.

Theſe are the general methods, and uſually one or other of them takes effect in the milder caſes. But it is to be obſerved, that honey, though ordered by ſome, is never to be put into theſe clyſters, for where there is an inflammation, it promotes ſuppuration. Clyſters of common warm water, with ſalt, have ſometimes been found to have very great effect. The patient is to be kept warm during the courſe of the diſeaſe, and the diet is to be very ſparing, though the drinking warm liquors is to be indulged. *Junker*, Conſpect. Med. p. 574. ſeq.

MISERICORDIA *in Cibis & Potu*, in our old writers, is uſed for any gratuitous portion of meat and drink, given to the religious in convents beyond their ordinary allowance. *Matt. Paris.* And in ſome convents they had a ſtated allowance of theſe over-commons upon extraordinary days, which were called *Miſericordiæ Regulares.* Mon. Angl. T. 1. p. 149.

MISGUM, in zoology, the name of a fiſh of the anguilliform kind, but broader and flatter than the eel, and of much the ſame ſize from the head to the tail. It has five black lines, one on the back, two which are ſomewhat broader, in the middle of the ſides, and two others which are narrower lower down; theſe are all extended from the head to the tail. The intermediate ſpaces, and the belly, are of a ſomewhat bluiſh white, dotted with black ſpots. The fins are alſo ſpotted in the ſame manner. The mouth is ſmall and round, like that of the lamprey, and is ſurrounded with beards, ſix on the upper jaw, and four on the under. And there are two other very ſlender ones near the noſtrils. The eyes are ſmall; the gills four on a ſide; and beſide the back fin there are four, two near the gills, and two lower on the body. This is a common fiſh about the German ſhores, and is eſteemed a very delicate one at the table. It lays its ſpawn in March, and is in beſt ſeaſon for eating in January and February. It is caught principally in ſtanding and muddy waters; and it is ſaid, that when out of water, it makes a ſort of hiſſing noiſe. *Willughby*, Hiſt. Piſc. p. 119.

MISLETOE (*Cycl.*)—It has been formerly ſuppoſed that the *Miſletoe* was produced as a ſort of excreſcence from the tree it is found on; but time and experiments have ſhewn, that it is raiſed like other plants from ſeeds. Its berries are of a viſcous nature, and ſticking to the beaks of the birds that eat them, they may be rubbed off againſt the branches of other trees, and there take root and grow, but this is not neceſſary for their propagation, for the great numbers of plants of it uſually found on the ſame trees, ſeem to prove very plainly, that it is produced by the falling of its ſeeds, like all other plants, but that the matrix for theſe is not earth, but the branches of a living tree.

The trees on which *Miſletoe* is principally found, are the apple, the aſh, and other ſmooth-rind'd ones. It is very rarely found upon the oak; and though it may eaſily be propagated by its ſeeds on other trees, yet it has not been found to take readily upon the oak. *Miller*, Gardener's Dict.

Ariſtotle thought that *Miſletoe* was not a plant produced from ſeeds, but a mere excreſcence of the trees on which it was found, produced either by an extravaſation of the nutritive juices of the tree, or by a tranſpiration of it; and many authors who have written of it, have been of the ſame opinion. But Theophraſtus and Pliny were of opinion that it ow'd its origin to ſeeds, but that they muſt neceſſarily paſs through the bowels of a bird before they were in a condition to grow.

The ſeeds of *Miſletoe* are ſo ſoft, that one would imagine they would be digeſted by the ſtomach of a bird. Bonone, however, has obſerved, that they are voided entire; but there is no neceſſity of ſuppoſing their paſſing this ſtate, in order to their germinating. Malpighi has very perfectly deſcribed the ſeeds of *Miſletoe*; he ſays, that it germinates by puſhing out two horns from two of its angles; and Camerarius has made the very ſame obſervation. But the firſt account we have of *Miſletoe*'s being regularly raiſed by planting the ſeeds, is from Mr. Ray, who mentions its having been done by Mr. Doody.

The fruit of the *Miſletoe* are roundiſh ſoft berries, faſtened by a ſhort pedicle to the bottom of a fleſhy cup. That part of the berry which ſtands oppoſite to this pedicle, is ſomewhat flatted, and there may be ſeen there a ſmall ſhining brown body of an oval figure, which is that part of the piſtillum called by Linnæus, the *ſtigma*; and round about this ſtigma there are four longiſh marks, which ſhew the places where the leaves of the flower have been faſtened. The ſkin of the fruit, when ripe, is very ſmooth, tranſparent, and tough, and on examining it by the microſcope, it is ſeen very full of veſſels produced from the pedicle, and making frequent anaſtomoſes with one another. Within this is the ſeed wrapped up in a viſcous matter, and of a flatted ſhape, and greeniſh colour; they are beſt ſeparated from this viſcous matter by ſteeping in warm water, and are uſually found to be triangular, ſometimes oval.

When a berry of *Miſletoe* is cruſhed and broken againſt the bark of a tree, the viſcous matter which ſurrounds the ſeed ſoon dries away into a thick and tough ſkin, which ſurrounds the ſeed, and keeps it faſt down to the bark; but the rains frequently waſh theſe off afterwards, eſpecially when they have fallen upon the ſmoother part of the bark, or upon ſuch parts of a tree as are clean and free from moſs. And hence it is, that moſt of the *Miſletoe* we find, is either found upon the under part of the branch of a tree from whence the rain could not ſo eaſily diſlodge it, or on ſuch as have a rough bark, or are in part covered with the common tree-moſſes.

Mr. Du Hamel determined to inveſtigate the nature of this odd plant, put ſeveral of the ſeeds of it into ſmall ſlits, which he cut in the barks of different trees, by that means to defend them from being waſhed away by rains, and theſe all ſucceeded well and ſhot, except thoſe he planted on the fig, on which he made ſeveral unſucceſsful attempts; the miſchief done to the ſeeds by the milky juice of this tree, was probably the cauſe of this. It is no wonder that *Miſletoe* grows equally on all ſorts of trees, ſince there requires no more to make it grow than the effect of the rains and night dews; and this author found the ſeeds ſhooting on earthen pots and ſtones, which he kept ſhaded from the heat of the ſun; and from parallel experiments it ſhould ſeem alſo, that the tranſpiration of trees helps greatly the germination of theſe ſeeds.

The ſeeds of *Miſletoe* ſown, if we may ſo call it, on the bark of trees in February, begin to ſhoot in June, and at that time there are ſeen two little round bodies iſſuing out at the two angles of the triangular ſeeds; but as theſe ſeeds are ſubject to ſome irregularities in their figure, ſo they alſo are in their germination, for from the oval ſeeds there is only one ſhoot, and from thoſe which are irregularly angular, there are ſometimes four or five.

Each of theſe round bodies is faſtened to a pedicle, which has its inſertion in the fleſhy part of the ſeed, in which there are a ſort of grooves, which make it ſeem as if theſe pedicles came out of a ſort of caſe.

This ſort of germination is peculiar to *Miſletoe*, no other ſeed ſhooting out ſo many radicles. Theſe alſo are often found of very different lengths, tho' coming from the ſame ſeed, nor do they all appear at the ſame time, but ſeem to vegetate differently and diſtinctly.

The length of theſe radicles is in a great meaſure owing to the poſition of the ſeed on the branch of the tree, for they always grow in length till they reach the bark; ſo that if the ſeed be ſo placed that the germ iſſues out cloſe to the tree, it is proportionably ſhort; but if it happens to proceed from the upper part of the ſeed, it bends and grows in length till it reaches the bark to which it is to be fixed.

Mr. Du Hamel, willing to try how far this elongation of the radicle might be carried, placed two ſeeds of *Miſletoe*, which had already germinated, upon a ſmall ſupport, raiſing them from the branch of the tree. In the one of theſe the radicle was turned toward the branch, tho' at an unnatural diſtance, in the other it was directed a contrary way. The conſequence was, that the firſt grew to twice its natural length, and then the blackneſs of the round body at the end ſhewed it began to decay; after which it grew no more; the other turned its germ back to the ſupport, and fixing there, periſhed for want of nouriſhment. Another time, making a hole in the branch of a nut-tree, juſt when the radicle of a *Miſletoe* ſeed was ſtriking, he cauſed the radicle to grow to twice its natural length, and it finally reached the bottom of the hole, and ſtuck there, and produced a vigorous plant. It is to be obſerved alſo, in regard to the germination of theſe ſeeds, that they are the only ones in which the radicle takes indifferently any direction, in all other ſeeds it points ever downwards only.

The ſeeds of *Miſletoe* will ſhoot equally well on the upper and under ſides of a branch of a tree, and thoſe on the upper will bend their radicles downward, while thoſe on the under will ſtrike theirs directly upward with the ſame eaſe.

The radicles of *Miſletoe* are, as has been already obſerved, compoſed of a little round body, ſuſtained by a pedicle. When this pedicle has grown to ſuch a length that the round body touches the bark, it opens before into the ſhape of the trunks of flies, and other inſects, and by this means touching cloſely at all its edges, it becomes faſten'd extremely firm to the tree. From this reſemblance in ſhape to the trunks of ſmall animals, Dr. Du Hamel calls theſe radicles the trunks of the ſeed of *Miſletoe*. The ends of theſe trunks of the radicles are alſo faſtened to the bark of the tree by a viſcous matter, which, when the trunk is gently raiſed, draws out into ſtrings on all ſides to ſome length.

In the inner part of this trunk, or open button, there are two ſubſtances to be diſtinguiſhed; in the center there is a white granulated matter, and round that a greeniſh one; both theſe are juicy, but the outer leſs ſo than the central white part; the outer one is plainly the ſame with the outer rind of the root of the *Miſletoe*, or the ſecond bark of its trunk. Theſe both very quickly adhere to the tree, ſtriking their ſeveral granulæ into it, and theſe furniſh afterwards the roots of the *Miſletoe*.

The outer bark of *Miſletoe* is thin, of a deep green, and ſomewhat rough; it is ſtronger than that which it covers; and this is not extended to the roots of the plant, but ſpreads over the bark of the tree at the bottom of the ſtalk, juſt as the feet of the corals and other ſea plants do over ſtones. The viſcous matter, by which the trunk adheres to the tree, is furniſhed from all parts of the radicle, but principally from its outer bark, and is not at all owing to the juices of the tree, ſince it is found as abundantly on thoſe radicles which have been made to adhere to ſtones, as on thoſe which have been on trees. A little time fixes theſe trunks very firmly; but it is obſervable, that though the outer bark or edge of theſe open balls adheres equally all round to the bark of the tree, the granulæ of the inner ſubſtance always direct themſelves to and inſinuate in the little clefts or cracks of the rind of the tree. While the ſeeds of *Miſletoe* are in this ſtate, they may be tranſplanted to other places, and ſet on other trees, and ſeldom fail to thrive.

Seeds of this plant may be made to ſhoot on ſtones, and will fix their trunks to them, but here they naturally ſoon periſh; they may however be removed from theſe ſtones to the