Hippocrates has written expreſsly on the ſeven months *birth* [a], περὶ ἑπταμήνου, in two books, the firſt of which, as now extant, is held ſpurious. The ſecond is commented on by Galen. περὶ ἑπταμήνων βρέφων. [b].—[[a] Vid. *Fabric.* Bibl Græc. l. 2. c. 24. T. 1. p. 851, and 853. [b] *Fabric.* ibid. l. 4. c. 17. T. 3. p. 532.

*Expoſition of* BIRTH, among the antients, was where a new-born infant is expoſed or caſt-away, and left to the mercy of the firſt-comer, who may either take and bring it up, or ſuffer it to periſh. See EXPOSING *of children.*

Ger. Nodt has a treatiſe expreſs on the ſubject. *Julius Paulus*, ſive de partu expoſitione & nece apud veteres, Lugd. Bat. 1710, 4to.

*Suppoſition of* BIRTH, *partus ſuppoſitio*, in the civil law, is a crime, for which accuſation may be intented by thoſe who have intereſt therein, and is puniſhed with death, like the *crimen falſi*, or forgery. Trev. Dict. Univ. T. 4. p. 2070.

*Suppreſſion of* BIRTH, *partus ſuppreſſio*, is the crime of a woman, who endeavours, by medicines, to deſtroy or hinder the *birth* of a child; or, after its being born, hides, expoſes, or even ſtrangles it.

BIRTH-*day*, the anniverſary return of the day whereon a perſon was born.

This anſwers to what the antients called γενεθλιον, *genethlion*, *natalis dies*, *natalitius dies*, *natalitia*, and, in the middle age, *genetalius*.

The antients placed a good deal of religion in the celebration of *birth-days*, and took omens from thence of the felicity of the coming year. We meet with *birth days* of the gods, emperors, great men, poets, and even private perſons. What is more, the *birth-days* of cities, as Rome and Conſtantinople, were celebrated with great pomp by the inhabitants [a]. Virgil's *birth day* was held very ſtrictly by the wits and poets who ſucceeded him. Pliny aſſures us, that Silius did it with more ſolemnity than he did his own [b].—[[a] *Struv.* Ant. Rom. c. 9. p. 450, ſeq. *Pitiſc.* Lex. Ant. T. 2. p. 249, ſeq. voc. *natalis*. [b] *Plin.* Epiſt. l. 3. ep. 7. *Fabric.* Bibl. Lat. l. 1. c. 12. T. 1. p. 271.]

The manner of celebrating *birth-days* was by a ſplendid dreſs; wearing a ſort of rings peculiar to that day; offering ſacrifices, the men to their genius, of wine, frankincenſe; the women to Juno; giving ſuppers, and treating their friends and clients; who, in return, made them preſents, wrote and ſung their panegyrics, and offered vows and good wiſhes for the frequent happy returns of the ſame day. *Struv.* Ant. Rom. c. 1. p. 91 & 113, ſeq. It. c. 9. p. 450, ſeq. *Pitiſc.* Lex. Ant. T. 2. p. 249, ſeq. *Calv.* Lex. Jur. p. 605. voc. *natales*. *Fabric.* Bibl. Lat l. 2. c. 22. T. 1. p. 615.

The *birth-days* of emperors were alſo celebrated with public ſports, feaſts, vows, and medals ſtruck on the occaſion. *Du Cange*, Diſſ. de Infer. Ævi Numiſ. p. 31. *Struv.* Ant. Rom. c. 9. p 442.

But the antients, it is to be obſerved, had other ſorts of *birth-days* beſides the days on which they were born. The day of their adoption was always reputed as a *birth-day*, and celebrated accordingly.

The emperor Adrian, we are told, obſerved three *birth-days*; *viz.* the day of his nativity, of his adoption, and his inauguration. *Goldaſt.* Not. ad Hadrian. Reſp. & Reſcr. ap. *Fabric.* Bibl. Græc. l. 6. c. 6. T. 12. p. 541.

In thoſe times it was held, that men were not born only on thoſe days when they firſt came into the world, but on thoſe alſo when they arrived at the chief honours and command in the commonwealth, *e. gr.* the conſulate. Hence that of Cicero in his oration *ad quirites*, after his return from exile: *A parentibus id quod neceſſe erat, parvus ſum procreatus, a vobis natus ſum conſularis.*

Add, that thoſe who returned from baniſhment, were alſo conſidered as being born again, *renaſci*, and ever after called the day of their return their *birth-day*. Thus Cicero to Atticus; *Diemque natalem reditus mei cura, ut in tuis ædibus amæniſſimis agam tecum, & cum meis. Turneb.* adverſ. l. 3. c. 4. *Calv.* Lex. Jur. p. 605. in voc. *naſci.*

Cenſorinus has a treatiſe *de die natali*, addreſſed to Q. Cerellius, as a compliment on his *birth-day*. Vid. *Fabric.* Bibl. Lat. l. 3. c. 4. T. 2. p. 45.

BIRTH-*days of the ſaints and martyrs*, *natales ſanctorum*, denote the days of their deaths. *Du Cange*, Gloſſ. Lat. T. 3. in voc. *natales*.

In reality, *natalis* among the antients was not reſtrained to *birth-days*, but extended to all feaſt-days.

Hence it is we meet with *natalis ſolis*, *natalis calicis*, *natalis eccleſiæ*, *natalis reliquiarum*, &c. Trev. Dict. Univ. T. 4. p. 32. in voc.

BIRTH-*ſin*, the ſame with original ſin. *Benn.* Meth. Stud. 39 Art. p. 67. See ORIGINAL *ſin*, *Cycl.*

BIRTH *wort*, in botany, the Engliſh name of the plant *ariſtolochia*. See ARISTOLOCHIA.

BIS, in botany, a name given by ſome old writers to the *napellus*, or monks-hood; and by others to the *cicuta*, or hemlock. See NAPELLUS and CICUTA.

There is, however, another ſenſe of the word, very different from both theſe, in which it is uſed to expreſs an eſculent plant. The phraſe *bis alnil* is frequent among the Arabian writers; and as *alnil* ſignifies only of the river Nile, the whole name ſhould ſeem to expreſs the character of ſome poiſonous plant growing in the Nile. This, however, is by no means the ſenſe in which it is received; for we are told, that *bis alnil* ſignifies a bulbous root of a ſweet taſte, growing on the mountains about Damaſcus, and in other parts of Syria, and eaten in the ſpring by the people of the country thereabouts. It is certain, that this interpretation agrees very well with the ſenſe in which all the Arabians have mentioned this plant; though it is difficult to underſtand why they ſhould give the name of a poiſon to an eſculent root, or the name of the river Nile to a plant growing on the mountains of Syria. See BULBUS.

BIS *annual*, a name given by botaniſts to thoſe plants, which ordinarily do not flower till the ſecond year. Dict. Ruſt. in voc. *bloſſom*.

BISA, or BIZA, a coin in Pegu, current there for half a ducat. The denomination is alſo given to a kind of weight uſed in the ſame country, equivalent to two Venetian pounds five ounces, or to three pounds nine ounces of the ſmaller weight of that city. *Savar.* Dict. Comm. T. 1. p. 350.

BISACUTA, in middle-age writers, an ax with two edges, or which cuts either way [a]; or a miſſive weapon, pointed at both ends [a].—[[a] *Du Cange*, Gloſſ. Lat. T. 1. p. 562. [b] *Aquin.* Lex. Milit. T. 1. p. 130.]

We meet with *ſecuris biſacuta*, πελεκυς δισομος, or δισομος αξινη. Walſingham repreſents the *ſecuris biſacuta* as peculiar to the Scottiſh nation. See BATTLE-*ax*.

BISARCA, in botany, a name uſed by ſome authors for the herb *tarragon*. *Ger.* Emac. Ind. 2.

BISBÆA, βισβαια, a feaſt celebrated by the Meſſapii, after the pruning of their vines, to obtain of the gods that they might grow again the better. *Meurſ.* Græc. Ferial. *Faſold.* de Feſt. Græc. l. 12. c. 9. *Schott.* Lex Ant. p. 221.

The word is formed from βισβη, uſed by ſome for a vine.

BISCAIAN *language* denotes the Cantabrian, or antient language of Spain, being a branch of the Celtic, which firſt gave way to the Romanſe. *Greenw.* Engl Gram. in Pref. p. 12, ſeq.

BISCIA, in zoology, a name by which ſome have called the *acus*, or, as we call it in Engliſh, the tobaccopipe-fiſh, the needle-fiſh, or trumpet-fiſh. *Willughby*, Hiſt. Piſc. p. 159. See the article ACUS.

BISCUTELLA, in botany, a name given by Linnæus to a genus of plants, called by Tournefort and others *thlaſpidium*. *Linnæi*, Gen. Plant. p. 314. See THLASPIDIUM.

BISELLIARII, or BISELLIARI, in antiquity, thoſe who enjoyed the honour or privilege of the *biſellium*. *Piteſc.* Lex. Ant. T. 1. p. 280. See BISELLIUM.

The word occurs in antient inſcription, CN. PLAETORIO VIRO AUGUSTALI BISELLIARIO. *Grut.* Corp. Inſcrip. p. 1099. n. 2.

The *honor biſellii* appears to have been much the ſame with what in France is called *droit de fauteuil*; and the *biſelliarii* thoſe who, in public aſſemblies, enjoy this diſtinction of the *fauteuil*, while other perſons are obliged to ſtand, or ſit on benches, ſtools, or ordinary chairs [a]. Scaliger, in his index to Gruter, miſtook the *biſelliarii* for artificers who made theſe ſeats [b].—[[a] Trev. Dict. Univ. T. 1. p. 1050. [b] *Varr.* de Ling. Lat. l. 4. *Pitiſc.* Lex. Antiq. T. 1. p. 280, ſeq.]

BISELLIUM, in antiquity, a kind of ſeat or chair, larger and richer than ordinary, big enough to hold two perſons, wherein to ſit in courts, theatres, and other public aſſemblies. *Grut.* Corp. Inſc. p. 475. n. 3.

Hence ſome will have the *honor biſellii*, in an antient inſcription in Gruter, to be underſtood of the *cella curulis*, or curule chair; but others, with more probability, of a privilege granted by authority to well-deſerving perſons of ſeeing the public ſhews at theatres and amphitheatres in a chair more ſplendid than thoſe of the reſt of the company [a]. Some ſuppoſe the magnitude and capacity of the *biſellium* to have been ſymbolical, and to have imported, that ſuch perſons were worth two, or equivalent to two others [b].—[[a] *Du Cange*, Gloſſ. Lat. T. 1. p. 563. [b] *Chimentel.* de Honor. Biſellii, c. 35, 36. *Schott.* Lex. Ant. p. 221.

BISERULA, in botany, the name of a genus of plants, including the *pelecinus* of Tournefort, and the *utrinque ſerrata* of Rivinus. The characters are theſe: the perianthium is compoſed of one leaf of a tubulated form, and lightly divided into five ſegments at the edge; theſe ſegments are pointed, and equal; and the two upper ones ſtand diſtant: the flower is of the papilionaceous kind: the vexillum is large, bent back at the ſides, roundiſh, and aſcending upwards: the alæ are of an oblong oval figure; they ſtand free, and are ſmaller than the vexillum: the carina is of the length of the alæ, and is obtuſe, and aſcends upwards: the ſtamina are diadelphous filaments, included in the carina: the antheræ are ſmall: the germen of the piſtil is oblong, and compreſſed: the ſtyle is pointed, and placed upwards: the ſtigma is ſimple: the fruit is a large, ſlender, flat, and bilocular pod, the partition which divides its cavity into two parts, running contrary-wiſe to the valves: the ſeeds are numerous, compreſſed, and kidney-ſhaped. *Linnæi*, Gen. Plant. p. 359. *Tourn.* Inſt. p. 234. *Rivin.* c. 4. p. 122.

BISETÆ, in natural history, a term used to express a genus of flies of the class of the *seticaudæ*, distinguished from the others by their having two hairs or bristles growing out at the tail. There are many species of this genus, and they are usually divided by authors into two principal kinds; such as have sharp ends, and such as have blunt ones. Of the former kind there are two species, which have silvery wings, four to each fly, ornamented with black spots, the shoulders blackish, the rest of the body of a dun colour, with transverse lines of black: the antennæ are slender, and black; and the hairs at the tail very long. These differ from one another only in size; and, besides these, our hedges afford us several other kinds of the sharp-ended *bisetæ*.

Among the blunt-ended, there is one of a yellowish colour, else much resembling the *henothrix*. Of the two bristles at the tail in this species, the one is extended to its full length, the other curled up in a spiral form. There are several other species of this kind also found frequently in our hedges. See HENOTHRIX.

BISHOP (*Cycl.*)—By the antient discipline, *bishops* were to be married once [a], and not to put away their wives on pretence of religion; but a second marriage was a disqualification for this order. If they lived chaste, they were ranked as confessors [b].—[ [a] Can. Apost. 5. *Suic.* Thes. Eccles. T. 1. p. 725. voc. γαμος. [b] *Johns.* Eccles. Law, an. 740. §. 28. It. an. 957. §. 7.]

Hence, in writers of the middle age, we meet with the term *episcopa*, or *bishopess*, the *bishop's* wife, or the wife of one afterwards consecrated, and made a bishop. By an antient canon of the council of Tours, a *bishop*, who had no *bishopess*, was forbid to have any crowd of women in his retinue: *episcopum episcopam non habentem, nulla sequatur turba mulierum.* Vid. *Baron.* an. 34. n. 289. *Du Cange*, Gloss. Lat. T. 11. p. 254.

*Bishops* are called in antient writers by several other titles and denominations, as *apostles*, *angels*, *princes* of the church, *pontifices*, *pontifices maximi*, *summi sacerdotes*, or high-priests, *flamines*, *domini*, *beatissimi*, *sanctissimi*, θεωροι, προεδροι, προεσωτες, εφοροι, *God's beadles*, &c. Vid. *Bingh.* Orig. Eccles. l. 2. c. 2. §. 1, seq. It. l. 2. c. 9. §. 6. *Du Cange*, Gloss. Lat. T. 1. p. 191. voc. *angelus*. It. T. 2. p. 459. voc. *flamines*, & p. 160. voc. *domini*. It. T. 4. p. 346. voc. *pontifex*. *Bos.* Exerc. de Pontif. Max. c. 1. §. 4. *Suic.* Thes. Eccles. T. 1. p. 1293. voc. εφορος. It p. 1314. voc. ηγεμων. It. p. 1397. voc. θεωρος. It. p. 1444. voc ιεροσλεστης.

Some *bishops*, in the middle age, on account of their *regalia*, or temporalities, were obliged to a military service called *hostis*, by which they were to lead their vassals into the field, and attend the king in his military expeditions. This Charlemaign excused, and even forbid: but the prohibition was little regarded; since we find the thing often practised afterwards. On the *bishop*'s refusal, his temporalities were seized, or mulcts imposed. Some, by a peculiar privilege, were only obliged to attend the army when the king himself was there; as the *bishop* of Orleans: others were intirely exempted from going in person, and only obliged to send their vassals. *Du Cange*, Gloss. Lat. T. 2. p. 791. voc. *hostes*. & p. 792—798.

Among the French *bishops*, there are three who are dukes and peers, and three counts and peers, by their office: the *archbishop* of Rheims is the first duke and peer; the *bishop* of Langres the second; the *bishop* of Laon the third: the *bishop* of Beauvais is the first count and peer; the *bishop* of Noyon the second; and the *bishop* of Chalons the third. Trev. Dict. Univ. T. 2. p. 1525. voc. *eveſque*.

The election of *bishops* was antiently placed in the clergy, and the people of the parish, province, or diocese; but afterwards, princes and magistrates, patriarchs and popes, usurped the power [c]. The election was to be within three months after the vacancy of the see; and the person to be chosen out of the clergy of that church [d]. Formerly the *bishop* claimed a share in the election of an *archbishop*; but this was set aside by the popes [d].—[ [c] Vid. *Suic.* Thess. Eccles. T. 1. voc. επισκοπος, p. 1181. It. voc. επικηρυτω, p. 1167. *Bingh.* l. 17. c. 5. §. 3. It. l. 4. c. 2. §. 4. *Johns.* an. 692. per tot. [d] *Bingh.* l. 2. c. 10. §. 2. It. c. 11. §. 1. [e] *Johns.* an. 1126. Pref. It. an. 1222. Pref.]

In England, till the time of Henry VIII. *bishops* were elected by the chapters of monks or canons, some shadow of which still remains in the present method of disposing of bishopricks. *Johns.* Eccles. Law, an. 742. in Pref.

Ordinarily, at least three *bishops* are required in the ceremony of consecrating a *bishop* [f]; but, in some cases, a single one might suffice [g]. The English succession of protestant *bishops* stands on this last footing.—[ [f] *Bingh.* l. 2. c. 11. §. 4. [g] *Johns.* an. 601. §. 6.]

The age of a *bishop* is to be at least thirty years; and, by the antient discipline, none were to be chosen but those who had passed through all the inferior orders [h]; but, in some cases of necessity, this was dispensed with, and deacons, nay laymen, were raised *per saltum* to the episcopal dignity [i].—[ [h] *Suic.* Thes. Eccles. T. 1. voc. επισκοπος, p. 1183. *Bingh.* Orig. Eccles. l. 2. c. 10. [i] *Suic.* loc. cit. p. 1184. *Bingh.* loc. cit. §. 4.]

BISHOP *abbot*, *episcopus abbas*, was an abbot invested with the episcopal order; of which we meet with several in the richer and more considerable monasteries. See ABBOT, *Cycl.*

BISHOP *monk*, *episcopus monachus*, was a religious invested with the episcopal order, but still residing in a monastery, whether out of choice, or for want of another habitation. *Johns.* Eccles. Law, an. 673. §. 4. See MONK, *Cycl.*

Some take these *bishop monks* for a fiction, and to have arisen from a corruption of the text of a canon, where *episcopi monachi* crept in by the copyist's inadvertency, instead of *ipsi monachi*. The emendation may be just; but cannot disprove the existence of *bishop monks*. *Johns.* Eccles. Law, an. 693. §. 6.

BISHOPS *of villages*, *chorepiscopi*. See CHOREPISCOPUS, *Cycl.*

When, on account of the episcopal dignity, it was prohibited to appoint any *bishops* in villages or little towns, yet, in some cases, this had been found necessary, it was ordered, that they should not longer be denominated *bishops*, but *periodeutæ*. Concil. Laod. c. 57. *Suic.* Thes. Eccles. T. 2. p. 676. voc. περιοδευτης.

BISHOP is also a title sometimes given in the antient church to deacons. *Suic.* Thes. Eccles. T. 1. p. 870. voc. διακονος. See DEACON, *Cycl.*

*Cardinal* BISHOP, *episcopus cardinalis*, a *bishop* in chief, or *in capite*. *Du Cange*, Gloss. Lat. See the article CARDINAL, *Cycl.* and *Suppl.*

St. Gregory sometimes uses the term for a proper *bishop*. Antiently there were also *bishops*, who, by a peculiar privilege from the holy see, were ranked, and had a seat among the cardinals.

*Cathedral* BISHOP was also a title given the proper *bishops*, by way of distinction from the *chorepiscopi*. See CATHEDRAL, *Cycl.*

*Vague* BISHOPS, *episcopi vagantes*, those without any diocese, sometimes attendant in camps, or in foreign countries, for the conversion of infidels.

The like *vague bishops* were sometimes also granted by popes to monasteries, exempt from the jurisdiction of the diocesan, where they performed all the episcopal functions. They were chosen by the abbot from among his monks; but consecrated by the neighbouring *bishops*, and served on occasion to consecrate new abbots. Thus it was a *bishop* was granted by pope Stephen I. to the monastery of St. Dennis, and another by Urban II. to St. Martins at Tours. *Du Cange*, Gloss. Lat. T. 2. p. 256, seq.

BISHOP *in partibus infidelium*, he who is dignified with the title of a bishoprick, whose district or diocese is in the possession of infidels or heretics.

By the canon law, a *bishop in partibus* is qualified hereby to be a coadjutor of another *bishop*. See COADJUTOR, *Cycl.*

The denomination took its rise from the expulsion of the *bishops* and clergy out of the Holy-land by the Saracens; when flying into Italy for shelter, coadjutories were given them for their subsistence. *Du Cange*, ibid. T. 2. p. 256.

*Acephalous* BISHOP, he who is immediately subject to the papal see, without any metropolitan over him.

BISHOP *elect* is he who has the king's nomination, with the sanction of the chapter; but without consecration.

BISHOP *designed*, *episcopus designatus*, denoted a coadjutor of a *bishop*, who, in virtue of his office, is to succeed at the incumbent's death. *Calv.* Lex. Jurid. p. 278. voc. *designatus*. See COADJUTOR, *Cycl.*

*Suffragan* BISHOPS are coadjutors or assistants of diocesan *bishops*, authorized by commission from him.

*Exempt* BISHOPS, those freed from the jurisdiction of the metropolitan, and immediately subject to the see of Rome alone: See SUFFRAGAN, *Cycl.*

BISHOP *of the palace*, *episcopus palatii*, was probably the same with *bishop* of the king's chapel, a title in the court of Bohemia. *Du Cange*, Gloss. Lat. T. 2. p. 255, seq.

It was also a title given those *bishops*, who, by licence of the pope, dwelt in palaces of kings, to be in readiness for spiritual service, and counsel in church-matters.

Such court *bishops* the kings of Hungary and Croatia appear to have had; sometimes also called *royal bishops*, *episcopi regales*.

BISHOP *of the prime see*, *episcopus primæ sedis*, denoted a primate, otherwise denominated a *senior bishop*, *senex episcopus*. *Du Cange*, Gloss. Lat. T. 4. p. 806. voc. *senex*. See PRIMATE, *Cycl.*

*Commendatory* BISHOPS, or *bishops in commendam*, are cardinals not of the order of *bishops*, or other prelates, who yet hold bishopricks *in commendam*. See COMMENDAM, *Cycl.*

The appellation had its origin during the residence of the papal see at Avignon, when scarce any cardinal, priest, or deacon, was created, who held not one, two, three, or more bishopricks *in commendam*. *Du Cange*, Gloss. Lat. T. 2. p. 255.

*Universal or catholic* BISHOP is a title given to the patriarch of Armenia. *Fabric.* Bibl. Græc. l. 5. c. 5. T. 6. p. 393.

BISHOP *of the catholic or universal church*, *episcopus catholicæ ecclesiæ*, a title sometimes assumed by the popes.

Cyprian has a notion, which frequently occurs, of but one bishoprick in the church, wherein every single *bishop* had his share, so as all had the same concern in the whole. He does not represent it as a monarchy in the hands of any single *bishop*; but a diffusive power, which lay in the whole college of *bishops*, every one of which had a title to feed the whole church, or drive heresy out of any part of it. *Bingh.* Orig. Eccles. l. 2. c. 5. §. 2.

In things which did not belong to the faith, they were not to meddle with other men's dioceſes; but, when the faith or welfare of the church were at ſtake, every other biſhoprick was as much their dioceſe as their own.

BISHOP *of biſhops*, *epiſcopus epiſcoporum*, was a title antiently given to the prelates of ſome of the greater and more honoured ſees, as Jeruſalem and Rome.

The firſt who had the title was James *biſhop* of Jeruſalem; which made the ſpurious author of the epiſtles under the name of Clemens Romanus, addreſs one to that *biſhop* thus: *Clemens Jacobo domino epiſcopo epiſcoporum.* Some will have the appellation to have been common to all *biſhops*. *Bingh.* Orig. Eccleſ. l. 2. c. 2. §. 8.

BISHOPS, in the Lutheran church, are thoſe more uſually called *ſuperintendents*. See SUPERINTENDENT, *Cycl.*

The Calviniſts allow of no other *biſhops* beſides preſbyters; but the Lutherans make ſome diſtinction, and give a ſuperiority or preheminence over the reſt to their *biſhops*, or ſuperintendents.

BISHOP is alſo a quality ſometimes attributed to ſecular princes, in reſpect of their ſupremacy or juriſdiction in matters belonging to religion. See SUPREMACY, *Cycl.*

In this ſenſe it is that the emperor Conſtantin, in a letter to the *biſhops* in his dominions, calls himſelf *common biſhop*, κοινὸς ἐπίσκοπος, as being, in ſome reſpects, general *biſhop* of the whole Roman world. Vid. *Euſeb.* Hiſt. Eccleſ. l. 1. c. 44. & *Eund.* de Vit. Conſtant. l. 4. c. 24. *Fabric.* Bibl. Antiq. c. 13. §. 3. p. 437.

This epiſcopate of princes has given offence to the adorers of the eccleſiaſtic hierarchy, who have made many attempts to explain it away. Some, with Pet. de Marca, will have the epiſcopate of Conſtantin to be only underſtood in reſpect of the Gentiles, who were yet out of the church: others, with Leo Allatius, maintain it only to relate to civil matters: others give other ſolutions: yet pope Leo allowed the prieſthood to kings and emperors; on which footing, we do not ſee how the epiſcopate can be denied them. Vid. *Fabric.* Lux. Evangel. p. 282.

BISHOP *of the Jews*, *epiſcopus Judæorum*, the head of that people in England, choſen by themſelves, to whom they ſubmitted to be judged, and governed according to their law. *Prideaux*, Connect. P. 2. l. 5. p. 478. not.

This officer, which ſubſiſted under our Norman kings, and was licenſed by them, anſwered to the *æchmalotarchs* in Babylonia, and the *alabarchs* in Egypt. See ÆCHMALOTARCHA and ALABARCHA.

BISHOPS *at cheſs*, a kind of pieces, the third in rank below queens, but above knights, diſtinguiſhed by their cloven heads. Vid. Compl. Gameſt. p. 125 & 128. Court Gameſt. p. 95.

In Latin writers of the middle age, the *biſhop* is called *alphinus*; by the French *le fou*, the *fool* or *madman*. *Du Cange*, Gloſſ. Lat. T. 1. p. 150. voc. *alphinus*. See CHESS, *Cycl.*

BISHOP'S *ſee*, or *ſeat*, originally denoted the throne or chair in the church where the *biſhop* ſat. Vid. *Bingh.* Orig. Eccleſ. l. 2. c. 9. §. 7.

This was alſo denominated ἁψὶς, *apſis*. *Suic.* Theſ. Eccleſ. T. 1. p. 612. voc. ἁψὶς. See APSIS, *Cycl.*

BISHOP'S ſee alſo denotes the city or place where the reſidence of the *biſhop* is fixed.

Every *biſhop*'s ſee was antiently called *ſedes apoſtolica*; though the appellation has ſince been reſtrained to the ſee of Rome. *Bingh.* Orig. Eccleſ. l. 2. c. 2. §. 3. p. 22.

Antiently *biſhops* ſeem to have had a right to ſit as judges in the hundred and county-courts [k]. In after-times, they were forbid to ſit in ſecular courts [l], and had ſeparate courts erected for them [m]; which proved an occaſion of much diſpute between the two juriſdictions [n]. No church-tenant might be ſued in any court but the *biſhop's* [o]. There are alſo traces of a ſeparate court of the *biſhops* much earlier, among our Saxon anceſtors, in the eighth century [p].—[ [k] *Johnſ.* Eccleſ. Law, an. 877. §. 16. It. an. 958. §. 7. It. an. 1008. §. 8. [l] Id. an. 1102. §. 1. [m] Id. an. 1085. [n] Id. an. 1164. Pref. [o] Id. an. 1064. §. 4. [p] Id. an. 734. §. 10.]

The regard born to the character of *biſhops*, made them the common arbitrators even of ſecular cauſes [q]: they had the cognizance of all cauſes concerning lands in frank almoign [r]; and for eccleſiaſtics, were judges even in capital cauſes [s].—[ [q] *Bingh.* l. 2. c. 7. §. 1. & §. 4. It. l. 5. c. 2. §. 1. [r] *Johnſ.* an. 1164. §. 9. [s] Id. an. 1018. §. 14.]

BISHOPRIC (*Cycl.*)—The *biſhoprics* of England have undergone many alterations, divers antient ſees being loſt, or removed to other places, and many new ones erected. *Johnſ.* Eccleſ. Law, an. 1075. Pref.

It was long a complaint, that the number of biſhops and *biſhoprics* in the iſland was too ſmall [a]. About the middle of the eighth century, there were only twelve [b]; and, in the middle of the ſeventh century, there were no more biſhops than kingdoms, except that Kent had two; and the like had the eaſt Angles and Northumbrians for ſome time [c]. On excluding the pope, king Henry VIII. had a deſign to increaſe the number of *biſhoprics*, by contracting the dioceſes, which appeared too great and vaſt to be well overlooked by a ſingle man; but the deſign miſcarried [d]. Weſtminſter indeed was erected into a *biſhopric* in 1541; but it ſubſiſted not long, being converted, in 1550, into a dean and chapter [e].—[ [a] *Johnſ.* Eccleſ. Law, an. 679. per tot. Id. an. 1023. Pref. [b] Idem, an. 679. §. 4. [c] Id. an. 673. §. 9. [d] *Bingh.* Orig. Eccleſ. l. 9. c. 8. in fine. [e] New View of Lond. T. 2. §. 2. p. 495.]

Many of the biſhops ſees were antiently fixed in obſcure villages; which ſeeming a diminution to the epiſcopal dignity, it was ordained, that, for the future, no biſhops ſhould be ordained in ſmall cities; which yet was not ſo ſtrictly kept to, but that we meet with deviations from it. *Bingh.* l. 2. c. 12. §. 1. & §. 3. It. c. 13. §. 2. See BISHOP.

Archbiſhop Lanfranc cauſed the ſees of many biſhops which till then remained in country villages, to be removed into cities. Whence a biſhop and a cathedral with us is the note of a city, excepting in that of Weſtminſter. The ſame alſo obtained in other countries. *Somn.* Antiq. of Canterb. p. 240.

Biſhops in Scotland had antiently no fixed ſees; but each exerciſed his epiſcopal office and juriſdiction indifferently, in whatever part of the kingdom he happened to reſide. King Malcolm III. founded the firſt regular *biſhopric*, which was that of Muthlac; though the *biſhopric* of St. Andrews claims an elder eſtabliſhment under king Kenneth II. *Nicolſ.* Scott. Hiſt. Libr. c. 5. p. 210.

BISK, or BISQUE, in cookery, a rich ſort of broth or ſoop, made of pidgeons, chickens, force-meat, mutton-gravy, and other ingredients. Trev. Dict. Univ. T. 1. p. 1052.

The word is French, formed, as ſome think, from *biſcocta*; by reaſon the *biſque*, conſiſting of a diverſity of ingredients, needs ſeveral repeated coctions to bring it to perfection.

There is alſo a *demi-biſque*, made at a low expence, where only half the ingredients are uſed; and a *biſque* of fiſh, made of carps, minced with their roes and lobſters.

BISKET (*Cycl.*)—To preſerve ſea-*biſket* from inſects, Mr. Hales adviſes to make the fumes of burning brimſtone paſs through the caſks full of bread. *Hales*, Philoſ. Experim.

*Biſket* may be likewiſe preſerved a long time, by keeping it in caſks well calked, and lined with tin. *Boyle*, Phil. Work. abridg. Vol. 1. p. 52.

The antients had their *biſket* prepared after the like manner, and for the like uſe, as the moderns. The Greeks called it ἄρτον δίπυρον, *q. d.* bread put twice to the fire. The Romans gave it the name of *panis nauticus*, or *capta*. Pliny denominates it *vetus aut nauticus panis tuſus atque iterum coctus* [a]. By which it appears, that, after the firſt baking, they ground or pounded it down again for a ſecond. In ſome middle-age writers, it is called *paximas*, *paximus*, and *panis paximatus* [b].—[ [a] *Plin.* Hiſt. Nat. l. 22. c. 25. [b] *Caſen.* Orig. p. 24. *Calv.* Lex. Jur. p. 612. voc. *nauticus*. *Pitiſc.* Lex. Ant. T. 1. p. 565. voc. *capta*.]

Among the Romans, we alſo meet with a kind of land-*biſket* for the camp ſervice, called *buccellatum*, ſometimes *expeditionalis annona*, which was baked much, both to make it lighter for carriage, and leſs liable to corrupt, the coction being continued till the bread was reduced one-fourth of its former weight. *Pitiſc.* Lex. Antiq. T. 1. p. 299. voc. *buccellatum*. *Calv.* Lex. Jur. p. 127.

BISLINGUA, *double-tongue*, a name uſed by many authors for the narrow-leaved *ruſcus*, or butchers broom; called by many others the Alexandrian bay, or *laurus Alexandria*. See the article RUSCUS.

BISMILLAH, in the Mahometan cuſtoms, a ſolemn form, *viz. in the name of the moſt merciful God*, conſtantly placed at the beginning of their books and writings in general, as a peculiar mark, or diſtinguiſhing characteriſtic, of their religion, it being counted an impiety to omit it.

The Jews, for the ſame purpoſe, make uſe of the form, *in the name of the Lord*, or, *in the name of the great God*; and the eaſtern Chriſtians that of, *in the name of the Father, and of the Son, and of the Holy Ghoſt*. Vid. *Sale*. Prelim. Diſc. to Koran, §. 3. p. 59.

BISMILLAH is alſo uſed among the Arabs as a word of invitation to eat.

An Arab prince will frequently ſit down to eat in the ſtreet before his own door, and call to all that paſs, even beggars, in this word, who do not fail to come and ſit down to eat with him; for the Arabs are great levellers, and ſet every body upon a footing with them. *Pocock*'s Egypt. p. 483.

BISMUTH, (*Cycl.*) in natural hiſtory, the name of a mineral ſubſtance, of the genus of the *aſphurelata*, or, as they are commonly called, the *ſemi-metals*. See ASPHURELATA.

*Biſmuth* bears a near affinity to zink. See ZINK, *Cycl.* and *Suppl.*

Its weight and colour diſcover it to be of a mercurial or metallic nature. In common menſtruums, it undergoes much the ſame alterations, and aſſumes much the ſame forms as lead [a]. Quincy ſays, there is always ſome ſilver in it [b].—[ [c] *Stahl*, Philoſ. Princip. Chem. P. 2. §. 4. p. 345. [b] *Quinc.* Diſpenſ. p. 51.]

It is hard, and leſs friable than antimony, not ductile under the hammer, and, by the action of an acid on it, lets fall a bituminous matter. *Boerh.* Elem. Chem. P. 2. p. 35. *Chauv.* p. 82.

Its ingredients ſeem to be a mineral ſalt, a groſs ſulphur, mercury, a little arſenic, and a great deal of earth. Mem. Acad. Scienc. ann. 1713. p. 55.

*Biſmuth* is ſometimes found native, but that very rarely. Its

moſt

moſt uſual appearance is in the ſtate of ore, into which it is reduced by its particles being penetrated by, and intimately mixed with, a ſulphur, and with a large quantity of arſenic, and with an earthy matter, which yields a blue colour, equal to the zaffar, or ſmalt produced from cobalt.

In the fuſion of this ore, the ſulphur and arſenic evaporate over the fire; and the reguline matter being freed from its impriſoned ſtate, runs off from the earthy ſubſtance, which being left fixed behind, may, with the addition of flints, and a fixed alkali, be run into a fine blue, glaſſy matter, no-way differing from the ſmalt of cobalt.

Native *biſmuth* is found in ſmall compact maſſes, of a pale lead colour on the outſide, and when broken, of a fine, glittering, ſilvery white, and compoſed of a multitude of foliaceous flakes or plates, laid evenly over one another, and diſpoſed in ſeveral irregular directions in the maſs.

In the ſtate of ore, it is uſually of a bright ſilvery white, and of an obſcurely foliaceous ſtructure. Sometimes alſo it appears granulated; and in ſome ſpecimens, the granules are large, and the maſſes coarſe; in which caſe, every ſeparate granule appears of a cubic form.

It is ſubject to fewer variations in its ore than moſt other minerals; but it is ſometimes turned yellow by an over-proportion of ſulphur, and ſometimes is very deeply tinged with the matter of the common marcaſites, and, in this condition, is often miſtaken for mere marcaſite, to the no ſmall loſs of the proprietor of the mine.

It is very common in Germany and England. The tin-mines in Cornwall afford great quantities of it; but it is not much known there

*Biſmuth* is eaſily ſeparated from its ore, and may be procured pure, only by melting it in a crucible over a gentle fire. When the ore is more impure, it is eaſily ſeparated by means of the common black flux of the metallurgiſts; but, with this mixture, the fire muſt be kept very moderate, otherwiſe the *biſmuth* will be loſt. The regulus of *biſmuth*, thus prepared, is like the ore of *biſmuth* in its pureſt ſtate, or the native *biſmuth*, being compoſed of a ſeries of plates or flakes, arranged in various directions, and looking very much like thoſe of many of the ſpars; and each plate in theſe ſeries is compoſed, as in the ſpars, of regular cubic or parallelepiped concretions. It is naturally very bright and ſhining, and of a ſilvery white; but it eaſily tarniſhes, and acquires a pale yellow.

*Biſmuth* attenuates the parts of all other metals, by mixture with them. It renders them much more eaſily fuſible, and much more fit for amalgamation with mercury; the mercury, by its means, taking up a much larger quantity of them, and carrying them much more eaſily through leather. It is ſoluble, like lead, in vinegar; and the ſalt produced from it reſembles that of lead in its ſweet taſte. When diſſolved in ſtronger acids, it yields the famous coſmetic magiſtery, and is a very valuable mixture in the metal uſed for caſting types for printing, and in bell-metal. *Hill*, Hiſt. of Foſſ. p. 624.

Mr. Boyle mentions a medicine prepared from *biſmuth* by calcination, and the addition of ſpirit of vinegar and *cremor tartari*, which has been extolled in the dropſy. He alſo mentions a preparation of it with common ſublimate into a white powder, a few grains of which purge gently. *Schroder.* Pharmacop. l. 3. c. 18. ap. *Boyle*, Works abridg. p. 501.

Chemiſts have talked of a ſtrange liquor obtainable from the ore of *biſmuth*, which put into a phial cloſely ſtopped, would riſe and fall with the increaſe and wane of the moon. Vid. *Boyle*, Works abridg. Vol. 1. p. 69, 70. & p. 583.

He does not ſay he himſelf ever ſaw ſuch a liquor; but quotes Orthelius for that purpoſe.

Some, on account of the white bright colour of *biſmuth*, call it the *ſilver marcaſite*. Phil. Tranſ. N° 396. p. 193. *Burggr.* Lex. Med. T. 1. p. 1586. See MARCASITE.

*Piſmuth* is of great uſe as a flux-poader, to procure a thin fuſion to metals; and hence becomes of ſervice in the making of ſodders. It is alſo uſed by pewterers, inſtead of regulus of antimony. *Kirch.* Mund. Subter. l. 11. §. 3. p. 301. *Stahl.* loc. cit. p. 346. See FLUX.

Its medicinal virtue is much the ſame with that of the droſs of lead, being ſeldom uſed except in external forms [a], as containing an arſenical ſalt, very dangerous to be taken inwardly; yet M. du Clos made a purgative of it to be uſed in the dropſy [b]. Add, that *biſmuth* being diſſolved in ſpirit of nitre, yields a fume, which being precipitated with water, produces a white powder, found a good diaphoretic in acute caſes [c].—[a *Quinc.* Diſp. p. 51. b *Boyle*, Phil. Work abridg. T. 1. c *Stahl*, loc. cit. p. 345.]

But its chief uſe among the antients, as well as moderns, is as a coſmetic. Vid. *Pitiſc.* Lex. Ant. T. 1. p. 281.

Sig Poli, by repeated diſtillations of *biſmuth* with an equal quantity of corroſive ſublimate, procured a running mercury, and a fine powder, of the colour of pearl, which might be of uſe in counterfeiting the oriental pearls. Hiſt. Acad. Scienc. ann. 1713. p. 55.

BISMUTH *graupen*, in mineralogy, a name given by the Germans to a fixed earth contained in the ores of *biſmuth*, which ſerves to make ſmalt, as well as the earth of cobalt. After the *biſmuth* is melted from the ore, they take the *reſiduum*, or *graupen*, and mixing it with flints calcined and powdered, they run it into fine blue glaſs, which is no-way inferior to the common ſmalt.

The *biſmuth* ore is often mixed among the cobalt, and, in this caſe, the miners ſeparate them with all the care they can; but often they are not able to do it perfectly, and the two minerals bear the fire together; in which caſe, there ariſes ſome difficulty in the working, for the *biſmuth* mixing itſelf with ſome of the earth of the cobalt, in this caſe, ſubſides to the bottom of the veſſel in form of a rediſh regulus; but this is to be ſeparated by a ſecond operation, and the regulus obtained pure and white; and its own earth, together with that of the cobalt, are ſeparated from it, and wrought together into ſmalt.

BISNOW, or BISCHNOU, a ſet among the Indian banians, or caſt of merchants. See BANIAN.

The banian ſect conſiſts of two leſſer ones; that of *biſnow*, and that of *ſamarath*.

The followers of the former hold one God, whom they call *ram-ram*, and allow of no lieutenants or deputy-gods, as is done by thoſe of the ſect *ſamarath*; but they allow their god a wife, and have idols, which they dreſs up with gold chains, and collars of pearl and precious ſtones, and pay them worſhip, by ſinging hymns in their temples, and dancing before them to the ſound of flagelets and kettle-drums.

In this ſect, the wives do not burn themſelves after their huſbands death, as is practiſed by thoſe of the *ſamarath* ſect; but content themſelves with a perpetual widowhood. Trev. Dict. Univ. T. 1. p. 1051.

BISOMUM, in antiquity, a tomb for two bodies, or the aſhes of two. See TOMB, *Cycl.*

The word is hybrid, compounded of the Latin *bis*, twice, and the Greek σωμα, body, or aſhes of a body. Some, with more purity, write *diſomum*.

The antients frequently buried two, three, or four bodies in the ſame ſepulchre, diſpoſed aſide of each other; for it was held an impiety to lay one a-top of another [a]. Hence the ſepulchres of the primitive Chriſtians had the words *biſomi*, *triſomi*, *quadriſomi*, &c. inſcribed on them, to indicate the number of bodies depoſited in them [b].—[a *Pitiſc.* Lex. Ant. T. 1. p. 281. b *Du Cange*, Gloſſ. Lat. T. 1. p. 564. *Salmaſ.* Exerc. ad Solin. p. 1207.]

BISON, in natural hiſtory, the name of a ſpecies of wild bull, which differs from all other ſpecies, by having a very ſhaggy mane, running down his neck quite to his ſhoulders, and a large hump upon his back. In Mr. Ray's time, there was a bull of this kind kept in St. James's Park; but there was no account of whence it was brought. This author ſuppoſes it to have been from Florida, where, according to Ambroſe Paré, there are bulls called *butrones* by the natives, which have horns of about a foot long, and a bunch in the middle of the back, like the camel. Thevet alſo mentions this creature; and Geſner deſcribes it under the name of the *bos camelita*.

BISSACRAMENTALES, a denomination given by ſome Romiſh writers to proteſtants, on account of their only holding two ſacraments, *viz.* baptiſm and the ſupper. *Prateol.* Elench. Hæreſ. l. 2. §. 24. p. 101. See SACRAMENT, *Cycl.*

BISSELÆON, in the materia medica, a name that is found in many copies of the moſt antient Greek and Roman writers, and uſed to expreſs the oil of pitch, or that fluid ſubſtance which ſwims at the ſurface of melted pitch, and was taken up by means of wool or cotton by the antients, and uſed in many external diſorders. The common name of this oil was *piſſellæum*; and this other name is only a corrupt way of ſpelling it. The old authors, in many other words as well as this, have changed the initial P into B.

BISSEXTIALIS, or BISEXTIALIS *olla*, an antient meaſure or veſſel, containing twelve ounces, or two ſextaries. *Marcell.* Empir. c. 15. p. 108. *Du Cange*, Gloſſ. Lat. T. 1. p. 564. See SEXTARIUS, *Cycl.*

BISTI, a ſpecies of Perſian money, valued at ſixteen or eighteen French deniers. Some repreſent the *biſti* as an antient ſilver coin: others, as Chardin, make it only a money of account, and call it *dinar biſti*. *Savar.* Dict. Comm. T. 1. p. 352.

BISTORT, *biſtorta*, in botany, the name of a genus of plants; the characters of which are theſe: the flower is of the apetalous kind, conſiſting of a number of ſtamina, which ariſe from a cup, divided into ſeveral ſegments at the edge: the piſtil becomes afterwards a ſeed, uſually of a triangular figure, and contained in a capſule, which was before the cup of the flower. See Tab. 1. of Botany, Claſs 15.

To this it is to be added, that the flowers are diſpoſed in ſpikes; and the roots are large and fleſhy, oddly twiſted or contorted, and furniſhed with a number of ſmall fibres, like hairs. There are alſo ſome ſpecies of *biſtort*, in which, beſide the common flowers and ſeeds, there are certain tubercles, which have their roots, and rudiments of leaves.

The ſpecies of *biſtort*, enumerated by Mr. Tournefort, are theſe:

1. The common *biſtort*, with a leſs contorted root. 2. The *biſtort*, with a more contorted root. 3. The great alpine *biſtort*. 4. The middle-ſized alpine *biſtort*. And, 5. The little alpine *biſtort*. *Tourn.* Inſt. p. 511.

*Biſtort*, popularly called *ſnake weed*, is a very beautiful plant, and may be met with in moiſt places in many parts of England,

and growing to about a foot high, with deep green leaves, and very beautiful fleſh-coloured flowers, in ſhort, but thick ſpikes. The root is often an inch thick, and is oddly contorted and twiſted; it is of a blackiſh brown without, and of a beautiful pale red within. It ſhould be choſen plump, full, and well dried, not eaſy to be broken, and of an aſtringent, but not diſagreeable taſte.

The roots of the common *biſtort* are a ſtanding medicine in the ſhops; they are given in decoction, and ſometimes in powder, as an aſtringent, and generally in conjunction with the tormentil root. They give a bright red colour to the common hartſhorn drink, and add conſiderably to its virtue. It is good in diarrhœas, and hæmorrhages of all kinds.

Some alſo commend it as an alexipharmic, and ſudorific. *Quinc.* Diſpenſ. P. 2. Sect. 2. §. 164. p. 103. *Ray*, Synopſ. p. 59, ſeq. *Burrgr.* p. 1593. Savar. T. 1. p. 352.

*Eiſtort* is ſuppoſed to be the ſame with the antient καλαναγκη; others ſay, with the σπλαφυλλον, and others with the βεβλαυκη. *Gorr.* Def. Med. p. 80. 214, in voc. καλαναγκη, &c. See BRITANNICA.

BISTOURY (*Cycl.*)—We have the deſcription of a *biſtoury*, and furrowed director, ſomewhat different from the common, by Mr. Monro, in the Medic. Eſſ. Edinb. vol. 5. art. 41.

M. le Dran deſcribes a *biſtoury cachè*, for more ſafely performing the operation for herniæ. The point of the *biſtoury* ſlides in the furrow of the director, to keep down the guts, and thereby prevent their being cut. *Le Dran*, Tom. 2. Obſ. 80.

BISTRE, a compoſition made of the moſt gloſſy and higheſt burnt ſoot pulverized, and paſſed thro' a fine ſieve, then baked in a little gum water, and made into cakes. *Savar.* Dict. Comm. T. 1. p. 353.

BIT (*Cycl.*)—To BIT *a horſe*, is to give him ſuch a bridle as is moſt proper for gaining his conſent to thoſe actions, which are required of him. Dict. Ruſt. T. 1. in voc.

All *Bits* ought to be proportioned to the mouth of the horſe, according as it is more or leſs cloven or wide; or more or leſs ſenſible and tender: Alſo according as the tongue and lips are higher and flatter; and as the palate is more or leſs fleſhy. *Guill.* Gent. Dict. P. 1. in voc.

BIT is alſo uſed for a little tool, fitted to a ſtock, or handle to bore withal.

In this ſenſe we ſay, the *bit* of a piercer, an augre, or the like; meaning that iron part of thoſe tools, wherewith the holes are bored. See AUGRE, *Cycl.*

BIT *of a Key* is that part fitted at right angles to the ſhank of the key, wherein the wards are made. *Moxon*, Mechan. Exerc. P. 1. p. 94. See KEY, LOCK, *&c. Cycl.*

BIT is alſo uſed in commerce, for a piece of coin current in Jamaica, and valued at 7 *d.* ½. Lex. Mercat. p. 386.

BITS, or *bitts*, in a ſhip, are two great pieces of timber uſually placed abaft the manger in the ſhip's looſ, thorough which the croſs piece goes, their lower parts being faſtned to the rudders; and their middle parts, in great ſhips, bolted to two large beams, croſs the bows. Their uſe is to belay the cable to, when the ſhip rides at anchor. *Guill.* Gent. Dict. P. 3. *Manwvr.* Seaman's Direct. p. 9.

The word ſeems formed from the French *bittes*, which ſignifies the ſame [a]; unleſs we will ſuppoſe the French word formed from ours [b].—[a *Aubin*, Dict. Marin. p. 84, voc. *bittes*. b *Skin.* Etym. in voc.]

In great ſtorms, to ſtrengthen the *bitts*, and ſecure the bows, the cable is faſtened to the main maſt. *Guill.* loc. cit.

*Fore-jeer*-BITS, thoſe to which the fore-jeer is faſtened and belayed. *Guill.* loc. cit.

*Fore-top-ſail-ſheet*-BITS, thoſe to which the fore-top-ſail-ſheet is belayed. *Guill.* loc. cit.

BITE (*Cycl.*) is defined to be a ſolution of the continuity of a ſoft part, cauſed by the impreſſion of an animal's teeth. *Caſt.* Lex. Med. p. 510. in voc. *morſus.*

For the poiſonous, or venomous *bites* of vipers, the rattle-ſnake, mad-dogs, the Tarantula, *&c.* See VIPER, RATTLE-SNAKE, *&c.*

Snake-ſtone, ſnake-weed, *terra melitenſis*, &c. are reputed ſpecifics againſt poiſonous *bites*. *Grew*, Muſ. Reg. Societ. P. 1. §. 3. p. 52. and p. 227, and 347. See SNAKE-*ſtone*, SNAKE-*weed*, &c.

The *bites* of ſpiders, at leaſt ſome ſpecies, alſo appear to be poiſonous; which has perhaps been the occaſion of the common error, that this inſect is poiſonous, when eaten. See the article SPIDER.

Mr. Robie, a phyſician in New England, gives the hiſtory of a perſon bitten in the leg by a ſmall ſpider, accidentally incloſed in his ſtocking; it was followed by an acute, erratic pain; firſt in the leg, then in the groin, and ſucceſſively paſſing into the ſmall of the back, the thigh, and the head, attended with a numbneſs, *&c.* It was cured with ſp. cor. cerv. and ſal. vol. corn. cerv. with *vinum viperinum*, and onions or garlic externally applied to the wound. Vid. Phil. Tranſ. N° 382. p. 69. ſeq.

Sig. Redi attributes the malignity of the *bite* of a viper, to a yellow juice lodged in a bag behind the gum, which is inſtilled thro' a ſlit in the teeth, into the wound. M. Bourdelot, and Charas, aſcribe it to the irritated bilious ſpirits, and breath of the enraged animal. Vid Phil. Tranſ. N° 83. p. 4074 ſeq.

In ſupport of which it is alledged, that the viper's lungs are full of bilious ſpirits, which exhale with its breath; and that there is an immediate duct in this creature, from the gall-bladder to the throat; by means of which, a quicker, and more copious infuſion of the bile, is made into the wound. But much of this may be juſtly doubted of. Phil. Tranſ. N° 77. p. 3015.

The beſt remedy for it is ſucking the wound; a kind of cure, for which the antient Marſi and Pſilli are celebrated. *Redi*, in Phil. Tranſ. N° 9. p. 161. See VIPER.

The beſt cure for the *bite* of the rattle-ſnake is an actual cautery; *e. gr.* a hot burning coal held on the wound. Phil. Tranſ. N° 210. p. 127.

The *bites* of divers creatures, when mad, are poiſonous, which at other times are not ſo, as of dogs, cats, men, *&c.* See HYDROPHOBIA, MAD-*dog*, MADNESS, MANIA, *&c.*

BITE is alſo applied, in a leſs proper ſenſe, to the impreſſion of other ſharp, or pungent bodies. Thus a file is ſaid to *bite* the metal; aqua fortis *bites*, or eats into copper.

BITERLOGH, or BITHERLAGE, the antient Daniſh military, or camp-law. *Suen. Agg.* Hiſt. Dan. p. 144.

The word is compounded from *bithe*, mulct; and *lagh*, law; q. d. the law of *mulcts*, or *wites*.

Among the laws of the Danes, there are two peculiarly eminent; *viz.* the *bird-ſtraa*, or court-law; and the *bitherlage raett*, made by Canute the Great, about the year 1035. Of which an Edition has been given by Reſenius. Hafn. 1673. *Du Cange*, Gloſſ. Lat. T. 1. p. 565, ſeq.

BITHYNIARCHIA, a ſort of ſuperior prieſthood in the province of Bithynia, to which belongs the ſuper-intendency of the ſacred games, and which gave an exemption to him poſſeſſed of it, called *bithyniarcha*, from the care of tutorage. *Montfauc.* Palæogr. l. 2. c 6. p. 161. *Calv.* Lex. Jur. p. 117. *Pitiſc.* Lex. Ant. T. 1. p. 283. *Du Cange*, Gloſſ. Græc. T. 1. p. 200.

BITTACLE, a ſquare box, or frame of timber, placed in the ſteerage of a ſhip, wherein the compaſs is placed. *Botel.* Sea Dial. 4. p. 121. *Guill.* Gent. Dict. P. 3. in voc. See COMPASS, *Cycl.* and *Suppl.*

The word is formed, by contraction, from the French *habitacle*, which ſignifies the ſame.

Large veſſels have two *bittacles*, a leſſer placed before the pilot, and a greater before the ſteerſman. *Ozan.* Dict. Math. p. 279. *Savar.* Suppl. p. 869.

In the ſmaller veſſels, the *bittacle* is divided into three ſpaces or apartments; in large veſſels into five. One for the hour-glaſſes; another for the lamp, or light; another for the compaſs, *&c.* *Aubin*, Dict. Marin. p. 478. voc. *Habitacle.*

Great care is to be taken in the diſpoſition, framing, *&c.* of the *bittacle*, that it ſtand true, and that it be not faſtened together with iron nails, but with wooden pins, in regard the former would affect the compaſs. Vid. *Harris*, Treat. of Navigation, c. 4. p. 191.

BITTACUS, in natural hiſtory, a name given by Cteſias, and ſome others of the Greek authors, to the parrot. The word *pſittacus* is ſo near this, that they are plainly only a corruption of one another. The Greeks called this bird indifferently *pſittacus* and *ſittacus*, as they did the fine ointment *ſagda*, indifferently by that name, or *pſagda*, the *ps* being only one letter with them; and that, and the ſingle S, very frequently uſed at pleaſure for one another.

BITTER (*Cycl.*)—The qualities of *bitter* bodies, are ſuppoſed to be dry, warm, aſtringent and earthy. *Gorr.* Med. Defin. p. 373. voc. πικρον.

According to Grew, all plants which are *bitter* and pungent, either on the tongue, or in the throat, are good cleanſers, *e. gr.* daiſy, anagallis [a], *&c.* The ſame author adds, that moſt purgative and emetic plants, which have any ſenſible taſte, are *bitter*; either ſimply, as colocynthis; or *bitter* and aſtringent, as aloes, *&c.* [b]—[a *Grew*, Idea of Philoſ Hiſt. of plants, §. 30. p. 15. b *Grew*, l. c. §. 30. p. 14.]

*Bitter* things are generally reputed ſtomachic; yet, according to Abercromby, they are naturally the reverſe, and hurtful to the ſtomach; and only become beneficial to it, where their aſtringency renders them proper. Philoſ. Tranſ. N° 171, p. 1026. See STOMACHIC, *Cycl.*

BITTER *purging ſalt*, *ſal catharticum amarum.* See EPSOM *ſalt.*

BITTER *place*, *locus amarus*, a poor barren ſoil, by Pliny called *terra amara*, *ſive macra*. *Plin.* Hiſt. Nat. l. 17. c. 5. *Du Cange*, Gloſſ. Lat. T. 1. p. 159. voc. *amarus.*

BITTER, in the ſea language, denotes a turn of the cable about the bitts, in order to its being veered out by little and little at pleaſure. *Botel.* Sea Dial. 4. p. 199. *Guill.* Gent. Dict. *Manwar.* lib. cit. P. 3. p. 9. in voc.

A ſhip is ſaid to be brought up to a *bitter*, when ſhe is ſtopped by her cable. *Guill.* loc. cit.

BITTER-*end*, is that part of the cable, which ſtays within board, wound about the bitts, when the ſhip is at anchor [a], When they would have that end bent to the anchor, they ſay, bend to the *bitter-end* [b].—[a *Botel.* l. c. b *Manw.* p. 9.]

BITTERN, in zoology, the name of a bird of the heron kind, called by authors *ardea ſtellaris*; and by ſome *taurus*, *botaurus*, *butorius*, and *ocnus*. In Engliſh, the *butter-bump*, and *mire-drum.*

It is nearly of the size of the common heron; its head is small and narrow; its crown is black; and there is also a black spot on each side, near the angle of the mouth. Its throat and sides are reddish, variegated with black transverse lines; the neck is covered with very long feathers, which make it appear much thicker and shorter than it really is; its belly is of a dusky white, with a cast of a browniſh red, and its back is variegated with a pale reddish brown and black. It makes a very remarkable noise, which it repeats either three or five times. It is heard only in the building time, which begins in February. The common people, from the singularity of the noise, think the bird, in order to make it, sticks its beak in a reed, or in the mud. It is commonly found lurking in sedgy and reedy places, near the waters, and sometimes in hedges.

Toward autumn, this bird flies very high in an evening after sun-set, rising with a spiral ascent, till quite out of sight; and as they rise they make an odd noise, not at all like their usual note. This they repeat also very often, as they are on the wing in the night; and hence they are called by some, tho' improperly, the *night raven*. It builds on the ground, and lays five or six eggs, which are roundish, and of a greenish white. When wounded, and going to be taken, it strikes at the person's eye, and ought carefully to be guarded against. *Ray*'s Ornithol. p. 208.

BITTERN is also a name given to the brine swimming upon the first concreted salt in the salt-works; this liquor is ladled off, that the salt may be taken out of the vessel, and is afterwards put in again, and affords more salt, which is to be separated like the rest, by ladling off the liquor a second time, and so on. *Boerhaave*'s Chem. p. 104. n.

The *bittern*, according to Mr. Boyle, is a very saline, bitter, sharp, pungent liquor, which drains off in the making of salt from sea water; or which remains in the pans, after the coagulation, and granulation of the purer, and more saline part, by boiling. Vid *Boyle*, Phil. Work. Abr. T. 3. p. 482. *Collins* Salt. and Fish. p. 53. *Quinc.* p. 51.

A *bittern* also runs, or oozes, from the heaps of fossil salt at Limington, and Portsea in Hampshire. Phil. Transf. N° 377. p. 348.

*Bittern* makes the basis of the *sal catharticum amarum*, or Epsom salt. Phil. Transf. loc. cit. See EPSOM *salt*.

BITTERNESS (*Cycl.*)—According to Grew, *bitterness* is produced by a sulphur well impregnated with a salt, either alcaline or acid, and shackled with earth.

Hence it is that the bittereſt plants usually yield the greateſt quantity of lixivial salt; and that many distilled oils, digested with any strong acid, acquire a bitter taste. Add, that the leaves of all sweet roots are bitter; the fig-tree, which bears a sweet fruit, bleeds a bitter milk; and that the roots of plants, which bear a bitter stalk, are not bitter, but hot. That the earthy parts contribute considerably to the *bitterness* of bodies, appears hence, that most bodies of that kind are fixed; or, if they do emit fumes, do not lose their bitter taste therewith. Vid. *Grew*, Disc. of taste of Plants, c. 4. §. 12.

Mr. Boyle observes, that a substance bitter in the highest degree, may be divided into two substances, the one extremely sour, and the other insipid. This happens, when the crystals of silver are distilled by a heat sufficient to drive away all the spirits from the silver. What remains is insipid, and what rises is highly acid. Works abr. Vol. 1. p. 541.

The extinguishing, or removing of *bitterness*, is called dulcifying, sweetning, &c. See DULCIFYING, *Cycl.*

M. Bon has given methods of removing, or discharging the *bitterness* of olives and Indian chesnuts. Vid. Mem. Acad. Scienc. 1720. p. 600.

The *bitterness* of sea-water arises from the dissolution of the beds, or strata of bitumen; as its saltness does from a dissolution of the strata of salt. *Marsigli*, in Hist. Acad. Scienc. an. 1710. p. 33. See the article SEA.

BITUMEN (*Cycl.*)—From the origin and inflammability of *bitumens*, it appears they bear a near affinity to sulphurs, and are supposed both formed of the same principles or ingredients; only differing in this, that sulphurs are harder and more brittle, *bitumens* more fatty and tenacious. Yet is not this distinction strictly kept to; divers other bodies being by some naturalists placed in one of those ranks, by others in another. Vid. *Mercat.* Metalloth. p. 82. and *Budd*, Elem. Philos. Theor. P. 2. c. 2. §. 33. p. 175.

*Bitumens* are of different kinds, arising from the different proportion of the sulphur principle in them; and the different intermixture of salts and earth, and other foreign matters with them. *Mercat.* ubi supra. *Verdr.* Phys. P. 2. c. 6. §. 6. p. 470.

*Bitumens* are usually divided into two species, liquid and solid. Tho' some distinguish three kinds. *Gorr.* Med. Defin. p. 60. voc. Ασφαλτος. See the Cyclopædia.

Dr. Woodward gives a different division of the English *bitumens*, or bituminous fossils. The first are those of a more lax and coarse constitution; and which, when wetted, yield a grosser, or pitchy matter: Such are the *lapis piceus*, or pitch-stone, the *lapis ampelites*, *obsidianus* or canel, and the *lithanthrax* or coal. The second of a more dense and fine constitution, and which yields an oil: Such are the *gagates*, or jet; and *succinum*, or amber. *Woodw* Nat. Hist. Engl. Foss. T. 1. p. 165. See GAGATES and SUCCINUM.

*Bitumen* is supposed the chief fuel of the subterranean fires. Vid. *Kirch.* Mund. Subterr. p. 157. *Lang.* Epist. p. 737.

Many have been fond of supposing all sea-water to contain a large quantity of *bitumen*, and that it owes its bitterness to this admixture; but this seems erroneous, since we find that all sea-water contains a large quantity of bitter purging salt of the nature of what is sold in our shops, under the name of *Epsom salt*; and its bitterness is of the very same kind with the taste of that salt.

That there are, however, *bitumens* mixed in several places with the water of the sea, is very certain. Barbadoes tar is found floating on the sea, being washed in great quantities from the rocks, and count Marsigli observed spiral filaments arising from the surface of the sea Marmora, near Constantinople, which concreted into *bitumen*, exactly of the same kind with that he observed at Zant, flowing from the sides of a bituminous mountain. On some of the coasts of Italy they skim off a kind of liquid *bitumen*, or petroleum, from the surface of the sea. Some think that ambergrease is a *bitumen* of the sea, and many travellers tell us of a fatty substance on the surface of it, that gives light in the night. These various substances may impart various properties to the sea-water, in such parts where they are found to abound, and they may be common in many places, but they are certainly not found in all, nor is *bitumen* a necessary ingredient in sea-water. Count Marsigli has indeed proved, that a spirit distills from the most common of all *bitumens*. Pit-coal will give water a bitter taste, but sea-water is not yet proved to be impregnated with such a spirit. On the contrary, when distilled, it has no bitter taste; therefore marine waters are not impregnated with such a volatile spirit, but evidently owe their *bitterness* to a fixed principle; and it is very certain, that pit-coal cannot give this taste, since the waters which issue out from among the strata of Sea-coal are never found to be bitter, tho' often strongly impregnated with iron.

All the *bitumens* are inflammable, and have this good quality in their burning, that they will do without a wick. Dr. Plot therefore conjectures, that the famous sepulchral lamps of the antients were contrived of these *bitumens*, particularly of the liquid kind, because any thing that would require a wick, would be liable to its choaking up, and being destroyed. See LAMPS *perpetual*.

BITUMEN, in a more particular sense, is restrained to the *asphaltos*, otherwise called *bitumen Judaicum*. *Mercat.* Metalloth. Arm. 5. c. 2. p. 81. *Cast.* p. 106. See ASPHALTOS, *Cycl.* and ASPHALTA, *Suppl.*

BITUMEN *hyblæanum*, in mineralogy, a name given by Boccone and others to a peculiar species of bituminous fossil, which is flexile while in the earth, a property very singular in a fossil not of the talky kind, as this evidently is not. It is a stony substance, smelling like the common *bitumens*, and composed of a very great number of thin plates, laid evenly and regularly on one another. It has its name from the place where it is found, which is the Hyblæan mountains of Sicily, near Milelli, neighbouring upon the town of Augusta and the antient Megara. When burnt in a candle, the bituminous smell is perceived very strong; and the stone, though when first taken up it be flexible like paper, yet in time it hardens, and becomes brittle like other fossils of that lax consistence. There are found whole hillocks covered with it. They do not cease to bear plants and herbage for this, the roots of the grass, &c. insinuating themselves between the laminæ of this stone, and getting good nourishment there. Phil. Transf. N° 100.

BITUMINOUS, something that relates to, or partakes of, the nature and qualities of bitumen. See BITUMEN.

All *bituminous* bodies are offensive to the head [a]. Their smell or stench makes the epilepsy discover itself [b].—[a] *Lang.* Epist. Med. l. 2. [b] *Plin.* Hist. Nat. l. 35. c. 15. *Lang.* l. 2. ep. 75. See EPILEPSY.

Naturalists discover a *bituminous* quality in the sea-water, which it derives either from *bituminous* exhalations out of the body of the earth, or from springs and rivers, which import liquid and other bitumens into the ocean. It is to this *bituminous* mixture the bitterness of sea-water is ascribed by some. *Boyle*, Phil. Work. abridg. T. 3. p. 221, seq. See BITUMEN.

BIVALVE, in the history of shell-fish, the name of one of the three general classes, the other two being the *univalves* and the *multivalves*. The *bivalve* shells are those which consist of two pieces or separate shells joined together by a cardo or hinge. These are a less numerous class than the *univalves*, and have been arranged by a late accurate French writer under six genera. These are: 1. The oisters. 2. The chamæ. 3. The *mytuli*, or muscles. 4. The cardiform shells. 5. The *pectines*, or scallops. And, 6. The *solens*, or razor-shells. For the characters and species of each of these, see their several heads, OSTREA, CHAMA, &c. Hist. Nat. Eclair. T. 2. p. 235.

BIUMBRES, in geography, an appellation given to the inhabitants of the torrid zone, by reason, at two different seasons of the year, their shadows are projected two different ways. *Wolf.* Lex. Math. p. 260.

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The *biumbres* are the same with those otherwise denominated *amphiscii*. See AMPHISCII, *Cycl.*

BIXA, in botany, the name of a genus of plants; the characters of which are these: the perianthium is flat, small, and permanent, the whole formed of one little leaf, divided into five segments at the end: the flower is double; the exterior one is composed of five large, oblong, equal, and coarse petals; the inner flower is composed of five petals also; but they are thinner and finer: the stamina are a great number of setaceous filaments, of about half the length of the flower: the antheræ are erect: the germen of the pistil is of an oval figure: the style is capillary, and of the length of the stamina: the stigma is bifid, compressed, and parallel: the fruit is a capsule, of an oval cordated form, beset with hairs, and composed of two valves; but having only one cell, in which are a number of turbinated seeds, with a truncated umbilicus. *Linnæi*, Gen. Plant. p. 242.

BIXA, in botany, is also a name by which some authors have called the *arnotto*; the same with the *orleana* and *orellana* of other writers. *J. Bauhin*, Vol. 1. p. 440.

BIZARRE, a term used among the florists for a particular kind of carnation, which has its flowers striped or variegated with three or four colours.

BIZE, in zoology, a name by which some call the *pelamys*, a sea-fish, of the shape of the tunny, and resembling the young brood of that fish; but distinguishable by its wanting scales in most parts of its body. *Willughby*, Hist. Pisc. p. 179.

BIZOCHI, or BISOCHI, a sect or branch of religious minorites, condemned by several popes. Vid. *Du Cange*, Gloss. Lat. T. 1. p. 566. *Prateol.* Elench. Hæres. l. 1. n. 2. p. 101.

The *bizochi* were also called *fratricelli*, or *fratres de paupere vita*; sometimes *bichini*, or *bicchini*. See BEGUINS, *Cycl.*

The name is formed from *bisaccus*, on account of a double budget or wallet wherewith they begged their living.

BIZZARRO, or *con* BIZZARIA, in the Italian music, signifies *with capricious changes*; sometimes fast, at others slow, soft, strong, &c. at the fancy of the composer. *Bross.* Dict. Mus. in voc.

BLACK (*Cycl.*)—Bodies of a *black* colour are found more inflammable, by reason the rays of light falling on them are not reflected outwards, but enter the body, and are often reflected and refracted within it, till they be stifled and lost [a]. They are also found lighter, *cæteris paribus*, than white bodies, being more porous [b]. It may be added, that cloaths dyed of this colour wear out faster than of any other, by reason their substance is more penetrated and corroded by the vitriol necessary to strike their dye, than other bodies are by the galls and alum which suffice for them [c].—[[a] *Newton*, Opt. Qu. 6. p. 314. [b] *Rohault*, Phys. P. 2. c. 27. §. 61. [c] Id. ibid. §. 72, seq.]

The inflammability of *black* bodies, and their disposition to conceive heat, beyond those of other colours, is easily evinced. Some appeal to the experiment of a white and a *black* glove worn in the same sun; the consequence will be, a very sensibly greater degree of heat in the one hand than the other [d]. Others alledge the phænomena of burning-glasses, where *black* bodies are always found to kindle sooneſt [e]. Mr. Boyle gives other proofs still more obvious: he took a large tile, and having whited over one half of its superficies, and blacked the other, exposed it to the summer-sun; where having let it lie a convenient time, he found, that whilst the whited part remained still cool, the *black* part was grown very hot. For farther satisfaction, the same author has sometimes left on the surface of the tile a part retaining its native red, and exposing all to the sun, has found the latter to have contracted a heat in comparison of the white part, but inferior to that of the *black* [f].—[[d] Vid. *Boyle*, Phil. Work. abridg. T. 1. p. 144. [e] *Rohault*. P. 1. c. 27. [f] *Boyle*, lib. cit. T. 2. p. 36.]

So also on his exposing two pieces of silk, one white, the other *black*, in the same window to the sun, he often found the latter considerably heated, when the former has remained cool [g]. It is observable likewise, that rooms hung with *black* are not only darker, but warmer than others [h].—[[g] *Boyle*, ibid. [h] Id. ibid.]

To all which may be added, that a virtuoso of unsuspected credit assured Mr. Boyle, that, in a hot climate, he had, by carefully blackening the shells of eggs, and exposing them to the sun, seen them thereby well-roasted in a short time. *Boyle*, ibid. See also *Gravesend*, Inst. Philos. Newton. §. 1251. p 344. *Verdr.* Phys. P. 2. c. 10. §. 6. p. 236. *Teichm.* Inst. Phil. Nat. P. 1. c. 19. p. 112.

BLACK, in matters of dress, is the distinguishing habit of churchmen and mourners. Vid. *Potter*, Archæol. Græc. l. 4. c. 5. T. 2. p. 196.

Some will have it, that the common people among the Romans were cloathed in *black*; whence the denomination given them of *turba pullata*. *Pitisc.* Lex. Antiq. T. 2. p. 561. voc. *pullati*.

To give the common *black* colour to glass, the glassmakers use the following method: take old broken glass of different colours; grind it to powder, and add to it, by different parcels, a sufficient quantity of a mixture of two parts zaffer and one part manganese: when well purified, work it into vessels, &c. See COLOURING *of glass*.

BLACK, in heraldry, is properly called *sable*. See SABLE, *Cycl.*

BLACK, in the manege.—A horse of a deep, shining, and lively *black* is called a *black-more*, or *coal black* [i]. Horses *black* all over are commonly reckoned dull and melancholy; but a white foot, or star in the forehead, gives them a degree of sprightliness. The Spanish gravity is said to be best pleased with those intirely *black* [k].—[[i] *Guill.* Gent. Dict. P. 1. in voc. [k] Farr. Dict. in voc.]

*Bone*-BLACK is made of the bones of bullocks, cows, &c. well burnt and ground. To be good, it must be soft and friable, of a glossy cast. It is in considerable use, though inferior in goodness to *ivory black*. *Savar.* Dict. Comm. T. 1. p. 871.

The invention of *bone* or *ivory black* is attributed to Apelles. *Plin.* Hist. Nat. l. 35. c. 5. *Felib.* Princ. de l'Arch. p. 293.

*Harts*-BLACK, that which remains in the retort after extracting the spirit, salt, and oil of hartshorn. This residue being ground up with water, makes a *black* not much short of that of ivory.

*Lamp*-BLACK (*Cycl.*)—There is a finer and brighter kind of *lamp* or *candle-black* procured from the fumes of a lamp or candle, gathered by a proper receptacle placed in manner of a canopy over the luminary, and wiped or brushed off; but it is not procured in quantity sufficient for ordinary use. Vid. *Park.* Art of Japann. c. 5. p. 21.

*Soot*, or *Chimney*-BLACK, is a poor colour; but ready for painting *black* draperies in oil. *Felib.* Princ. de l'Archit. l. 3. c. 6. p. 299.

*Curriers* BLACK signifies a teint or dye laid on tanned leather; of which there are usually two, the first made of galls, alegre, and old iron; the second of galls, copperas, and gum Arabic. *Savar.* Dict. Comm. T. 1. p. 872. See CURRYING, *Cycl.*

BLACKBIRD, *merula*, in zoology. See the article MERULA.

The music of the *blackbird* is not its only valuable quality; for it is a very delicate bird for the table. It builds its nest in woods, very early in the spring, often in march, while the snow is on the ground. It generally chooses the stumps of trees, or thick hedges, for the place. The outside of the nest is made of dry grass, sticks, and the fibres of roots of trees: the inside is lined with clay, and formed so round, that art cannot mend it. They build three or four times in the year, and even oftner than that, if their nests are taken early from them. The young ones may be easily raised with any kind of meat. It sings three or four months in the year: the note is loud, and not very agreeable; but may be much improved by teaching.

Some people are very fond of them as food, and take them alive, and fatten them up: the way is, to have very large cages with some tame ones in them; these will teach the new-taken birds to eat, and plenty and variety of food being set before them, they will soon grow much fatter than when wild. Kircher, in his *China illustrata*, seriously tells of certain trees, whose leaves falling into the water of a lake, on the sides of which they grow, become *blackbirds*. He took this romantic story upon credit; but plays the philosopher in a very idle manner in attempting to account for it, by supposing, that it is owing to the seminal parts of some of the eggs of those birds dropped from their nests, which are sometimes built on those trees. The whole truth seems to be no more than this, that the tree easily sheds its leaves, and its young branches being brittle, are apt also to be broken by the winds. The waters are naturally strewed with these leaves, and, at the breeding-season of the birds, their nests being sometimes thrown down by the breaking of the twigs, the young ones are seen floating on the water among the leaves; and the people have been idle enough to suppose, that they were formed of them. The firm assertions of some great men about our shell-fish in Lancashire turning into geese, is a proof, that the general credit of a country about a miracle of this kind, does not prove the truth of it. *Kircher*, China illustrata.

BLACK *books*, a name given to those which treat of necromancy, or, as some call it, nigromancy. See NECROMANCY, *Cycl.*

The *black book* of the English monasteries was a detail of the scandalous enormities practised in religious houses, compiled by order of the visitors under king Henry VIII. to blacken, and thus hasten their dissolution. Vid. *Dugd.* Monast. abridg. in Pref. p. 8.

BLACK *canons*, a name given to the regular canons of St. Augustine, who wore a *black* mantle over their surplice, by way of distinction from the præmonstratenses. *Steph.* Suppl. to *Dugd.* Monast. T. 1. p. 69.

BLACK *cap*, in zoology, a name given by the common people of many counties of England to the *pewit*, a bird of the gull-kind. See the article PEWIT.

BLACK *cap* is also the common English name for the *parus palustris*, or marsh titmouse. The *atricipilla*, which is a much scarcer bird, being also called in English by the same name, many have contended for its being very common with us, mistaking it for this titmouse. *Ray*, Ornithol. p. 175. See the article ATRICIPILLA.

BLACK *diver*, in zoology, a name given by many to a species of duck very common about the coasts of Lancashire, Yorkshire, and some other counties, and called more generally the *scoter*. It is all over *black*. See SCOTER.

BLACK *game*, in zoology, a common Engliſh name for the *urogallus*, or *tetrao minor*, called alſo the *grouſe*. See the article GROUSE, *&c.*

BLACK *earth*, *terra nigra*, denotes the natural mould or loam. *Woodw.* Meth. Foſſ. p. 4. See SOIL, *&c.*

BLACK *eunuchs*, in the cuſtoms of eaſtern nations, are Ethiopians caſtrated, to whom their princes commonly commit the care of their women. *D'Herbel.* Bibl. Orient. p. 155. voc. *azhar*. See EUNUCH, *Cycl.*

BLACK *eye*, *hypoſphagma*, in medicine, a ſuffuſion of blood on the tunica adnata turning livid, occaſioned by a blow. *Caſt.* Lex. Med. p. 408. voc. *hypoſphagma*. See ECHYMOSIS, *Cycl.* and *Suppl.*

BLACK *eye* is alſo a name given to the germ in beans, which the Romans called *hilum*. *Vat.* Phyſ. Exper. P. 2. §. 6. c. 2. p. 501. See BEAN, GERMINATION, *&c.*

BLACK *fryers*, a name given to the dominican order, called alſo *predicants* and *preaching fryers*, in France *jacobins*. *Steph.* Suppl. to *Dugd.* Monaſt. T. 1. p. 186. See DOMINICANS, *Cycl.*

BLACK *land*, in agriculture, a term by which the husbandmen denote a particular ſort of clayey ſoil, which, however, they know more by its other properties than by its colour, which is rarely any thing like a true *black*, and often but a pale grey. This, however pale when dry, always blackens by means of rains; and when ploughed up at theſe ſeaſons, it ſticks to the plough-ſhares, and the more it is wrought, the muddier and duskier-coloured it appears. This ſort of ſoil always contains a large quantity of ſand, and uſually a great number of ſmall white ſtones. *Moreton's* Northampt. p. 45.

BLACK *lead*, a mineral ſubſtance, in colour reſembling lead, but more tender and friable; and on that account uſed for marking, writing, and drawing.

The name ſeems given it with ſome impropriety, the common lead being the true *black lead*, ſo called by way of contradiſtinction from tin, otherwiſe called white lead. *Plott*, in Phil. Tranſ. N° 240. p. 183. See LEAD and TIN.

*Black lead* is otherwiſe popularly denominated *wad* or *wadt*, and *kellow*; by naturaliſts *nigrica fabrilis*, from its uſe in ſcoring; by analogy to the *rubrica fabrilis*, or ruddle, which has the ſame uſe. *Woodw.* Meth. Foſſ. cl. 5. p. 43. See RUDDLE.

*Black lead* was known to the antients under the names of *plumbago*, *galena*, and *molybdena*. Vid. *Ruland.* Lex. Alchem. p. 370. voc. *plumbago*. *Caſt.* Lex. Med. p. 355. voc. *galena*. See PLUMBAGO, *&c.*

It is found in divers parts of Germany, *&c* [a]. but the better ſort is the produce of England alone, and that reſtrained to the mines near Keſwick in Cumberland; beſides which, Dr. Woodward aſſures us, there is none found worth any thing in any other country [b].—[ [a] *Savar.* Dict. Comm. T. 2. p. 739. voc. *mina de plomb*. [b] *Woodw.* Nat. Hiſt. Engl. Foſſ. T. 1. p. 5.]

'Tis ſomewhat difficult to aſcertain what claſs of minerals *black lead* belongs to. Metal it is not, as not being either ductile or even fuſible; nor can it be reckoned among ſtones, for want of hardneſs: it remains, therefore, that it muſt be placed among the earths, though it diſſolve not in water, as moſt earths will, except ſtiff clays and ochres; among the latter whereof Dr Plott judges it may be reckoned, it ſeeming to be a ſort of cloſe earth, of very fine and looſe parts, ſo burnt as to become *black* and ſhining, diſcolouring the hands, as all ochres do. Whence the moſt proper name that can be given it, according to this author, is *ochra nigra*, or *black* ochre. Phil. Tranſ. N° 240. p. 183. See OCHRE.

Some writers ſpeak alſo of a factitious *black lead*, or *plumbago*, produced in furnaces, being found adhering to the ſides of thoſe where gold or ſilver are melted. *Ruland.* Lex. Alch. p. 373. voc. *plumbago*.

BLACK *leather* is that which has paſſed the curriers hands, where, from the ruſſet as it was left by the tanners, it is become *black*, by having been ſcored and rubbed three times on the grain-ſide with copperas-water. *Hought.* Collect. T. 1. N° 122. p. 322.

BLACK *mail* (*Cycl.*)—The origin of this word is much conteſted; for though it ſeems a compoſition of *black* and *maille*, uſed for a ſmall piece of metal or money, whence the tribute of *black mails* ſeems to ſome to have been ſo denominated, as being paid not in ſilver or white money, but either in copper or victuals, according to the ability of the debtor; yet there is ground to hold the word *black* to be here a corruption of *blank* or white, and conſequently to ſignify a rent paid in a ſmall copper coin called *blanks*. This may receive ſome light from a phraſe ſtill uſed in Picardy, where ſpeaking of a perſon who has not a ſingle half-penny, they ſay, *il n' a pas une blanque maille*. *Du Cange*, Gloſſ. Lat. T. 1. p. 569. voc. *blakmale*.

BLACK *monks*, a denomination given to the benedictins [c], called in Latin *nigri monachi*, or *nigromonachi*; ſometimes *ordo nigrorum*, the order of *blacks* [d].—[ [c] *Steph.* Suppl. to *Dugd.* T. 1. p. 69. [d] *Magri*, Voc. Eccleſ.] See BENEDICTINS, *Cycl.* and *Suppl.*

BLACK *proceſſion*, in eccleſiaſtical writers, that which is made in *black* habits, and with *black* enſigns and ornaments. See PROCESSION, *Cycl.*

Antiently at Malta there was a *black proceſſion* every Friday, where the whole clergy walked with their faces covered with a *black* veil. *Magri*, lib. cit.

BLACK *rents*, the ſame with *black-mail*, ſuppoſed to be rents formerly paid in proviſions and fleſh, not in ſpecie. See BLACK *mail*, *Cycl.* and *Suppl.*

BLACK *row grains*, a ſpecies of iron-ſtone or ore found in the mines about Dudley in Staffordſhire. *Plott*, Nat. Hiſt. Staffordſh. c. 4. §. 17. p. 159.

BLACK *ſheep*, in the oriental hiſtory, the enſign or ſtandard of a race of Turkmans ſettled in Armenia and Meſopotamia; hence called the *dynaſty of the black ſheep*. Vid. *D'Herbel.* Bibl. Orient. p. 253. voc. *cara*.

BLACK *ſtones* and gems, according to Dr. Woodward, owe their colour to a mixture of tin in their compoſition. Vid. *Woodw.* Hiſt. Engl. Foſſ. T. 1. p. 190.

BLACK *tin*, in mineralogy, a denomination given to the tin-ore when dreſſed, ſtamped, and waſhed ready for the blowing-houſe, or to be melted into metal. Phil. Tranſ. N° 69. p. 2110. *Woodw.* Nat. Hiſt. Engl. Foſſ. T. 1. p. 199. *Pettus*, Hiſt. Mines, c. 18. p. 79.

It is prepared into this ſtate by means of beating and waſhing; and when it has paſſed through ſeveral baddles or waſhing-troughs, it is taken up in form of a black powder, like fine ſand, called *black tin*. See TIN.

BLACK *whytlof*, in our old writers, bread of a middle fineneſs betwixt white and brown, called in ſome parts *ravel bread*.

In religious houſes, it was the bread made for ordinary gueſts, and diſtinguiſhed from their houſhold loaf, or *panis conventualis*, which was pure manchet, or white bread. *Cowel.*

BLACK *work*, iron wrought by the blackſmith; thus called by way of oppoſition to that wrought by whiteſmiths. *Savar.* Dict. Comm. T. 2. p. 1651. voc. *taillanderie*.

BLACKING is ſometimes uſed for a factitious black, as lamp-black, ſhoe-black, *&c.* *Crouch*, Surv. Brit. Cuſt. T. 1. p. 120. See BLACK.

BLACKS, in phyſiology. See NEGRO.

BLADDER (*Cycl.*)—Though the urinary *bladder* be naturally ſingle, yet there have been inſtances of nature's varying from herſelf in this particular. The *bladder* of the famous Caſaubon, upon diſſecting his body after his death, was found to be double; and, in the Philoſophical Tranſactions, we have an account of a triple *bladder* found in the body of a gentleman, who had long been ill, and no one could gueſs the cauſe. In this perſon's beſt ſtate of health, he never could void his urine in a continued ſtream, like other healthful perſons; but the quantity uſed to come away by little and little, and that with great trouble: and in the two or three laſt years of his life, a thick mucus diſcharged itſelf with the urine, and gave him pain, which he never had been ſubject to before. He ſuſpected at length that he had a ſtone in the *bladder*, and being ſearched for it with a catheter, the perſon who performed that operation, meeting with ſome reſiſtence in the way, forced the inſtrument through the membranes, and cauſed an effuſion of blood, which finally was the cauſe of his death, and on opening him, the *bladder* was found to be triple; a circumſtance which cauſed all his complaints, but which could not be known till it diſcovered itſelf too late.

As to the figure and ſituation of the human *bladder*, Mr. Weitbrecht has given a better deſcription of them than is to be met with in the common ſyſtems. Vid. Med. Eſſ. Edinb. from Comment. Acad. Petrop. T. 5.

The diſeaſes to which the *bladder* is ſubject [a] are ulcers [b], wounds [c], deſcents or ruptures [d], preternatural contents, particularly ſtones and gravel [e], ſchirrus [f], palſies [g], inflammations of its neck [h], *&c.*—[ [a] *Diocl. Cariſt.* Epiſt. ad Antigon. ap. *Fabric.* Bibl. Græc. l. 6. c. 7. T. 12. p. 589, ſeq. [b] Phil. Tranſ. N° 280. p. 1211. where is an account of the cure of ulcers of the *bladder* by cantharides internally given, firſt practiſed by Groenvelt, and afterwards with ſucceſs by Mr. Yonge. [c] *Teichmey.* Inſt. Med. Leq. c. 23. p. 288. where it is inquired, whether wounds of the *bladder* be always mortal, as is aſſerted by Hippocrates. [d] Hiſt. Acad. Scienc. ann. 1717. p. 17. where is given an inſtance of a rupture of the *bladder*, by many held impoſſible on account of its magnitude. [e] Hiſt. Acad. Scienc. ann. 1702. p. 29. It. Mem. p. 34. *Teichmey.* ubi ſupra, c. 17. p. 138. [f] Med. Eſſ. Edinb. T. 1. §. 34. p. 321. where the hiſtory is given of a *bladder* becoming ſchirrous. [g] Id. T. 2. §. 32. p. 365. where is an inſtance of a cure of a ſuppreſſion of urine, cauſed by a palſey of the *bladder*. [h] *Littre*, in Hiſt. Acad. Scienc. ann. 1704. p. 35, ſeq. where an account is given of a total ſuppreſſion of urine, cauſed by an inflammation of the neck of the *bladder*.]

The internal membrane of the *bladder* has been known to come away with the urine, without any great danger. Mr. Rohault gives an account, in the memoirs of the academy of ſciences, of a patient he had, who, after a very violent ſtoppage of urine, voided with ſome pain a piece of a membrane of an inch ſquare. Three or four days afterwards, the patient felt ſomething again obſtruct the paſſage; and as it came nearer the end of the urethra, he at length took hold of it, and drew out a larger piece of the ſame ſort of membrane. Some time after this, in ſtraining violently in diſcharging his urine, he voided three other ſuch pieces, which together, according to Mr. Rohault's judgment, could not make leſs than two-thirds of the internal membrane of the whole *bladder*; and in effect it was plain, that, in the courſe of the diſeaſe, the whole in-

terna

ternal membrane had gradually detached itself from the external one, and made its way out by the urethra. After the whole was thus discharged, the urine found no stoppage; and it is evident, that what had before stopped its passage, was no other than the pieces of this membrane falling before, or blocking up the urethra. The pieces of the membrane, when examined, appeared to have all their blood-vessels in their natural size; and the urine, in the whole course of the disease, having never been tinged with blood, is a proof, that the membrane detached itself naturally, not by violence. The patient, after this, was wholly cured of his complaint; but had a small incontinence of urine attending him, which was plainly owing to the sphincter's having been weakened, by being, as well as the *bladder*, divested of its membranes. Mem. Acad. Par. 1714.

The operations performed on the *bladder* are chiefly section, and extraction for the stone [i]; to which may be added injection, dilatation, the application of lithontriptics [k], diuretics, &c.—[ [i] Phil. Transf. N° 236. p. 15, seq. where Hippocrates's aphorism, that the sections of the *bladder* are always mortal, is defended; and the best method of extracting the stone out of the *bladder*, especially in women, is shewn to be by a gradual dilatation of the urethra. [k] Hist. Acad. Scienc. an. 1720. p. 33. where the great impediments to the dissolution of the stone in the *bladder* by lithontriptics, are represented to be the medicines not continuing long enough in the *bladder*, and its being altered by the urine.] See STONE.

The urinary *bladders* of brutes are differently contrived from the human *bladder*, and from each other, according to the structure, œconomy, and manners of living of each creature.

Birds are usually said to be without *bladders*, as being without urine [l]; yet does not this hold universally, since, in an ostrich dissected by the French academy, a *bladder* was found situate at the extremity of the rectum, big enough to hold both fists, and in it eight ounces of urine [m].—[ [l] *Vater*. Phys. Exper. P. 2. §. 8. c. 3. qu. 4. p. 810. [m] Mem. for Nat. Hist. Anim. p. 227.]

Many have also denied a *bladder* of urine to fishes [n]; but the more exact observers find this part in all, at least, the greater part of the fishy kind [o].—[ [n] Mem. for Nat. Hist. Anim. p. 257. [o] Phil. Transf. N° 178. p. 1303, seq.]

Tortoises, Aristotle observes, have large *bladders*, and they need no less; since being covered with a thick shell, and having no pores or perspirative vessels whereby to carry off their moisture, it is retained within them, and accumulated in the *bladder* of urine. But what he adds, that the sea-tortoise has a large, and the land-tortoise a small *bladder*, is contradicted by later philosophers, who find the reverse. Perhaps the mistake may have arisen from a corruption of the text; since the reason which Aristotle assigns, seems rather to conclude against him. Mem. for Nat. Hist. Anim. p. 257.

In the lion, the *bladder* is small, as is the kidney; for that creature rarely drinks, insomuch that Albertus affirms the female does not suckle her young, as having no milk. Mem. for Nat. Hist. Anim. p. 14.

*Bladders*, when below a certain magnitude, are more usually denominated by the diminutive vesicles, *vesiculæ*.

Of these we meet with many sorts both in the animal and vegetable world; some natural, as in the lungs [p], especially of frogs [q], and as some also imagine, in the muscles [r]; others morbid or preternatural, as the hydatides [s], and those observable in the itch [t]. Naturalists have also discovered *bladders* in the thorax and abdomen of birds [u], as well as others in the belly of fishes, called *air-bladders* and *swims* [w].—[ [p] *Cast*. Lex. Med. p. 239. voc. *cystis*, where it is noted, that Malpighi held the substance of the lungs to be wholly vesicular, or composed of an infinite number of spherical *bladders*, formed of the finest and tendereſt membranes. [q] *Ent*, Antidiatr. p. 69. Phil. Transf. N° 142. p. 1073, where it is shewn, that what we call lungs in a frog, are only wind-*bladders*, answering to the office of swimming in fishes. [r] *Hook*, Philos. Collect. N° 2. p. 22, seq. *Waller*'s Life of Hook, prefix. to Posth. Works, p. 20. where the structure and action of a muscle are explained, by supposing the fibres thereof composed of a chain of little *bladders*, like a necklace of pearl, blown up by the ingress of some aerial matter or spirit. It is known, that, by blowing into a *bladder*, a small force will raise a considerable weight; but this hypothesis does not well account for the velocity or quickness wherewith muscular motions are performed. Vid. *Winsl.* in Hist. Acad. Scienc. ann. 1724. p. 43. [s] Philos. Transf. N° 295. p. 1798, where is an account of a great number of *bladders* voided by stool, and some also by vomiting. [t] Phil. Transf. N° 283. p. 1296, where it is observed, that each of the itchy *bladders* is the residence of an insect. [u] Mem. Nat. Hist. Anim. p. 179. It. p. 235. Mem. Acad. Scienc. an. 1693. p. 258, seq. *Du Hamel*, Hist. Acad. Scienc. l. 3. §. 6. c. 2. p. 277, seq. [w] *Niewent*. Relig. Philos. cont. 22. §. 26. p. 346. Phil. Transf. N° 178. p. 1303, seq.]

Vegetable *bladders* are found every-where, in the structure of the bark [x], the fruit, pith [y], and parenchyma, or pulp [z]; besides those morbid ones raised on the surface of leaves by the puncture of insects [a].—[ [x] *Grew*, Anat. Plants, l. 3. c. 2. §. 2. p. 107. It. l. 3. c. 4. §. 1. p. 119. [y] Id. ibid. l. 2. c. 1. §. 5. p. 62. & c. 3. §. 4. p. 64. & c. 5. §. 6. p. 76. [z] Id. ibid. l. 1. c. 1. §. 18. p. 4. & l. 4. c. 1. §. 3. p. 179. & c. 3. §. 2. p. 182. [a] Mem. Acad. Scienc. 1724. p. 463.]

*Air*-BLADDER, in fishes, is a hollow membranous body, always distended with air, and affixed generally to the backbone. Artedi's description of the *air-bladder*, being more particular than what we have already given under the article *air*, is as follows.

In the spinose-fish it is always found single, and is found in all of them, except the pleuronectæ. As to its figure, it is in some fish single, oblong, and pointed at each end, as in the clupea and osmerus. In others it is oblong, and more obtuse at the ends, as in the esox, pearch, salmon, &c. In others it is oblong, and obtuse in the lower part; but, in the upper part, divided into two parts, as it were, in the manner of the figure of a heart at cards.: this is its figure in the lucioperca, and the mustela fluviatilis. In others it is transversely divided into two lobes, the hinder one being larger, as in the cyprini and congers; and in some it is divided longitudinally into two parts, as in the silurus.

As to the differences of its situation, it is, in some, extended along the whole abdomen from the diaphragm to the anus. This is the case in the cyprini, clupeæ, coregones, salmons, &c. In others it is lodged only in the upper part of the abdomen, separated by a membrane from the rest of the abdomen. As to its connection to the other parts of the fish, it is in some wholly free and loose, except that it adheres to the stomach by the pneumatic duct, as in the cyprini and clupeæ. In others it is longitudinally affixed to the backbone, as in the pearch, salmon, coregones, esoces, &c. *Artedi*, Ichthyol. See the articles AIR-*bladder* and DUCTUS *pneumaticus*.

*Oil*-BLADDERS, in the anatomy of plants. See OIL-*bladders*.

BLADDER *puceron*. See PUCERON.

BLADE, in botany, that part of the flower, or florid attire of a plant, which arises out of the concave of the sheath, and, at the top, usually divides into two parts, which are covered with globules of the same nature as those of the apices, but not so copious. *Grew*, Anat. of Plants, l. 1. c. 5. §. 20. p. 39.

The *blade* runs through the hollow of the sheath and base, and is fastened to the convex of the seed-case, having its head and sides beset with globules, which, through a glass, appear like turnip-seeds, and which, in some plants, grow close to the *blade*, and in others adhere to it by little pedicles, or foot-stalks. These globules, as the *blade* springs up from within the sheath, are still rubbed off, and so stand like a powder on both. In some plants, as knap-weed, they seem also to grow on the inside of the sheath, as appears on splitting it with a pin.

The head of a *blade* is divided usually into two; but sometimes, as in the cichory, into three parts, which, by degrees, curl outward, like scorpion-grass. *Grew*, ibid. l. 4. c. 4. §. 5, p. 170, seq.

BLADE, in commerce, a thin, slender piece of metal, either forged by the hammer, or run and cast in moulds, to be afterwards sharpened to a point, edge, or the like. *Savar*. Dict. Comm. T. 1. p. 476. voc. *lame*.

Sword-*blades* are made by the armourers, knife-*blades* by the cutlers, &c.

The English and Damascus *blades* are most esteemed. Among the French, those of Vienne in Dauphiny have the preference. *Savar*. loc. cit.

The conditions of a good *blade* of a small sword are, that it be light and tough, apter to bend than break. When it will stand in the bend, it is called *a poor man's blade*. *Hope*, Art. of Fenc. c. 4. §. 3. p. 60. It. c. 7. p. 200.

BLADE *of a chissel* is the iron or steel-part, as distinguished from the wooden handle. *Moxon*, Mech. Exerc. p. 77. Id. ibid. p. 202.

BLADE *of mace*, or cinamon, among apothecaries, are little slips or slices of those barks.

BLADE *of an oar* is the flat part, which is plunged into the water in rowing. On the length of this does the force and effect of the oar depend. *Petty*, Dis. of Dupl. Propor. p. 59.

BLADE *of a saw*, the thin part wherein the teeth are cut, which, to be good, must be stiff, yet bend equally into a regular bow all the way, without yielding more in one place than another. *Moxon*, Mech. Exerc. p. 96.

BLADE-*mill* is that contrived for grinding iron-tools, as scithes, reaping-hooks, axes, chissels, and the like, to a bright edge. *Hought*. Collect. T. 2. N° 276. p. 232.

BLADUM, in middle-age writers, is taken for all sort of standing corn in the blade and ear. The word is also written *blatum*, *blava*, and *blavium*.

In our old charters, the word *bladum* included the whole product of the ground, fruit, corn, flax, grass, &c. and whatever was opposed to living creatures. Vid. *Du Cange*, Gloss. Lat. T. 1. p. 567 & 571.

The word *bladum* was sometimes also applied to all sort of grain or corn threshed on the floor [a]: *tria quarteria frumenti, tria quarteria avenarum, & unum quarterium fabarum, erunt quieti de solutione prædicti bladi in perpetuum* [b].—[ [a] *Kennet*, Paroch. Antiq. p. 291. [b] *Calv*. Lex. Jur. p. 117, seq. See also *Du Cange*, Gloss. Lat. T. 1. p. 567. *Spelm*. Gloss. Arch. p. 83.

But the word was more peculiarly appropriated to bread-corn, or wheat, called in French *blé*.

Thus the knights templars are said to have granted to Sir Wido

de Meriton's wife *duas summas bladi*. *Kenn.* Gloss. ad Paroch. Antiq. in voc. *Casen.* Orig. Franc. p. 25. *Menag.* Orig. Franc. p. 106.

BLÆSUS, βλαισος, among medical writers, the same with *balbus*. *Sigon.* de Nom. Rom. ap. Gothofr. Script. Lat. p. 2440. voc. βλαισος. *Calv.* Lex. Jur. p. 118.

Dr. Holder calls the letters F. and Th. *Blese*, in regard of the difficulty multitudes find of pronouncing them. *Hold.* Elem. Speech, p. 52.

The word is also used to denote an irregularity in the figure of the limbs, especially the legs, when bent outwards. *Gorr.* Def. Med. p. 75. *Cast.* Lex. Med. p. 106.

BLAISE, a military order instituted by the kings of Armenia, in honour of *St. Blaise*, antiently bishop of Sebasta in that country, the patron saint of that nation.

Justinian calls them *knights of St. Blaise and St. Mary*, and places them not only in Armenia, but in Palestine. *Giust.* Hist. Ord. Mil. T. 1. c. 24.

They made a particular vow to defend the catholick religion of the church of Rome, and followed the rule of St. Basil. Trev. Dict. Univ. T. 1. p. 1057.

The precise year of the institution of the knights of *St. Blaise* is not known; but they appear to have commenced about the same time with the knights templars, and hospitallers, to the former of which they bore a near affinity; the regulars being the same in both.

BLANC. See the article BLANK.

BLANCS *manteaux*, a name originally given to the servites, or servants of the blessed virgin, on account of their white cloaks; but since applied to divers sorts of religious, who have successively inhabited the house of the servites, and now to the benedictins at Paris, though habited in black. Trev. Dict. Univ. T. 1. p 1061.

BLANCA, in medicine, denotes a lenitive composition, formerly much in use; so called either from its white colour, or because of its purging white, *i. e.* phlegmatic humours. There were three sorts; a great, middle, and least *blanca*. *Cast.* Lex. Med. p. 106.

BLANCA *mulierum*, among the chemists, signifies ceruss. *Ruland.* Lex Alch. p. 104. See CERUSS.

*Charta* BLANCA, *carta bianca*, a sort of white paper signed at the bottom with a person's name, and sometimes also sealed with his seal; giving another power to superscribe what conditions he pleases. *Fæsch.* p. 96.

Much like this is the French *blanc signe*, a paper without writing, excepting a signature at the bottom, given by contending parties to arbitrators, or common friends, to fill up with the conditions they judge reasonable, in order to end the quarrel. *Savar.* Dict. Com. T. 1. p. 356. Trev. Dict. Univ. T. 1. p. 1060.

BLANCH *fermé*, or BLANK-*farm*, a *white farm*, that is, where the rent was to be paid in silver, not in cattle. *Jac.* Law Dict. in voc. *Skin.* Etym in voc.

In antient times the crown rents were many times reserved to be paid in *libris albis*, called *blanch firmes*: In which case the buyer was holden *dealbare firmam*; *viz.* his base money or coin, worse than standard, was melted down in the exchequer, and reduced to the fineness of standard silver; or instead thereof he paid to the king 12*d.* in the pound, by way of addition. *Lownd.* Ess. on coin, p. 5.

BLANCHERS, a name given to mechanics employed in *blanching*. See BLANCHING.

BLANCHING, (*Cycl.*) in gardening, an operation performed on certain sallets, roots, &c. as of sellery and endives, to render them fairer and fitter for the table.

The time for *blanching* of sellery is about the middle of June, when some of the first sowing will be fit to plant out in trenches for this purpose. These trenches are to be cut by a line eight or ten inches wide, and about as many deep; into which they put their plants, after having first pruned off the tops and roots. As they grow large, they earth them up within four or five inches of their tops, and so continue to do at several times, till whitened sufficiently for use; which they will not ordinarily be till six weeks after earthing them up [a]. For endive, as soon as it is well grown, they tie up some of it to whiten; and continue every fortnight, as long as it lasts, to tie up fresh parcels [b]. [[a] *Bradl.* New Improv. Gard. P. 3. p. 162. [b] *Bradl.* l. c. p. 163.]

BLANCHING is also a term used by the people, who cover thin plates of iron with tin, for that part of the work, which consists in dipping the plates into the melted tin, in order to the covering of them. The people who do this part of the business are hence called *blanchers*.

BLANK, or BLANC, in a general sense, signifies *white*.

BLANK, BLANCUS, or BLANCA, is more particularly used for a kind of white, or silver money, of base alloy, coined by Henry the 5th, in those parts of France then subject to England, valued at 8*d.* sterl. [a]. They were forbidden by his successor to be current in this realm [b]. In some antient charters they are called *solidi blanci*, white Shillings [c].—[[a] *Stow*, Ann. p. 586. [b] Stat. 2. Hen. 6. c. 9. *Jac.* Law Dict. in voc. *Spelm.* Gloss. p. 83. *Cow.* Interp. in voc. *Skin.* Etym. in voc. [c] *Dugd.* Monast. T. 1. p. 352. *Du Cange*, Gloss. Lat. T. 1. p. 569. *Menag.* Orig. Franc. p. 105.]

BLANK also denotes a small copper coin, formerly current in France, at the rate of five deniers Tournois.

They had also great *blanks*, or pieces of three *blanks*, and others of six, in respect whereof the single sort were called little *blanks*; but of late they are all become only monies of account. *Savar.* Dict. Comm. T. 1. p. 356. See also, Trev. Dict. Univ. T. 1. p. 1060.

BLANK, or BLANK-*ticket*, in lotteries, that to which no prize is allotted. See LOTTERY, *Cycl.*

The French have a game, under the denomination *blanque*, answering to our lottery. *Savar.* Dict. Comm. Supp. in voc. Trev. Dict. Univ. T. 1. p. 1063. *Menag.* Orig. T. 1. p. 105. voc. *blanque*.

BLANK, in coinage, a plate, or piece of gold, or silver, cut and shaped for a coin, but not yet stamped. Vid. *Savar.* Dict. Comm. T. 2. p. 184.

BLANK, in zoology, a name given by authors to a species of the cod-fish, called *gelbe*, *kolmulen*, and *asellus flavescens*. It comes the nearest of all the species to the whiting pollack, but its fins are smaller; and those under the gills are of a fine clear yellow; all the rest of a dusky brownish hue, but with some yellow intermixed. Its back and sides are also of a brownish yellow, and are variegated with a great number of saffron-coloured marks. The belly is of a fine silvery whiteness; and the line that runs on each side, from the gills to the tail, is yellow, and is somewhat arched near the abdomen. *Willughby's* Hist. Pisc. p. 173.

BLANK-*bar*, in law, is used for the same with what we call a *common bar*, and is the name of a *plea in bar*, which in an action of trespass is put in to oblige the plaintiff to assign the certain place, where the trespass was committed.

It is most in practice in C. B. for in the court of B. R. the place is usually ascertained in the declaration. *Blount*.

BLANKET, in commerce, a warm woolly sort of stuff, light and loose woven; chiefly used in bedding.

The manufacture of *blankets* is chiefly confined to Witney in Oxfordshire, where it is advanced to that height, that no other place comes near it. Some attribute a great part of the excellency of the Witney *blankets* to the abstersive, nitrous water of the river Windrush, wherewith they are scoured; others rather think they owe it to a peculiar way of loose spinning, which the people have thereabouts. Be this as it will, the place has engrossed almost the whole trade of the nation for this commodity; insomuch, that the wool fit for it, centers here from the furthermost parts of the kingdom. There are said to be at least threescore blanketers in this town, who, amongst them, have at least 150 looms, and employ 3000 persons, from children of eight years old, who work out about a hundred packs of wool per week. *Plott*, Nat. Hist. Oxford. c. 9. §. 169. p. 283.

*Blankets* are made of felt-wool, *i. e.* wool from off sheep-skins, which they divide into several sorts.

Of the head wool, and bay wool, they make *blankets* of 12, 11, and 10 quarters broad; of the ordinary and middle sort, *blankets* of eight and seven quarters broad; of the best tail wool, *blankets* of six quarters broad, commonly called *cuts*, serving for seamen's hammocks. *Plott*, lib. cit. §. 170. seq. p. 284, seq.

*Tossing in a* BLANKET, a ludicrous kind of exercise, or rather punishment, of which we find mention in the antients, under the denominations παλμος, and *sagatio* [a]. Martial describes it graphically enough.—*Ibis ab excusso, missus ad astra, sago* [b].—[[a] Vid. *Pitisc.* Lex. Antiq. T. 2. p. 672. voc. *sagatio*. [b] *Mart.* l. 1. Epig. 4. *v.* 8.]

A late writer represents it as one of Otho's imperial delights, to be *tossed in a blanket* [c]: But this is turning the tables; that emperor's diversion, as related by Suetonius, was not to be the subject, but the agent in the affair; it being his practice to stroll out in dark nights, and where he met with a helpless, or drunken man, to give him the discipline of the *blanket* [d].—[[c] Trev. Dict. Univ. T. 1. p. 995. voc. *berner*. [d] *Suet.* in Othone, §. 2.]

BLANQUILLE, a small silver coin, equivalent to about 2*d.* sterling, current in Morocco, and on the coasts of Barbary. *Savar.* Dict. Comm. T. 1. p. 364.

BLAPSIGONIA, βλαψιγονια, a kind of disease, or defect in bees, when they neglect, or fail to produce young, being wholly employed in making honey. *Plin.* Hist. Nat. l. 11. c. 19. *Columell.* l. 9. c. 13. p. 335.

The word is Greek, compounded of βλαπτω, I hurt, and γονη, brood or issue.

BLARE, a small copper coin, containing a little mixture of silver, struck at Bern, and valued at much the same with the *ratze* in other places. *Savar.* Dict Comm. T. 1. p. 364.

BLAS, a novel term, in the Helmontian philosophy, denoting the local, and alterative motion of the stars; from whose influence proceed changes of weather, seasons, storms, and the like.

In imitation of this *blas stellarum*, the same author framed another in animals, either natural, whereby each viscus is framed, according to the model of its particular; or voluntary, which is directed to motion by the will. *Helmont*, Tract.

Blas Meteor. & Blas Humanum. See alſo *Caſt.* Lex. Med. p. 106, ſeq.

BLASIA, in botany, the name of a genus of plants approaching to the nature of the *lichens*, the characters of which are theſe; the male flower has a cup compoſed of one leaf, which is oval at the baſe, ſomewhat cylindric in the middle, and expanded and truncated at the top; in this are contained a number of looſe granules, which ſeem to perform the office of apices, and contain the farina fœcundans. The female flower has ſcarce any cup, but produces a ſingle roundiſh fruit, uſually immerſed in the leaves; in this are contained certain round bodies, which appear to be ſeeds. Linnæus is much in doubt, whether theſe flowers are not to be underſtood a contrary way, and ſeems to ſuſpect, that what are called female flowers are really male ones; and what are called male, female. *Linnæi*, Gen. Plant. p. 807.

BLASPHEMY, *blaſphemia*, or *blaſphemium*, in middle-age writers, denotes ſimply the blaming, or condemning of a perſon, or thing. *Du Cange*, Gloſſ. Lat. T. 1. p. 570. voc. *blaſphemare*. Trev. Dict. Univ. T. 1. p. 1064. voc. *blaſmer*.

The word is Greek, βλασφημια, though others will have it deduced from the Italian *biaſimare*, or French *blaſmer*, which ſignifies the ſame. *Menag.* Orig. p. 105. *Caſen.* Orig. p. 25. voc. *Blaſmer*. Trev. loc. cit. *Voſſ.* Etym. p. 72. voc. *blaſphemus*. *Spelm.* Gloſſ. Arch. p. 83. voc. *blaſphemare*.

In this ſenſe, we meet with to *blaſpheme* the religion of a monaſtery. Azymos bread in the Euchariſt was called, *panis blaſphematus*, as being held unlawful. *Du Cange*, Gloſſ. Lat. T. 1. p. 570.

To blaſpheme a judgment or ſentence, *blaſphemare judicium*, was to falſify, *i. e.* impugn it as falſe, and appeal from it; anſwering to the French formula, ſtill in uſe, *blaſmer une ſentence*.

Among the Greeks *to blaſpheme*, βασφημιαν φθεγξασθαι, was to uſe words of evil omen, or that portended ſomething ill, which the antients were careful to avoid, ſubſtituting in lieu of them other words of ſofter and gentler import, ſometimes the very reverſe of the proper ones. Vid. *Lakemak.* Antiq. Græc. Sacr. P. 3. c. 10. §. 4. p 566, ſeq.

BLASPHEMY is more particularly uſed for the accuſing or condemning a thing that is good, *eſt blaſphemia cum aliqua mala dicuntur de bonis*. In which ſenſe, *blaſphemy* may hold both in reſpect of God and man.

Accordingly, among the ſchoolmen and caſuiſts, we meet with *blaſphemy* uſed for reproachful words againſt the ſaints, things ſacred, the myſteries of religion, *&c.* Trev. Dict. Univ. T. 1. p. 1066. *Magr.* Not. Vocab. Eccleſ. p. 37.

BLASPHEMY is more peculiarly reſtrained to evil or reproachful words ſpoken of the Deity. Auguſtin ſays, *jam vulgo blaſphemia non accipitur niſi mala verba de Deo dicere*. Vid. *Auguſt.* de Morib. Manich. l. 2. c. 11. *Du Cange*, Gloſſ. Lat. T. 1. p. 570.

In which ſenſe, *blaſphemy* may be defined, either by detracting from God that power or goodneſs which belongs to his nature, or by attributing to God ſomething that is not agreeable to his eſſential attributes. *Wood*, Inſt. Imp. Law. l. 3. c. 10. p. 270.

*Blaſphemy*, in this ſenſe, makes a crime to be puniſhed by the judge. St. Chryſoſtom does not allow it to be left to the magiſtrate, but enjoins private perſons to inflict a puniſhment. If thou meeteſt a man *blaſpheming*, ſtrike him a box on the ear, give him a daſh on the mouth, and ſanctify thy hand with a blow. *Chryſoſt.* Hom. 1. ad Antioch. p. 460. Edit. *Savil.*

The antient church diſtinguiſhed three kinds of *blaſphemy*; *viz.* that of apoſtates, and lapſers; of heretics, and prophane perſons; and the *blaſphemy* againſt the Holy Ghoſt.

The *blaſphemy* of apoſtates, and lapſers, conſiſted in a formula of words reviling, and curſing Chriſt, which the heathen perſecutors obliged their converts to pronounce. This appears to have been the common way of renouncing their religion. *Euſeb.* Hiſt. Eccleſ. l. 4. c. 15.

There ſeems to have been a peculiar formula of blaſphemous words, which the confeſſors were required to pronounce; but what they were does not appear. *Bingh.* Orig. Eccleſ. l. 16. c. 7. §. 1.

What the *blaſphemy againſt the Holy Ghoſt* is, which is pronounced unpardonable, has been much controverted; ſome hold it to be lapſing into idolatry; others denying Chriſt; others oppoſing the divinity of the Holy Ghoſt; others in attributing the miraculous works of the Holy Spirit to the operation of the devil. Vid. *Matth.* c. 12. v. 31. *Eulog.* Contr. Novat. l. 1. *Phot.* Bibl. Cod. 280. p. 1599. *Bingh.* loc. cit. §. 3.

The *blaſphemy* of heretics, and prophane perſons, conſiſted either in maintaining impious doctrines, or uttering impious diſcourſes, derogatory to the honour and majeſty of God, or detracting from the excellencies of the divine nature. In this ſenſe Chryſoſtom [a] terms thoſe *blaſphemers*, who introduced fate, in derogation of the providence of God. Irenæus [b] gives the ſame appellation to thoſe who denied God to be the creator of the world. And the Arians and Neſtorians are generally charged with the ſame, for denying the divinity of Chriſt [c]. St. Cyril has written expreſsly againſt the *blaſphemies* of Neſtorius [d].—[a *Chryſoſt.* Hom. 2. de fato. opp. T. 1. p. 118. b *Iren.* Præf. ad Libr. 4. c *Bingh.* l. c. §. 2. d Vid. *Fabric.* Bibl. Græc. l. 5. c. 27. §. 16. T. 8. p. 568.]

In this ſenſe, heathens, Jews, and other infidels, are charged with *blaſphe ming* Chriſt, and his goſpel. Porphyry, Celſus, Julian, and Proclus, are noted *blaſphemers*; and Lucian, for his ſarcaſms, has even acquired the ſurname *Dyſphemus*, or the *blaſphemer*. *Fabric.* Bibl. Græc. l. 5. c. 40. p. 730.

The charge of *blaſphemy* on the Jews has been maintained by ſeveral of the converts from judaiſm, as *Chriſtlieb* [a] and others. Rabbi Lipman's book, entitled *Nizzachon*, is full of *blaſphemies* of this kind [b]. But much more ſo is another book among the Jews, called *Zefer toldot Jehoſchua hanozeri*, or *the book of the generation of Jeſus the wanderer*; where he is never mentioned, but as the moſt vile and flagitious of men; and charged with crimes moſt abominable to nature [c].—[a Vid. *Wolf.* Bibl. Hebr. T. 3. p. 958. b Id. ibid. T. 1. p. 736. c Vid. *Nigri.* Tract. contra Judæos, p. 64. ap. *Wolf.* Bibl. Hebr. T. 2. l. 5. p. 1114.]

By the canon law, *blaſphemy* was puniſhed only by a ſolemn penance; and by cuſtom, either by a pecuniary or corporal puniſhment [a]. By the *Engliſh* laws, *blaſphemies* of God, as denying his being, or providence, and all contumelious reproaches of Jeſus Chriſt, *&c.* are puniſhed by fine, impriſonment, and pillory [b]. And, by the ſtatute law, he that denies one of the perſons in the Trinity, or aſſerts there are more than one, or denies Chriſtianity to be true; for the firſt offence, the party is rendered incapable of any office; for the ſecond, adjudged incapable of ſuing, being executor or guardian, receiving any gift or legacy, and to be impriſoned for three years [c].—[a *Greenw.* de Legib. Abrog. in Nov. 77. b *Hawk.* Pl. Cr. T. 1. p. 8. c Stat. 9 and 10 Will. 3. c. 32. *Wood*, Inſt. Engl. Law. l. 3. c. 3. p. 396.]

By the moſaic law, *blaſphemy* was puniſhed with death. Levit. xxiv. 13—16. As alſo by the civil law. Novel. 77. In Spain, Naples, France, and Italy, the pains of death are not now inflicted. In the empire, either amputation, or death, is made the puniſhment of this crime. See *Carpzov.* P. 1. Q. 45. n. 4. and 24.

Yet it is to be obſerved, that the law of thoſe countries takes *blaſphemy* as *læſa majeſtas divina*; and that it may be committed, either by the abſolute denial of the exiſtence of the ſupreme being; or of any of his eſſential attributes. Abſolute *blaſphemy*, that is, the abſolute denial of the exiſtence of God, is puniſhed capitally; and this puniſhment is extended to thoſe, who utter maledictions againſt the author of their being. But this rule is limited in practice, and only inflicts an arbitrary puniſhment. 1. In the caſe of thoſe under a total alienation of mind, by the effects of wine. 2. Of thoſe ſurprized by ſome violent fit of grief or anger, from ſome cauſe of moment, and while lawfully employed. 3. Of thoſe who ſhew a ſudden repentance, accompanied with horror at their crime: but ruſticity is no excuſe.

According to the law of Scotland, the puniſhment of *blaſphemy* is death. The firſt ſpecies thereof conſiſts in railing at, or curſing God, and here the ſingle act conſtitutes the crime. The ſecond conſiſts in denying the exiſtence of the ſupreme being, or any of the perſons of the Trinity; and therein obſtinately perſevering to the laſt. For reiterated denial does not fully conſtitute the crime, becauſe the Stat. of Charles 2. 1661. admits of repentance before conviction, as a complete expiation.

This ſtatute of 1661, is ratified by a ſtatute of king William, whereby the calling in queſtion the exiſtence of God, or of any of the perſons of the Trinity, or the authority of ſcripture, or the divine providence, is made penal. For the firſt offence impriſonment, till ſatisfaction given by publick repentance in ſack-cloth. For the ſecond, a fine of a year's valued rent of the real eſtate, and twentieth part of the perſonal eſtate. And the trial in both theſe caſes is competent to inferior judges. The trial of the third offence is death, to be tried only by the juſtices. *Bayne.*

BLAST, *flatus*, in the military art, a ſudden compreſſion of the air, cauſed by the diſcharge of the bullet out of a great gun. Trev. Dict. Univ. T. 4. p. 1829. voc. *Souffle.*

The *blaſt* ſometimes throws down part of the embraſures of the wall.

BLAST is alſo applied, in a more general ſenſe, to any forcible ſtream of wind, or air; excited by the mouth, bellows, or the like. Men, trees, houſes, are ſometimes thrown down by a *blaſt* of lightning: A *blaſt* of gunpowder will ſometimes ſhatter the windows at a diſtance. Vid. Phil. Tranſ. N° 236. p. 11. See THUNDER, LIGHTNING, *&c.*

The walls of Jericho fell down with the *blaſt* of rams-horn. St. John ſpeaks of the *blaſts* of a trumpet uſhering in the reſurrection. Theſe have been adopted by the followers of Mahomet, who have many traditions concerning the three *blaſts* of the laſt trumpet. The firſt, which they call the *blaſt of conſternation*, is to ſtrike all creatures in heaven and earth with terror; to ſhake the earth, level mountains, and throw the ſtars into the ſea. The ſecond is called the *blaſt of inanition*, at which all creatures, both in heaven and earth, are to be annihilated, except thoſe whom God ſhall be pleaſed to exempt from the common fate. Forty years after is to be heard the third, or *blaſt of reſurrection*; at which the angels, being reſtored

ſtored to life, ſhall call together all the dry, rotten bones, duſt, &c. to the very hairs of the head, to come to judgment. *Sale*, Prelim. Diſc. to Koran. ſect. 4. §. 17. p. 82. ſeq.

BLAST is alſo uſed in agriculture and gardening, for what is otherwiſe called a *blight*. *Mortim.* Syſt. of Huſbandry, T. 1. p. 303. See BLIGHT.

*Blaſts* differ from mildews, *rubigines*. See MILDEW.

The ſmut of corn is a ſpecies of *blaſt*. Vid. *Plott*, Nat. Hiſt. Stafford. c 9. §. 37. See SMUT.

*Blaſts*, or *blaſtings*, are by ſome ſuppoſed owing to cold [a]; by others, to the want of a due ſupply of ſap [b]; by others, to aſcending fumes of the earth [c]; by others, to ſharp winds and froſts, immediately ſucceeding rains [d]. [[a] *Calv.* Lex. Jur. p. 958. voc *uredo*. [b] Phil. Tranſ. N° 44. p. 881. [c] *Boyle*, Phil. Work. Abr. T. 3. p. 533. [d] Ruſt. Dict. in voc.]

That ſpecies called *uredines*, or *fire-blaſts*, is ſuppoſed by Mr. Hales owing to the ſolar rays reflected from, or condenſed in the clouds, or even collected by the denſe ſteams in hop-gardens, and other places. Vid. Phil. Tranſ. N° 399. p. 269.

The effect of them is to wither, ſhrivel, ſcorch, turn black, and, as it were, burn up the leaves, bloſſoms, and fruits of trees, ſhrubs, herbs, graſs, corn, even for whole tracts of ground. *Boyle*, loc. cit.

Phyſicians alſo ſpeak of a kind of *blaſts* affecting human bodies, and cauſing eryſipela's, palſies, &c. *Shaw*, New Pract. of Phyſ. p. 163. See ERYSIPELAS, PALSY, &c.

BLASTS, among miners. See DAMPS.

BLASTED, ſomething ſtruck with a blaſt. See BLAST.

Among the Romans, places *blaſted* with lightning were to be conſecrated to Jupiter, under the name of *bidentalia*, and *putealia*. See BIDENTAL and PUTEAL.

It was alſo a piece of religion to burn *blaſted* bodies in the fire. *Pitiſc.* Lex. Ant. T. 1. p. 825. voc. *fulgurati*.

BLASTING, among miners, a term for the tearing up rocks, which they find in their way, by gunpowder. The method of doing which is this; they make a long hole, like the hollow of a large-gun-barrel, in the rock they would ſplit; this they fill with gunpowder, then they firmly ſtop up the mouth of the hole with clay, except a touch-hole, at which they leave a match to fire it. A ſmall quantity of powder does great things this way. *Shaw's* Lectures, p. 247.

BLASTOLOGY, βλαστολογια, the regular and ſtated pruning of vines. *Salmaſ.* Exerc. ad Solin. p. 519, b. See VINE.

BLASTUM *moſylitum*, in the materia medica, a term uſed by ſome writers to expreſs the *caſſia lignea*, or caſſia bark, when not peeled off from the branches, but kept with the wood within it; this was a common way of collecting and preſerving, not only this bark, but the cinnamon, and many others. The word cinnamon with them is never uſed to expreſs any thing but this ſort of drug, the young ſhoots of the tree preſerved with the bark upon them: when they peeled off the bark, and kept it ſeparate, they called it *caſſia ſyrinx*, or *caſſia fiſtula*; and when they preſerved it with the wood within it, they called it *caſſia lignea*, or *hylo-caſſia*, and *blaſtum moſylitum*. We have perverted the ſenſe of theſe words, ſince their time, but this was their original meaning.

BLATTA, (*Cycl.*) in natural hiſtory, the name of a ſpecies of beetle, called by Columna *ſcarabæus teſtudinatus*. The common kind are frequently found in bakers houſes; the males have wings, and are ſmaller than the females, which have only a ſort of rudiments of wings near the ſhoulders, and are much rougher on the body than the males. The common length is about an inch; the head is ſmall, and is furniſhed with two long and ſlender antennæ, which are remarkably mobile any way. The breaſt is covered with a cruſtaceous ſcale; the wings in the male are four, the outer ones are of a middle nature, between the cruſtaceous and membranaceous kinds, the under wings are wholly membranaceous, and white; the legs are very long, and hairy on each ſide; and the tail has two ſpines ſtanding out at it, which give it a forked look. The female is of a blacker colour than the male, and has a broader body, covered with eight or nine ſcales. *Columna*, Aquat & Terreſtr. Obſ. cap. 19. *Ray's* Hiſt. Inſect. p. 68.

Beſide this kind, which is very common with us, there is another found in Jamaica, which is larger than the former, and has wings that cover the whole body, and reach beyond the tail: alſo a ſmall kind, found both in the Eaſt and Weſt Indies; the wings of which are of a yellowiſh colour, and the ſhoulders variegated with lines and ſpots of black.

BLATTA, in middle-age writers, denotes a purple in the wool or ſilk, dyed with the liquor of the fiſh of the *blatta*. *Briſſ.* de Verb. ſignif. p. 80. *Calv.* Lex. Jur. p. 118. *Pitiſc.* Lex. Ant. T. 1. p. 284. *Fab.* Theſ. p. 359. *Voſſ.* Etym. p. 72.

This was otherwiſe denominated *blatta ſerica*, or *blatto-ſericum*; whence alſo *blattiarius*, uſed in antient writers for a dyer in purple. *Pitiſc.* Lex. Ant. loc. cit. *Fab.* loc. cit.

BLATTA, according to ſome writers, was alſo uſed for the kermes inſect [a]; and, according to others, for the purple worm [b]. But both of theſe acceptations are ſuſpicious.—[[a] Vid. *Du Cange*, Gloſſ. Lat. T. 1. p. 571. [b] *Paul. Diacon.* ap. eund. ibid.] See KERMES.

We know that it was antiently uſed for a kind of moth, or fly, whoſe fat was reputed excellent for the ears. *Plin.* Hiſt. Nat. l. 29. c. 6. *Harduin.* Not ad loc.

BLATTARIA, *moth mullein*, in botany, the name of a genus of plants, the characters of which are theſe. The flower in all particulars reſembles that of mullein; the fruit, however, is not oval or pointed, but round, or nearly ſo

The ſpecies of *blattaria* enumerated by Mr. Tournefort are theſe.

1. The yellow *blattaria*, with long laciniated leaves. 2. The white flowered *moth mullein*. 3. The purple flowered *moth mullein*. 4. The duſky, or browniſh purple flowered *blattaria*. 5. The violet flowered *blattaria*, with large ſhining flowers. 6. The duſky blue flowered *blattaria*. 7. The ferrugineous coloured *blattaria*. 8. The perennial Engliſh *blattaria*, with duſky red flowers. 9. The great flowered *blattaria*. 10. The great flowered *blattaria*, with leaves like white mullein, and yellow flowers. 11. Hoary *blattaria*, with multifid leaves. 12. Hoary perennial cretic *blattaria*, with leaves placed two and two at the ſtalk. *Turn.* Inſt. p. 147.

BLEA, in vegetables, is that part of a tree, which lies immediately under the bark, and between that and the hard wood, and is the firſt progreſs of the alteration of the bark into wood by the natural growth and ſtrengthning of the fibres.

While the *blea* remains yet ſoft, and retains ſomething of the nature of bark, it may maintain a feeble vegetation; but when it is grown abſolutely hard and woody, it can contribute nothing to the growth of the tree. The vegetation of the young branches of trees is the moſt lively and vigorous, and the only one that goes as far as the flowers and fruit, and that becauſe theſe branches are little elſe but bark. *Boerhaave's* Chym. n. p. 138.

BLEACHED. See BLEACHING, *Cycl.*

We ſay *bleached* hair [a], *bleached* linnen [b], *bleached* yarn or thread [c], *bleached* wax, &c.[d]—[[a] *Savar.* Dict. Comm. T. 2. p. 345. voce *herbe*. [b] *Skin.* Etym. in voc. [c] *Savar.* T. 1. p. 1635. voc. *fil.* [d] Id. in Suppl. p. 147. voc. *cire*.] See the article HAIR, &c.

BLEAKE, in ichthyology, a name given by us to the fiſh, called by authors the *alburnus* and *albula*. According to the new ſyſtem of Artedi, it is a ſpecies of the *cyprinus*. The French call it the *ablette*. See the articles ALBURNUS and CYPRINUS.

BLEB, a ſmall bliſter or bubble. See BUBBLE, *Cycl.*

Naturaliſts have obſerved ſmall purple *blebs* on all the plants of the *hypericum* kind. Phil. Tranſ N° 224. p. 365.

Thick pieces of glaſs, fit for large optic glaſſes, are rarely to be had without *blebs*. Id. N° 4. p. 57.

BLEEDING (*Cycl.*)—The puncture made in the operation of *bleeding* ſhould neither be too ſmall, nor too large. In the making it, the lancet is to be puſhed ſlightly forward by the thumb and forefinger, till it has penetrated through the coats of the vein; and at that inſtant it ſhould be raiſed a little upwards, in order to inlarge the orifice, and give a more free paſſage to the blood. The operator ſhould keep between the two extremes of raſhneſs and timidity in making the puncture; for, as in the one caſe, he will only divide the common integuments, and leave the work undone, ſo, in the other, he will run the riſk of wounding an artery, nerve, or tendon. Different ſurgeons open the vein in three different directions: ſome make the orifice in a ſtreight line with the courſe of the vein; others tranſverſely; but moſt make it obliquely: and if the patient is to be blooded in the left-arm, the ſurgeon ſhould be able to uſe his left hand, inſtead of his right. *Heiſter's* Surgery, p. 276.

If the blood ſtops after a ſmall time, looſen the bandage a little, to give way to more blood's deſcending by the artery, and it will bleed freſhly again; and if the orifice be obſtructed by too great a tenſion of the ſkin, or an intruſion of the membrana adipoſa, the piece of fat ſhould be returned by preſſing with the finger, or a bit of ſponge, and the ſkin relaxed by bending the arm; and, laſtly, if the orifice be obſtructed by thick grumous blood, that impediment may be removed by wiping with a ſponge dipped in warm water.

As to the quantity of blood to be taken away, there can be no general rule given, becauſe different caſes and conſtitutions require different quantities; but this may be ſaid in general, that the patient, who ſhews no paleneſs of countenance, or diminution of ſtrength or ſpirits, may bleed longer than thoſe who quickly grow faint.

When a ſufficient quantity of blood is diſcharged, the ligature muſt be immediately taken off, and the ſkin about the orifice gently ſtroaked or preſſed together by the two forefingers of the left-hand; by which means, the lips of the divided vein are cloſed: then the ſmaller of the two compreſſes is to be applied, firſt leting what little blood there may be between the orifice and the vein be diſcharged; the larger compreſs ſhould then be laid on the ſmaller, and preſſed ſlightly down with the thumb: then wiping the blood from the arm, the bandage is to be applied. Some wet the compreſſes in vinegar, water, or ſpirit of wine; but it is not neceſſary, and they ſit eaſieſt when applied dry. *Heiſt.* Surg. p. 277. See BANDAGE.

BLEEDING *in the hand*.—There are two principal veins in the hand, which are ſometimes opened to bleed the patient: the

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one is the ſalvatella, which runs on the outſide of the back of the hand towards the little finger. This was called ſplenica by the antients, and they eſteemed the opening it particularly ſerviceable in melancholy, and diſeaſes of the ſpleen. The other is the cephalica, which runs betwixt the thumb and forefinger, and was ſo denominated from an opinion, that the *bleeding* from it was particularly ſerviceable in diſeaſes of the head; but theſe opinions were all without foundation; and tho' the patient is bled more difficultly and ſlowly in theſe veins, the effect is the ſame as if bled in the arm. It is ſometimes, however, neceſſary for a ſurgeon to open them, either at the particular deſire of the patient, or when the veins of the arm are very obſcurely ſituated, or lie deep, while theſe lie fair and conſpicuous.

When any one is to be blooded in the hand, it muſt firſt be held for a conſiderable time in warm water, and well rubbed there with the other hand, in order to make the ſmall veins become turgid and conſpicuous; then a ligature is to be fixed on the wriſt, that the veins may continue thus diſtended, and wiping the hand dry with a napkin, an orifice is to be made in the moſt convenient part of the vein, as in *bleeding* in the arm. If the blood does not flow freely from the orifice, the hand muſt be again plunged into warm water, and kept there, till the quantity taken away is judged ſufficient; then the hand is to be wiped dry, and the orifice covered with a compreſs, defended by a proper bandage. *Heiſt.* Surg. p. 279.

BLEEDING *in the neck*.—It has been a very antient practice to bleed in the external jugular veins of the neck for moſt inflammatory diſorders of the adjacent parts. The accumulated blood and humours may certainly be thus diſcharged from the parts, and the operation is no-way difficult or dangerous; ſince the jugular veins run on each ſide the neck from the head to the clavicles, juſt under the ſkin. They are very large, and eaſily opened; but a ſtricture is firſt to be made on the lower part of the neck with a handkerchief, or the like ligature. The beſt method of raiſing this vein is, however, by a looſe ligature thrown over the neck, which the patient, or an aſſiſtant, may pull downward over the breaſt; and by this means the jugular veins will be compreſſed on each ſide, and become turgid, without occluding the trachea, or obſtructing perſpiration. When the veins are thus made turgid, which ever of them lies the faireſt, may be ſecured by the finger for inciſion, if the diſorder affects the whole head; but if only one ſide, it is beſt to open the jugular on that ſide.

When the proper quantity of blood is taken, cloſe the orifice, and apply a proper compreſs and bandage. The common fear of this vein's *bleeding* afterwards is but ill-grounded, and there ſeldom is any difficulty of ſtopping the blood. The patient commonly faints away in *bleeding*; but this occaſions no harm. *Heiſt.* Surg. p. 283.

BLEEDING *in the ranulæ*.—It is often found of ſervice in quinſies and other inflammatory diſorders of the neck, to bleed in two ſmall veins, which run under the tip or end of the tongue, eſpecially if a larger vein has been before opened in the neck or arm. To bleed in theſe veins, a ſtricture muſt be made upon the neck; the apex of the tongue muſt be then elevated with the left-hand, while with the other the veins are both opened, firſt one, and then the other, by the lancet. When they have bled ſufficiently, remove the ſtricture from the neck, on which the *bleeding* uſually ſtops of itſelf; but, if it does not, let the patient take a little vinegar, or red wine, in his mouth, or elſe apply a bit of vitriol, or alum, or a compreſs dipped in ſome ſtyptic liquor, till the hæmorrhage ceaſes. But there is no need of being too buſy with theſe topics; for the blood never flows violently, or long, without them; and if there be not a good quantity of blood diſcharged by theſe veins on the occaſions for which they are uſually opened, the operation is of no uſe. *Heiſt.* Surg. p. 284. See PHLEBOTOMY.

BLEEDING *at an artery* is called *arteriotomy*. See ARTERIOTOMY.

Some phyſicians extol *bleeding* as the ſureſt and moſt efficacious of all evacuants; yet was it little known or uſed among the antients. Eraſiſtratus of old, and Helmont and his followers among the moderns, decried *bleeding* as only fit to let out the treaſure of life, and draw away the receptacle of the ſoul [a]. Dr. Morgan ſays, that a man never recovers any great loſs of blood; which, if true, ſhould make us leſs willing to part with it. Others pretend, that twenty or thirty ounces of blood are recovered in little more than as many hours; elſe whence ſhould ſuch profuſe hæmorrhages as we read of have been ſupported. Some make no ſcruple of *bleeding* every other day in conſumptions, for ſeveral weeks together; and Dr. Morgan owns it of conſequence to a phyſician, in moſt caſes, to take at firſt a little blood, that he may be enabled to judge of its ſtate and conſtitution, whether there be any other occaſion for *bleeding*, or not; for as this can do no harm, ſo it may often be of great uſe [b].—[ [a] *Hoffm.* New Exper. on Miner. Water. §. 3. p. 119. [b] *Morg.* Phil. Princ. Med. P. 3. pr. 1. p 407.]

In monaſteries there were five ſtated times in the year, when all the monks were obliged to bleed, whatever their habit of body might be [c]. This looks a little too like the method ſtill uſed in reſpect of ſoldiers horſes, where a whole troop are uſually blooded in a day [d].—[ [c] *Du Cange*, Gloſſ. Lat. T. 3. p. 564. voc. *minuere*. It. T. 4. p. 597. voc. *ſanguiminuere*. [d] *Brack.* Not. to *Burd.* Farr. p. 96.]

Nothing is more ſucceſsful to ſtop the *bleeding* of the ſmaller veſſels, for inſtance, in cutting for the ſtone, than the application of wet ſponge. Phil. Tranſ. N° 478. p. 33.

Phyſicians ſeem greatly divided as to the propriety of letting blood in the ſmall-pox. See Med. Eſſ. Edinb. abridg. Vol. 2. p. 419.

From conſidering, ſays Mr. Queſnay, all the effects of bloodletting, it muſt be concluded, that there is only place for *bleeding*, when the liquids diſturb the action of the ſolids, or when the ſolids cauſe diſorder in the fluids; for when the ſolids or the fluids are found defective abſolutely, or in themſelves, the bad ſtate of neither of them can be repaired by *bleeding*. L'Art de Guerir par le Saignée. ap. Med. Eſſ. Edinb.

The aphoriſm of Hippocrates, if a pregnant woman be let blood, ſhe will miſcarry, has proved not a little deſtructive to many. Experience ſhews not only the ſafety, but benefit, of phlebotomy in many caſes of pregnancy. Vid. *Boyle*, Works abridg. Vol. 1. p. 27.

The bramins never bleed, but, in lieu thereof, faſt. Hiſt. des Bram. ap. Trev. T. 4. p 1438. voc. *ſaigner*.

BLEEDING *by meaſure* is where account is taken of the quantity as it flows from the vein, in order to put a ſtop to the flux when the requiſite proportion is had.

BLEEDING *at large*, where the flux is continued without regard to the quantity, till ſuch time as ſome expected effect is perceived. This method is ſometimes uſed in caſes of apoplexies, comata, *&c.*

BLEEDING, in farriery, is that practiſed on horſes, oxen, and other black cattle, eſpecially to cure and prevent defluxions, fevers, founderings, farcy, mange, *&c.* Vid. *Burd.* Farr. p. 42. Dict. Ruſt. T. 1. in voc.

BLEEDING is alſo uſed for a hæmorrhage or flux of blood from a wound, rupture of a veſſel, or other accident. See HÆMORRHAGE.

BLEEDING *of a corpſe*, *cruentatio cadaveris*, is a phænomenon ſaid to have frequently happened in the bodies of perſons murdered, which, on the touch, or even approach of the murderer, began to bleed at the noſe, ears, and other parts; ſo as formerly to be admitted in England, and ſtill allowed in ſome other parts, as a ſort of detection of the criminal, and proof of the fact. Vid. *Walc.* Introduct. Philoſ. l. 3. c. 2. §. 28. p. 689. *Voight.* Delic. Phyſ. ap. Phil. Tranſ. N° 77. p. 3017. Numerous inſtances of theſe poſthumous hæmorrhages are given by Webſter [e], Lemnius, Libavius, and eſpecially Horſtius [f], who has a diſcourſe expreſs on the point. [ [e] Exam. Witch. c. 16. §. 28, ſeq. *Walc.* Lex. Phil. p. 280. voc. *bluten*. [f] De Cruentatione Cadaverum. Vid. *Vater.* Phyſ. Exper. P. 2. §. 2. c. 15. qu. 11. p. 273, ſeq.]

But this kind of evidence ought to be of ſmall weight; for it is to be obſerved, that this *bleeding* does not ordinarily happen, even in the preſence of the murderer, yet ſometimes in that even of the neareſt friends, or perſons moſt innocent, and ſometimes without the preſence of any, either friend or foe. In effect, where is the impoſſibility that a body, eſpecially if full of blood, upon the approach of external heat, having been conſiderably ſtirred or moved, and a putrefaction coming on, ſome of the blood-veſſels ſhould burſt, as it is certain they all will in time? *Vater.* loc. cit.

BLEEDING is alſo applied, in a leſs proper ſenſe, to a flux of ſap out of the wounded veſſels of plants, either ſpontaneouſly at certain ſeaſons, or by art, and the help of inciſion. See the article SAP.

This amounts to the ſame with what is otherwiſe called *weeping*, *dropping*, *running*, &c.

In this ſenſe, all plants, in the ſummer-time, are found to bleed, that is, to yield a juice from ſap-veſſels, either in the bark, or in the margin of the pith; the ſaps, thus bled, having either a ſour, ſweet, hot, bitter, or other taſte. At times alſo, the veſſels in the bark of a vine-branch bleed a ſour ſap.

But that which is vulgarly called *bleeding*, as in a vine, is a different thing, both as to the liquor iſſuing, and the place where it iſſues, being neither a ſweet, nor ſour, but taſteleſs ſap, iſſuing not from any veſſels in the bark, but from the air-veſſels in the wood.

So that there is as much difference betwixt *bleeding* in a vine, and the riſing of the ſap in any other tree in March and July, as there is betwixt ſalivation and an hæmorrhage; or betwixt the courſe of the chyle in the lactiferous veſſels, and the circulation of the blood in the arteries and veins. *Grew*, Anat. of Plant. l. 3. c. 1. §. 8. p. 125.

Ray, Willughby, Liſter, Tonge, Grew, Hales, and other modern naturaliſts, have given a great number of obſervations on the *bleeding* of plants, the times and ſeaſons thereof, the quantities diſcharged [g], and the ſorts of trees moſt ſubject thereto, particularly the birch [h], ſycamore [i], walnut-tree [k], vine [l], willow [m], and aloe [n]. Such *bleedings*, when ſpontaneous, are ranked by Tournefort in the number of diſeaſes of plants, anſwering to a plethora in animals, or a ſuperabundance of juice [o].—[ [g] Phil. Tranſ. N° 40. p. 798. It. N° 44. p. 880, ſeq. It. N° 43. p. 854. It. N° 57. p. 1165. It. N° 70. p. 2119, ſeq. It. N° 224. p. 382. *Grew*, Idea Anat. Plant. §.

23. p. 11. [h] Vid. Phil. Transf. N° 48. p. 963. [i] Id. N° 68. p. 2067, seq. [k] Id. N° 58. p. 1199, seq. [l] *Hales*, Veget. Stat. c. 3. Phil. Transf. N° 398. p. 274. [m] *Ray*, Phil. Lett. p. 205. [n] *Hought*. Collect. T. 2. p. 337. N° 324. [o] Mem. Acad. Scienc. an. 1705. p. 437. and p. 452.] See BIRCH, &c.

BLEMMYES (*Cycl.*) — Some hold the origin of the fable of the *blemmyes* to have arisen from this, that the people of that part hid, in some measure, their heads between their shoulders, by twisting these up to an immoderate height; so that wearing withal long hair, their heads and necks did not appear: something like which has been observed by modern travellers. Vid. *Borell.* Observ. Medic. Phys. cent. 3. obs. 3. *Aldrovand.* ap. Schott. Phys. Cur. l. 3. c. 11. & c. 9. §. 1. *Beeman.* Hist. Orb. Ter. P. 1. c. 9. sect. 2. §. 12. p. 362.

BLENCH, a sort of tenure of land; as to hold land in *blench* is by payment of a sugar-loaf, a couple of capons, a beaver-hat, &c. if the same be demanded in the name of *blench*, i. e. *nomine albæ firmæ*. *Blount.*

BLEND-*metal iron*, a coarse sort of iron from Staffordshire mines, used for making nails and heavy ware; in some places also for horse-shoes. *Plott*, Nat. Hist. Staffordsh. c. 4. §. 21. *Hought.* Collect. T. 2. N° 271. p. 221.

BLEND-*water*, a distemper incident to black cattle, and comes several ways, 1. From blood. 2. From the yellows, which is a ringleader of all diseases. And, 3. From change of ground; for being hard, it is apt to breed this evil, which, if not remedied in six days, will be past help. Dict. Rust. T. 1. in voc.

BLENDE, in natural history, a name given to a substance, resembling, in some degree, the ores of lead; but containing very little of that metal, and sometimes none at all: it is therefore called by some *mock lead*. It is usually found about the mines of lead, and has commonly spars and crystals about it.

BLENNIUS, in the Linnæan system of zoology, the name of a genus of fishes of the general order of the *acanthopterygii*. The characters of this genus are, that the membrane of the gills has six bones; the fore-part of the head is very slanting; and the belly fins have two bones. Of this genus are the *blennus*, *alauda*, &c. *Linn.* Syst. Nat. p. 54.

BLENNIUS, in the Artedian system of ichthyology, the name of a genus of fishes; the characters of which are these: it is of the acanthopterygious kind; and the branchiostege membrane on each side contains six distinct and easily perceived bones: the head is compressed, and in many species obtuse at the end, or very declivious from the eyes to the mouth: the body also is compressed, and usually variegated with several colours: the jaws are covered with large lips: there is only one fin on the back, and that generally reaches from the head to the tail, or nearly so: this sometimes has little bones, in some species prickly, in others not so, and sometimes one or two *pinnulæ*, or appendages, in the forehead near the eyes: the belly fins stand very forward; and the eyes are covered with a skin: the belly fins never have any more than two ribs. These are the true and distinctive characters of the *blennius*; and the genuine species of this genus are these: 1. The *blennius*, with a furrow between the eyes, and a large spot in the back fin. This is the common *blennius* of authors. 2. The *blennius*, with two small pinnulæ at the eyes, and with twenty-three bones in the *pinna ani*. This is the fish called by Willughby and others *gottorugine*. 3. The *blennius*, with the upper jaw longer than the under, and with the head acuminated at the top. This is the fish called *alauda non cristata* by authors; and the *mulgrano* and *bull-card* by the people of Cornwall. 4. The *blennius*, with a cuticular crest running transversely over the head. This is the *alauda cristata* of authors. The crest is a triangular lobe of skin, red at the edges. It is situated between the eyes. 5. The *blennius*, with about ten black spots, and a white limb, on each side of the back fin. This is the *gunellus cornubiensium*, or, as some call it, the *butter-fish*, or *liparis*. *Artedi*, Gen. Pisc. p. 22.

The name is of Greek origin, and is derived from the word βλεννα, which signifies a tough and mucous matter, such as the body of this fish is covered with.

BLENNUS, in zoology, a very remarkable fish, called in English the *butterfly-fish*. It is very thick at the head, and grows gradually smaller towards the tail. Its most usual size is about six inches in length, and oftener less than more than that. Its colour is a pale-blueish, variegated with olive-coloured or dusky greenish lines. The eyes are very large, and their iris red or saffron-coloured. They are placed in the top of the head, and very near one another, with a furrow between them, and over each a small fin. The mouth is small; but capable of great extension: the foreteeth long, and placed regularly, resembling the *dentes incisores* of quadrupeds, with two other longer and crooked behind them, like the *canini*. It has a tranverse skin in the middle of the palate, to keep the food from returning out of the mouth. It has one long back fin reaching from near the head to the tail. This is much broader near the head than elsewhere; and has, near its fifth ray or nerve, a beautiful spot, resembling an eye, black in the middle, and surrounded with a white circle. It is from this spot, so like those in the wings of some butterflies, that it got its English name; and by this it is easily known from all other fishes. It has no scales; but has a dotted line running down its sides, and a large and prominent belly. It is common in the Mediterranean, and is sold in Venice and elsewhere for the saber. The flesh is very soft. *Willughby*, Hist. Pisc. p. 132. *Aldrovand.* de Pisc. l. 2. c. 26. See Tab. of fishes, N° 16.

Bellonius seems to have described a different fish under this name, mentioning it as covered with loose scales, and with extremely minute teeth. But Salvian, Aldrovand, Ray, &c. all understand this fish alone by this name.

BLENNUS, in ichthyology, is also a name given by some authors, particularly Schonfeldt, to the *syngnathus corpore hexagono, cauda pinnata*; the *acus* of Aristotle; and *acus secunda* of other writers; called also by Gesner and Bellonius *typhle marina*.

BLENNUS, in zoology, a name used also by some for the tobaccopipe-fish. *Schonf.* Ichth. p. 11.

BLESENSIS *bolus*, *bole of Blois*, in the materia medica, a very valuable medicinal earth dug about Saumur, Blois, and Bourgoyne in France, and seeming to possess all the virtues of the Armenian bole of Galen, which it also much resembles in external appearance. It is an extremely pure and fine earth, of a regular and compact texture, yet very light; and in colour of an extremely pale yellow, with some faint blush of redishness. It is naturally of a smooth surface, crumbles to pieces easily between the fingers, and does not stain the hands; and melts freely in the mouth, leaving no sensation of hard particles between the teeth. It ferments violently with acid menstruums, and does not burn to a redness, as the common yellow earths do. *Hill*, Hist. of Foss. p. 7.

It is a very valuable medicine in fluxes and many other cases, and might be had in any quantities, at a small price; but such is the present unhappy state of medicine, that the druggists content themselves with the most wretched counterfeits in the place of drugs even so cheap as these, while there can be had any thing cheaper. Many of our physicians prescribe this bole; but it is not kept in the shops. The common red French bole is generally sold in its place, and that too often counterfeited, or, instead of it, the substance we call bole Armenic, which is no other than a mixture of tobaccopipe-clay and red ochre.

BLESTRISMUS, βλησρισμος, in the antient physic, a continual tossing and inquietude of the body, occasioned by a tumultuary effervescence of the blood, especially in acute fevers. *Cast.* Lex. Med. p. 107.

BLETA *alba*, an epithet given by some to the milky urine voided in some disorders of the kidneys, ranked by Paracelsus among the causes of the phthisis. *Paracels.* de Tartar. l. 2. tract. 3. c. 3. *Cast.* Lex. Med. p. 107.

BLETUS, βλητος, in the antient physic, a person whose side, by reason of some internal inflammation, as a pleurisy or peripneumony, turns black or livid spotted, chiefly presently after death. *Cast.* Lex. Med. p. 107.

BLEW-CAP, an English name for a peculiar species of fish of the salmon-kind, distinguished by a broad blue spot on the head, from whence they have their name. These seem not to breed with us; but appear in our rivers only at certain seasons, when there have been very violent north winds. This fish is seldom found single; so that the fishermen rejoice at the taking one of them, expecting a large shoal of them near. *Willughb*, Hist. Pisc. p. 193.

BLEYME, in farriery, an inflammation in a horse's hoof, occasioned by blood putrified in the inner part of the coffin towards the heel, between the sole and the coffin-bone.

Some write the word corruptly *bleyne* [a]. It is originally French, *bleime*, which signifies the same [b].—[ [a] *Guill.* Gent. Dict. P. 1. in voc. *bleyne*. [b] Trev. Dict. Univ. T. 1. p. 1072. in voc. *bleime*.]

There are three sorts of *bleymes*; the first bred in spoiled wrinkled feet with narrow heels, are usually seated in the inward or weakest quarter: the second, besides the usual symptoms of the first, infects the griftle, and must be extirpated, as in the cure of a quitter-bone: the third is occasioned by small stones and gravel between the shoe and the sole.—For a cure, they pare the foot, let out the matter, if any, and dress the sore, like the prick of a nail. Dict. Rust. T. 1. in voc.

BLICEA, in zoology, the name of a small fish of the harengiform kind, caught in the German and other seas, and supposed by many to be the same with what in England we call the sprat, which to some seems to be no other than a young herring. *Willughby*, Hist. Pisc. p. 228.

BLICEA, in zoology, is likewise the name of a fresh-water fish of the malacostomous, or, as we call it in English, the leather-mouthed kind, seeming to be the same with the more common kind of carcassius. *Willughby*, Hist. Pis. p. 250.

BLICEA *marina*, in zoology, the name of an East Indian fish, which might be more properly called *harengus minor Indicus*, or the small Indian herring. It is of the shape of the herring; but somewhat broader and thinner, and is of the same colour. Its tail also is forked; but its head is of an odd figure, its eyes and the end of its snout being extremely large. This fish swims usually in vast shoals, and is caught principally on the coast of Malabar. It is a well-tasted fish; but has not at all the taste of the herring. It takes salt, which scarce any other of the East Indian fish will do, and is therefore very much valued, and sent into all the neighbouring parts of the country in pickle. There is also another very considerable use it is put to

by the natives, which is the manuring the lands whereon they ſow their rice: they uſe this fiſh, which is caught in prodigious plenty, inſtead of dung on this occaſion. *Ray*, Ichthyol. Append. p. 2.

BLIEGG, in ichthyology, a name given by the Germans to the fiſh we call the *bleake*, and authors in general the *albula* and *alburna*. It is by Artedi very properly referred to the genus of the *cyprini*, and diſtinguiſhed by the name of the five inch *cyprinus*, with twenty rays in the *pinna ani*.

BLIGHTS, (*Cycl.*) ſometimes alſo written *blites*, are the ſame with what we otherwiſe call *blaſts*, or *blaſtings*. *Mortim.* Art. Husband. l. 7. c. 1. p. 305.

Another method, beſides that mentioned in the Cyclopædia, to preſerve trees from *blights*, is the uſe of tobacco-duſt; or by waſhing the leaves with water, wherein tobacco-ſtalks have been infuſed.

Another is by pulling off the leaves when withered, and cutting off the ſmaller branches, when they produce crooked and unnatural ſhoots.

Some imagine, that the *blights*, moſt deſtructive to fruit-trees, are produced by ſmall ſhowers of rain, or white hoar-froſts falling on the bloſſoms; which being ſucceeded by north or eaſterly winds, or froſty mornings, occaſion the miſchief ſo frequent in the ſpring-ſeaſon. To prevent theſe, it has been recommended by a reverend author to build new walls, in which, at every third courſe of bricks, are to be laid a row of plain tiles, to project forwards, and hang over the plain of the wall an inch and half, to carry off the perpendicular dews and rain, leaving room at diſtances between the tiles to carry up the branches of the tree.

Some judge, that the frequent *blights* to which corn is ſubject after a wet ſummer, are owing to over much moiſture lying continually at its roots, which makes it run much to ſtraw, and little to grain; the moiſt vapours exhaling from the ground at the time when it ſhould kern, operating like a mildew, and preventing the due growth of the ear. *Mortim.* loc. cit.

But Mr. Hales's account of *blights* appears the moſt authentic. According to him, they are often cauſed by a continued dry eaſterly wind for ſeveral days together, without the intervention of ſhowers, or any morning dew, by which the perſpiration in the tender bloſſoms is ſtopped; ſo that in a ſhort time their colour is changed, and they wither and decay: and if there happen a long continuance of the ſame weather, it equally affects the tender leaves, whoſe perſpiring matter becomes thickened and glutinous, ſo as cloſely to adhere to the ſurfaces of the leaves, and become a proper nutriment to inſects, which are always found preying on the leaves and tender branches of fruit-trees, when this ſort of *blight* happens, tho' it be not the inſects which are the firſt cauſe. The beſt remedy yet known, is gently to waſh and ſprinkle over the trees from time to time with fair water; and if the young and tender ſhoots ſeem much infected, to waſh them with a woolen cloth, ſo as to clear them, if poſſible, from this glutinous matter, that their reſpiration and perſpiration may not be obſtructed. Add, that broad flat pans or tubs of water being placed near the trees, which may receive the vapours exhaled from them, will help to keep their tender parts in a ductile ſtate; but whenever this operation of waſhing the tree is performed, it ſhould be early in the day, that the moiſture may be exhaled before the cold of the night comes on, eſpecially if the nights are froſty; nor ſhould it be done when the ſun ſhines very hot upon the wall, which would be ſubject to ſcorch up the tender bloſſoms.

Another cauſe of *blights* in the ſpring is ſharp hoary froſts, which are often ſucceeded by hot ſun-ſhine in the day-time, which is the moſt ſudden and certain deſtroyer of fruits known; for the cold of the night ſtarves the tender parts of the bloſſoms, and the ſun riſing hot upon the walls before the moiſture is dried from the bloſſoms, which being in ſmall globules, doth collect the rays of the ſun, and thereby ſcorch the tender flowers and other parts of plants.

But that *blights* are frequently no more than an inward weakneſs or diſtemper in trees, evidently appears, if we conſider how often it happens, that trees againſt the ſame wall, expoſed to the ſame aſpect, and equally enjoying the advantages of ſun and air, with every other circumſtance which might render them equally healthy, are often obſerved to differ greatly in ſtrength and vigour; and as often do we obſerve the weak trees to be continually blighted, when the vigorous ones in the ſame ſituation eſcape. This weakneſs in trees proceeds either from want of a ſufficient ſupply of nouriſhment to maintain it in perfect vigour, or from ſome ill qualities in the ſoil where it grows, or, perhaps, from ſome bad quality in the ſtock, or inbred diſtemper of the bud or cyon, which it had imbibed from its mother-tree, or from miſmanagement in the pruning, &c. See PRUNING, *Cycl.*

But there is another ſort of *blight*, againſt which it is more difficult to guard fruit-trees; that is, ſharp, pinching, froſty mornings, which often happen at the time when the trees are in flower, or while the fruit is very young, and occaſion the bloſſoms or fruit to drop off; and ſometimes the tender parts of the ſhoots and leaves are greatly injured thereby. The only method yet found out to prevent this miſchief is, by carefully covering the walls, either with mats, canvas, &c. which being faſtened ſo as not to be diſturbed with the wind, and ſuffered to remain on during the night, are to be taken off every day, if the weather permits.

Another ſort of *blight*, which ſometimes happens in April or May, and which is often very deſtructive to orchards and open plantations, and againſt which we know of no remedy, is what is called a *fire blaſt*, which in a few hours hath not only deſtroyed the fruit and leaves, but many times parts of the trees, and ſometimes whole ones have been killed by it. This is ſuppoſed to be effected by volumes of tranſparent flying vapours, which, among the many forms they revolve into, may ſometimes approach ſo near to a hemiſphere, or hemicylinder, either in their upper or lower ſurface, as thereby to make the beams of the ſun converge enough to ſcorch the plants, or trees they fall upon, in proportion to the greater or leſs convergency of the ſun's rays. This more frequently happens in cloſe plantations, where the ſtagnating vapours from the earth, and the plentiful perſpirations from the trees, are pent in, for want of a free air to diſſipate and diſpel them; than in thoſe planted at a greater diſtance, or ſurrounded with hills or woods. *Mill.* Gard. Dict. in voc. See RUST.

BLIKE, in zoology, a name given by ſome to an anadromous fiſh, ſomewhat reſembling our river chub, and called by Geſner *capito anadromus*; but more generally known by the name of *zerta*, or the *zerte*. *Willughby*, Hiſt. Piſc. p. 257. See the article ZERTA.

BLIND (*Cycl.*)—*Pore* BLIND denotes only a great degree of ſhort-ſightedneſs. Phil. Tranſ. N° 37. p. 731.

*Moon* BLIND is uſed in ſpeaking of horſes, which loſe their ſight only under certain ſtates of the moon, and ſee at every other time. Dict. Ruſt. T. 2. voc. *Moon*.

A *blind* man by the civil law cannot make a teſtament, except under certain modifications; but in every caſe he is diſabled from being a witneſs to a teſtament. *Calv.* Lex. Jurid. p. 131, and p. 195. voc. *cæcus*.

We read of *blind* authors, and men of learning [a]. *Blind* poets, as Thamyrus [b], Homer [c], and Milton. *Blind* aſtronomers, as Galilæo and Caſſini [d]. Blind geometricians, as profeſſor Saunderſon of Cambridge, &c.—[[a] *Bartholin.* Act. Med. T. 2. p. 78. Hiſt. Acad. Inſcr. T. 1. p. 487. [b] *Fabric.* Bibl. Græc. l. 1. c. 35. §. 4. T. 1. p. 240. The tradition is, that his eyes were put out for his temerity, in having contended for the palm in poetry with the muſes. [c] *Fabric.* Bibl. Græc. l. 2. c. 1. §. 7. T. 1. p. 259, where the ſeveral writers in the diſpute concerning Homer's blindneſs are recited. [d] *Fonten.* Elog. des Acad. T. 2. p. 145, where the author poetically imagines them to have been ſtruck *blind*, like Tireſias, for prying too near into the ſecrets of the gods.]

The moſt extraordinary of all is a *blind* guide, who, according to the report of good writers, uſed to conduct the merchants through the ſands and deſarts of Arabia [a]. James Bernoulli contrived a method of teaching *blind* perſons to write [b].—[[a] *Leo. Afr.* Deſcr. Afr. l. 6. p. 246. *Coſaub.* Treat. of Enthuſ. c. 2. p. 45. [b] *Fonten.* Elog. des Acad. p. 114.]

BLIND is alſo uſed for occult, or imperceptible. Hence *blind* rampart, *cæcum vallum*, among the antients, was that beſet with ſharp ſtakes, concealed by graſs or leaves growing over them. *Feſt.* l. 3. ap. *Calv.* loc. cit.

BLIND *teſtimonies*, cæca teſtimonia, thoſe given by abſent perſons in writing. *Calv.* Lex. Jur. p. 131. voc. *cæca*.

BLIND is alſo uſed in ſpeaking of bodies without apertures. Hence,

BLIND *wall*, *cæcus paries*, that without windows [a]. In a like ſenſe we meet with *blind* chamber, *cæcum cubiculum* [b].—[[a] *Calv.* ibid. [b] *Varro*, Ling. Lat. l. 8.]

BLIND is alſo uſed in ſpeaking of veſſels which are not perforated.

In this ſenſe, the chemiſts ſay a *blind* alembic. A tube is ſaid to be *blind*, when it is cloſed a-top.

Some anatomiſts alſo call the third cavity of the ear *cæcum*, as having no iſſue; but it is more uſually denominated labyrinth. See LABYRINTH, *Cycl.*

BLIND *granado*, that which does not light or take fire. *Fæſch.* Lex. Milit. p. 100.

BLIND, in zoology, a local name for a fiſh, called by authors the *aſellus luſcus*, and more univerſally in Engliſh the *bil*. It is a fiſh of the cod kind, but never growing to any great ſize. The word *blind* is uſed in Cornwall. *Willughby*'s Hiſt. piſc. p 169. See ASELLUS and BIL.

BLIND, or BLINDE, among mineraliſts, a kind of lead marcaſite, by our miners called *mock-ore*, *mock-lead*, and *wild lead*. See MARCASITE, LEAD, &c.

*Blinde* is a mineral maſs, flaky, gloſſy, and breaking in angles, much like the potters lead ore, only of a colour more duſky, and approaching to black. In it are veins of a yellow ſhining marcaſite, with a little white ſpar, and on one ſide a greeniſh æruginous matter. On a trial by the fire, it yielded a very little copper, leſs lead, and no tin. It is very obſtinate, ſeveral attempts having been made with the alcaline fluxes to run it, in vain. *Woodw.* Nat. Hiſt. Engl. Foſſ. P. 1. p. 183.

The German mineraliſts call it *blende*, whence our denomination *blinde*. It anſwers to what in Agricola is called *Galena inanis*. See GALENA.

It usually lies immediately over the veins of lead ore, in the mines which produce it, for it is not found in all. When the miners see this, they know the vein of ore is very near. *Ray*'s Engl. Words, p. 118.

BLINDS, or BLINDES. in the military art, denote every thing serving to cover the besiegers from the enemy, as wool-packs, earth-baskets, sand-bags, and the like. *Guill.* Gent. Dict. P. 2. in voc. *Fæsch.* Lex. Milit. p. 96. seq. voc. *blendungen.*

*Blindes* are sometimes only canvas stretched to take away the sight of the enemy; sometimes they are planks set up, properly called mantelets; others are of baskets, others of barrels.

BLINDES more peculiarly denote pieces of wood laid a-cross a trench, to support fascines or baskets, which are placed on them, loaded with earth to cover the workmen [a]. They are chiefly used, where the trenches are carried on in the face of the place, in a right line, so as the enemy might scour them with their guns from the walls [b].—[[a] *Ozan.* Dict. Math. p. 600. [b] *Fæsch.* Lex. Milit. p. 96.]

*Blindes* differ from *chandeliers*, as the latter are intended as a screen from above, the former from before. *Felib.* Princ. de l'Archit. p. 74. See CHANDELIER, *Cycl.*

Some also rank mantelets in the number of *blindes*. *Fæsch.* Lex. Milit. p. 97. voc. *blendungen.* See MANTELET, *Cycl.*

BLIND is sometimes also used for orillon. Milit. Dict. in voc. See ORILLON, *Cycl.*

BLINDING, a species of corporal punishment antiently inflicted on thieves [a], adulterers [b], perjurers [c], and others; and from which the antient christians were not exempt [d]. The inhabitants of the city Apollonia executed it on their watch, whom they found asleep [e]. Democritus, according to Plutarch, Cicero, and A. Gellius, put out his own eyes, that he might be less disturbed in his mental contemplations, when thus freed from the distraction of the objects of sight [f]. Though Laberius gives another reason, *viz.* that he might not have the mortification of seeing wicked men in splendor and triumph; and Tertullian another, *viz.* that he might be exempted from the stimulus to venery, excited by the sight of women [g].—[[a] Vid. *Solin.* Polyhist. c. 4. *Lamprid.* in Alex. Sever. c. 17. [b] *Valer. Max.* l 6. c. 5. n. 3. [c] *Luitprand.* de Reb. Imp. & Reg. l. 2. c 11. [d] *Lactant.* de Mort Persecut. c. 36. n. 7. [e] *Herodot* l. 6. c. 92. [f] *Au. Gell.* Noct. Att. l. 10. c. 77. *Cicero*, Tusc. Quæst. 5. [g] *Tertull.* Adv. Gent. *Stanl.* Hist. Philos P. 11. c. 5. p. 755.]

BLINDING, *obcæcatio*, in the black art, denotes a species of necromancy, whereby a visible body may be concealed, or hidden by an invisible power. *Cast.* Lex. Med. p. 532. voc. *obcæcatio.*

BLINDING *of a casemate* signifies erecting a battery against it, in order to dismount its cannon, and render them useless. Trev. Dict. Univ. T. 1. p. 723. voc. *aveugler.*

BLINDNESS (*Cycl.*) is of divers kinds. Natural *blindness* is that happening according to the ordinary course of things; thus that of certain insects formed without eyes, though it is not easy to fix which these are, since divers animals have been erroneously supposed so, on account of their smallness or imperceptibleness; as the cæcilia, commonly called the *blind* worm, the mole, &c. *Grew*, Mus. Reg. Societ. P. 1. § 3. p. 48.

That moles are naturally *blind* is a popular error, arising partly from the smallness of their eyes, and partly from their being hid, or buried deep in the head, to save them from the annoyances, which otherwise they would be perpetually liable to, in digging under ground; but, on occasion, they can exert or thrust them forward, as is likewise done by snails. *Brown*, Vulg. Error, l. 3. c. 18. p. 123.

Præternatural, or morbid *blindness*, is that owing to disease or accident.

Total *blindness*, that wherein all sight or perception, even of light, is wanting, as is the case of those who are said to be *stone blind.*

Partial *blindness*, that wherein some faint glimmering is left, as is always the case in people who have ripe cataracts, who are never so blind, but they can discern day from night; and, for the most part, in a strong light, distinguish black, white and scarlet, though they cannot perceive the shape of any thing. The reason is, that the light by which those perceptions are made, being let in obliquely through the aqueous humour, or the anterior surface of the chrystalline, (by which the rays cannot be brought into a focus upon the retina) they can discern in no other manner, than a sound eye can through a glass of broken jelly, where a great variety of surfaces so differently refract the light, that the several distinct pencils of rays cannot be collected by the eye into their proper foci; wherefore the shape of an object in such a case cannot be at all discerned, though the colour may. Vid. Philos. Trans. N° 402. p 447.

Perpetual *blindness*, that which remains alike under all the diversity of seasons, times, ages, &c.

Transient *blindness*, that which gives way of itself in due time, as that of whelps.

The Nogais tartars, according to father du Ban the jesuit, who lived among them, are born *blind*, and open not their eyes, ti after several days [a]; as the *blindness* of whelps for several days after they are littered, which is commonly said to hold nine days, rarely twelve [b].—[[a] Vid. Nouv. Mem. des Mess. T. 1. p. 23. Trev. Mem. Hist. Art. an. 1715. p. 1532. [b] *Brown*, Vulg. Err. l. 3. c. 27. p. 147.]

Periodical *blindness*, that which comes and goes by turns, according to the season of the moon, time of day, and the like.

Nocturnal *blindness*, called also *nyctalopia*, that which ensues on the setting of the sun in persons who see perfectly in the day, but become blind as posts as soon as night comes on. *Brigg*, in Phil. Trans. N° 159. p. 560, where an instance of it is given.

Lunar *blindness*, that which happens under a certain state or age of the moon, frequent enough in horses, but sometimes also observed in men. A very extraordinary instance of this kind is related in the Philosophical Transactions: a poor man in the north of Scotland was, every year in his life, taken blind two days before the new moon, and recovered again at the instant of the new moon. Vid. Phil. Trans. N° 233. p. 728.

The causes of *blindness* are either ordinary, as a decay of the optic nerve; (an instance whereof we have in the academy of sciences, where, upon opening the eye of a person long blind, the optic nerve was found extremely shrunk and decayed, and having no medulla in it) or some external violence, vitious conformation, growth of a cataract, gutta serena, small-pox, or the like. Vid. *Mery*, in Hist. Acad. Scienc. Par. ann. 1713. p. 161.

In the history of the academy of sciences, we have an account of a person born seemingly without eyes, *i. e.* the eyes were covered up by the eye-lids, which were grown together. Hist. Acad. Scienc. ann. 1721. p. 42.

Extraordinary causes of *blindness* are malignant stenches, poisonous juices dropped into the eye, baneful vermin, long confinement in the dark, or the like.

We have an account in the history of the academy of sciences, of two labourers struck quite blind by a fetid damp or stench; but cured again in twenty-four hours by M. Chomel [a]. And Boyle speaks of a *blindness* occasioned by a drop of liquor from a spider deposited in the eye [b].—[[a] Hist. Acad. Scienc. ann. 1711. p. 33, seq. [b] *Boyle*, Phil. Work. abrid. T. 3. p. 547.]

The ducks which generate under ground, and break out into the Zirchnitzer-sea in Carniola after all great storms, are blind at their first eruption; but, in some time, come to their sight.

Among the causes of *blindness* must also be recited the artificial ways of blinding practised on criminals, &c. of which we find frequent mention in antient writers, under the denominations *obcæcatio*, *exoculatio* [c], *oculorum effossio* [d], *abbacinatio* [e]. To which may be added *eluscatio*, which only denoted a kind of half-blinding, or putting out one of the eyes, and leaving the other [f].—[[c] *Du Cange*, Gloss. Lat. T. 2. p. 321. voc. *exoculare.* [d] Vid. *Spelm.* Gloss. p. 434. voc. *oculorum effossio.* [e] *Du Cange*, ibid. T. 1. p. 1. voc. *abbacinare.* [f] *Calv.* Lex. Jur. p. 323. voc. *eluscare.*]

Sometimes lime and vinegar, or barely scalding vinegar, was poured into the eyes, till their balls were consumed; sometimes a rope was twisted round the head till the eyes started out. *Schott.* Lex. Antiq. in voc. *augen.*

In the middle age, they changed total *blindness* for a great darkness, or diminution of sight, which they produced by holding a red-hot iron dish or bason before the eyes, till their humours were dried, and their coats shrivelled up.

The remedies for *blindness* are either regular, empirical, or superstitious.

Regular remedies are ophthalmic lotions adapted to the particular evil, collyriums, and the like.

Empirical remedies are certain mercurial and arsenical drops and powders, prescribed equally against all species of this disease [g]; or manual, as by couching [h], and the like.—[[g] Vid. *Boyle*, Phil. Work. abridg. T. 1. p. 103, where he speaks of an empyrical cure for *blindness* invented by Adr. Glassmaker, being a sort of turbith made by precipitating quicksilver with oil of vitriol. [h] Vid. Hist. Acad. Scienc. ann. 1721. p. 42, where is an account of cutting open the eyes of a person, in whom they were naturally closed up, and covered over by the eye-lids.]

Superstitious remedies are of various kinds, as that given by Myrepsus, pretended to have been revealed by the Virgin [i]; or the gall of Jonas's whale, the fish lamia, or canis carcharias; not to mention those fictitious cures attributed by Spartian to the emperor Hadrian [k], and others.—[[i] Vid. *Fabric.* Bibl. Græc. l. 6. c. 9. p. 7. & *Barth.* Act. Med. T. 1. p. 298. [k] Vid. *Bayle*, Dict. Crit. T. 2. p. 668. voc. *Hadrian.* note (M).]

The miseries of *blindness* are feelingly painted by Milton [l], and may be also partly guessed at by the extasies into which persons have fallen on their recovery from it [m]. Mr. Boyle mentions a gentleman, who having been blind, and brought to sight at eighteen, was very near going distracted with the joy [n].—[[l] *Milt.* Parad. Lost, l. 3. init. [m] Phil. Trans. N° 402. p. 450. [n] *Boyle*, Phil. Work. abridg. T. 1. p. 4.]

We find various recompenses for *blindness*, or substitutes for the

the use of the eyes, in the wonderful sagacity of many blind persons recited by Zahnius in his *oculus artificialis*, and others. In some, the defect has been supplied by a most excellent gift of remembring what they had seen; as was the case of the sculptor mentioned by Aldrovandus. Others by a delicate nose, or sense of smelling; as in the blind guide mentioned above, who distinguished the different scent of the earth in different parts, and thus found his way through the sandy desarts of Arabia, some of the earth being reached up to him at every mile [o]: not to mention other instances given by Smetius [p], of persons whose loss of sight has been supplied by their noses. Others by a fine ear, or sense of hearing; as in Richard Clutterbuck of Redborough in Gloucestershire, who, though perfectly blind, had so curious an ear, that he could hear the fine sand of an hour-glass fall [q]. Others by an exquisite touch, or sense of feeling, which they have had in such perfection, that as it has been said of some, that they learned to hear with their eyes, it may be said of these, that they taught themselves to see with their hands [r].—[ [o] *Leo Afric.* Descr. Afr. l. 6. p. 246. *Casaub.* of Enthus. c. 2. p. 45. [p] Misc. Med. l. 5. ep. 15. *Barthol.* Act. Med. T. 2. obs. 32. p. 78. [q] *Plott*, Hist. Nat. Stafford. c. 8. §. 60. p. 300. [r] *Plott*, loc. cit.]

Some have been enabled to perform all sorts of curious and subtile works in the nicest and most dextrous manner, as Martin Catelyn mentioned by Guiccardin, and Richard Clutterbuck by Dr. Plott, who would not only take a watch in pieces, and set it together again, and so an organ or virginals, and put them in tune; but would make all sorts of string-musical instruments, which he also played on by notes cut in their usual form, and set upon protuberant lines on a board: yet neither of these came near Van Eyck, the organist of Utrecht, who, though he had been blind from two years old, did every thing as nimbly as if he had carried his eyes in his hands, playing on all sorts of instruments. *Plott*, loc. cit.

Others have been enabled to take the figure and idea of a face by the touch, and mould it in wax with the utmost exactness; as was the case of the blind sculptor mentioned by De Piles, who thus took the likeness of the duke de Bracciano in a dark cellar, and made a marble statue of king Charles I. extremely well. Vid. *De Piles*, Cours de Peint. p. 329. *Wolf.* Psychol. Rat. §. 162.

But the highest atchievement this way is that of several persons, who have been able to distinguish colours by the touch; of which Schmidius has a dissertation expres. *Schmid.* Cæcus de Colore judicans.

The count of Mansfield, tho' blind, is also said to have been able to distinguish black from white by the touch [s]. Van Eyck could tell in a crowd of virgins and young women which was the fairest: yet more was performed by Peter of Maestricht, who, as Job Meckren informs us, tho' perfectly blind, played at dice and cards, and distinguished the different colours of cloth by the touch [t]: in which, however, he seems to have come behind J. Vermaasen of Utrecht, who had this talent in a wonderful degree. Indeed, some [u] have supposed it was not by the touch that he distinguished, but by the exquisiteness of his smell, which discovered the different ingredients used in the dying different cloths; and the rather as he is said to have performed best fasting, which seems confirmed by the instance of the blind man alledged by Sturmius, who could readily distinguish the dyes or colours of cloths, silks, and the like, by applying them to his nose [w]; but the man of Utrecht, it is pretty evident, judged altogether by the different degrees of asperity or roughness, which he felt on the surfaces of the clothes [x]. —[ [s] Phil. Trans. N° 114. p. 316. *Barthol.* Hist. Anat. cent. 3. hist. 44. [t] *Plott*, Nat. Hist. Stafford. c. 8 §. 61. p. 300. [u] *Boyle*, of Colour. P. 1. c. 3. §. 11. [w] Vid. *Sturm.* Phys. Elec. l. 1. §. 2. c. 8. phæn. 25. *Verdr.* Phys. P. 1. c. 10. §. 5. p. 226, seq. [x] *Vater.* Phys. Exper. P. 2. §. 2. c. 11. qu. 2. *Barthol.* Hist. Rar. 49. cent. 3.]

Yet have not blind persons any idea of visible objects, though they can distinguish them by the touch [y]: thus the gentleman couched by Mr. Cheselden, though he knew the colours asunder in a good light during his blind state; yet when he saw them after couching, the faint ideas he had of them before were not sufficient for him to know them by afterwards [z]. —[ [y] *Wolf.* Psychol. Rat. §. 145. [z] Vid. Phil. Trans. N° 402. p. 447.]

It was even a considerable time ere he could remember which was the cat, and which the dog, though often informed, without first feeling them. Add, that he had no idea of distance; but thought that all the objects he saw touched his eyes, as what he felt did his skin.

BLINDNESS, in farriery, is a disease incident to horses, especially those of an iron-grey or dapple-grey colour, when ridden too hard, or backed too young. Phil. Trans. N° 37. p. 730.

It may be discovered by the walk or step, which, in a blind horse, is always uncertain and unequal, for that he dares not set down his feet boldly when led in one's hand; though, if the same horse be mounted by an expert horseman, and the horse of himself be mettled, the fear of the spur will make him go more freely; so that his *blindness* can hardly be perceived. Another mark whereby a horse may be known to have lost his sight, is, that upon hearing any-body enter the stable, he will prick up his ears, and move them backwards and forwards, as mistrusting every thing, and being in continual alarm by the least noise Dict. Rust. T. 1. in voc.

D. Lower first shewed the cause of the ordinary *blindness* in horses, which is a spongy excrescence, growing in one, sometimes in two or three places of the uvea, which being at length overgrown, covers the pupil when the horse is brought into the light, tho' in a dark stable, it dilates again. *Ray*, Philos. Lett. p. 28.

BLINKS, among antient sportsmen, denoted boughs broken down from trees, and thrown in the way where deer are likely to pass, to hinder their running [a]; or rather to mark which way a deer runs, to be a guide to the hunter [b].—[ [a] *Skinn.* Etym. Ant. in voc. *Jac.* Law Dict. in voc. [b] Trev. Dict. Univ. T. 1. p. 1248. voc. *brisees.*]

BLINKING *of beer*, in Lincolnshire, signifies letting the wort stand for some time in the vat, till it have acquired some degree of acidity, in order to dispose it to fine, and be ready for drinking the quicker. *Skin.* Etym. Angl. in voc. *blink.*

BLISSOM, among husbandmen, corruptly called *blossom*, is the act of a ram when coupling with a ewe. *Skin.* Etym. in voc.

BLISTER, (*Cycl.*) in the animal œconomy, denotes a thin bladder raised on the skin, and full of a watry or other humour.

*Blisters* are symptoms usually ensuing on burns, scalds, and caustic matters applied to the skin. *Castl.* Lex. Med. p. 743. voc. *vesicatio.*

'Tis disputed among surgeons, whether *blisters*, in case of burns, are to be opened, or not? Some advise it, to prevent further ulcerations underneath; others, unless they be large, dissuade it, as creating the patient needless pain. Vid. *Junck.* Consp. Chir. tab. 11. p. 103.

BLISTER is more peculiarly used, in medicine, for that raised by an epispastic, or vesicatory, laid for that purpose on the shoulders, arms, legs, or other parts. Vid. *Quinc.* Pharmac. P. 2. §. 571. & §. 412. p. 167, seq.

Dr. Morgan endeavours to discard the method of dressing *blisters*, by which nothing is gained, but the plaguing and tormenting the patient, and depriving him of the benefit of a much greater discharge, which would be at least three to one, were the same plaster left on for four or five days, or as long as it will draw off any thing; and then, when it has done running, taking it off, and applying a plaster of melilot, or rather of diachylum, once for all, till the part is quite well and healed. Indeed, when a *blister* is first risen, if it do not break and run of itself, it may be proper to raise the lower end of the plaster a little, to snip the bladder, and let out the water; but if the surgeon has made the plaster strong enough, this is commonly done of itself, without help [a]. It is usually objected, that a strong epispastic left on five or six days, must deeply corrode the flesh under it, and thereby endanger a mortification. But this, according to the author last cited, is so far from being true, that, on the contrary, it prevents the worst accidents usually happening in blistering, which are what they call *sloughs*, or deep strong incrustations of a sharp salt and adhesive matter, covering the whole surface of the flesh where the plaster had been applied. Now, this is always occasioned by an unseasonable removal of the epispastic, while the humour is in full flow, and strongly feeding to the part; and the humour, thus suddenly checked and thrown back for want of a sufficient drain, forms this slough [b].—[ [a] *Morg.* Mech. Pract. Phys. p. 176. [b] *Morg.* lib. cit p. 177.]

BLISTER is also used improperly for the medicine, by whose operation the vesicle is raised; which is more properly called a *vesicatory*, or *blistering plaster*. See VESICATORY, *Cycl.*

Pharmaceutical writers give divers forms of *blisters*, *blistering plasters*, *blistering pastes*, and the like. Vid. *Boerh.* Lib. de Mat. Med. p. 33. *Quinc.* Pharm. p. 356, seq.

The operation and effect of *blisters* in curing fevers, is by some resolved into the pain which they excite; by others into the ingress of the particles of the cantharides into the blood; by others into the quantity of hot, sharp, and salt lymph discharged; by others into the condensation of the blood, and stoppage of the rarefaction, whereby the spirits are disposed to be plentifully separated [c]. Dr. Cockburn, who refutes all these systems, accounts for it from the cantharides wounding the nerves or canals whereby the spirits are conveyed to the heart [d]; Dr. Morgan from the subtile, hot, active salts of the flies, strongly attracted by the serum, and carried with it thro' the several glands and secretory ducts of the body, where they act by dissolving, attenuating, and rarefying the viscid cohesions of the lymph and serum, and stimulating the nervous coats of the vessels, whereby they are induced to throw off their stagnating viscidities, and restore the free drain of the lymph from the arteries to the veins; and at the same time, by scouring and cleansing the expurgatory glands, bring on critical sweats and urines [e].—[ [c] *Morg.* Philos. Princ. Med. p. 229, seq. [d] Vid. Phil. Trans. N° 252. p. 173, seq. [e] *Morg.* Philos. Princ. Med. p. 303, seq.]

BLISTERING, in medicine and surgery, denotes an operation whereby a blister is raised on the cuticula, and a quantity of serum evacuated therefrom, by means of certain caustic medicines, especially cantharides, applied in form of plaster thereon. *Junck.* Consp. Chirurg. tab. 72. p. 507, seq. See the article BLISTER.

*Bliſtering* chiefly takes place in the dropſy [a], delirious and feveriſh [b] diſorders, apoplexies [c], pleuriſies [d], and the like. Some alſo preſcribe it in the hydrocephalus [e], ophthalmia [f], ſuffocative catarrhs [g], cephalæa [h], &c. Some ſay, that *bliſtering* is generally found hurtful in dropſies [i].—[a Vid. *Nent.* Fund. Med. T. 2. P. 3. p. 427. b Idem, ibid. T. 1. P. 2. p. 232. *Morg.* Phil. Princ. Med. p. 301, 307. c *Junck.* Conſp. Med. p. 055. & *Nent.* lib. cit. T. 2. P. 3. p. 434. d *Junck.* lib. cit p. 305. e Id. Conſp. Chir. p. 174. f *Nent.* lib. cit. T. 1. P. 2. p. 240. g Id ibid. T. 2. P. 3. p 153. *Junck.* Conſp. Med. p. 513. h *Nent.* lib. cit. T. 1. P. 2. p. 114. i *Junck.* lib. cit. p. 434.]

BLISTERING, in farriery, is uſed in caſes of ſtrains and ſhrunk ſinews in horſes, as ſome hold, with good effect [k], as others, with none [l].—[k *Bracken.* Notes on *Burd.* p. 23. l *Burd.* Farr. p. 36 ]

BLITUM, *Blite*, in the Linnæan ſyſtem of botany, the name of a diſtinct genus of plants; the diſtinguiſhing characters of which are theſe: the cup is a hollow, pointed, and expanded perianthium, compoſed of one leaf, divided into five ſegments, and remains after the flower is fallen: there are no petals: the ſtamina are three ſimple filaments, of the length of the cup: the antheræ are ſmall and ſimple: the germen of the piſtillum is rounded: the ſtyle is very ſmall, reflex, and divided into two: the ſtigmata are pointed: the ſeed is ſingle, rounded, and flattiſh, and is contained in the open cup. *Linn.* Gen. Plant. p. 20.

The characters of *blite*, according to Tournefort, are, that the flower has no petals; but is compoſed of three ſtamina, which ariſe from a cup divided into three ſegments: the piſtil finally becomes an oblong ſeed, contained in an inflated capſule, which was before the cup of the flower.

The ſpecies of *blite*, enumerated by Mr. Tournefort, are theſe: 1. The great white *blite*. 2. The great red *blite*. 3. The ſpiked wild *blite*. 4. The ſpiked wild *blite*, with leaves variegated with white and green. *Tourn.* Inſt. p. 507.

*Blite* is eſteemed cooling and emolient, and therefore good in dyſenteries and ſpitting of blood. *Lemery*, des Drog.

BLOATED *fiſh* or *herring*, in our ſtatutes, are thoſe which are half-dried. Vid. Stat ann. 18. Car. II. c. 2. *Blount.* in voc. *Bloated herrings* are made, by ſteeping them in a peculiar brine, and then hanging them in a chimney to dry. *Collins*, Salt and Fiſh. p. 109.

BLOATING, a puffing up or inflation of the exterior habit of the body, lodged chiefly in the adipoſe cells. It is the ſame with what phyſicians call an *emphyſema*. *Gorr.* Def. Med. p. 138. voc. εμφυσημα. *Caſt*, Lex. Med. p. 296. voc. *emphyſema*. Hiſt. Acad. Scienc. ann. 1713. p. 15, ſeq.

BLOATING or *bloting of herrings*. See BLOATED.

BLOCK, *(Cycl.)* in the mechanic arts, a maſs of wood, one or two feet high, and difficult to move, ſerving to work and cut things on, or faſten them to.

In this ſenſe, we ſay a chopping *block* [a]; a ſugar-finer's *block* [b]; a ſmith's *block*, on which his anvil is faſtened; an executioner's *block*, on which the criminal's head is laid to be ſtruck off.—[a *Moxon*, Mech. Exerc. p. 196. b *Savar.* Supp. Dict. Comm. p. 73.]

*Mounting* BLOCK, an eminence uſually of ſtone, cut in ſteps or notches, ſerving as a help to mount on horſeback. Theſe were much in uſe among the antients, who were unacquainted with ſtirrups. The Romans erected them at proper ſtations along all their great roads. *Davil.* Explic. Term. Archit. p. 712. in voc. *montoir*.

BLOCK, among cutters in wood, is a form made of pear-tree, box, or other hard and cloſe-grained wood, free from knots, on which they cut their figures in relievo with knives, chiſſels, &c. *Savar.* Dict. Com. T. 2. p. 1106. voc. *planche*.

The like *blocks* are in uſe for card-making; and from the ſame firſt aroſe the modern art of printing. Phil. Tranſ. N° 310. p. 2398.

BLOCKS, aboard a ſhip, are pieces of wood, in which the ſhivers of pullies are placed, and wherein the running ropes go. *Fæſch.* Lex. Milit. p. 311. voc. *Fluſchen.* & p. 446. voc. *Kloben.*

Of theſe ſome are ſingle, ſome double, and ſome have three, four, or five ſhivers in them. They are named and diſtinguiſhed by the ropes they carry, and the uſes they ſerve for; as the ſheet-*block*, the tack-*block*, the fiſh-*blocks*, &c. Double *blocks* purchaſe more than ſingle ones, ſo that on all occaſions, where much force is expected from few hands, they uſe double *blocks*. But theſe, as they do the work with more eaſe, do it alſo more ſlowly; ſo that, on occaſions which require diſpatch, ſingle *blocks* are uſed. *Boltel*, Sea Dial. 4. p. 121. *Manwar.* Seam. Direct. p. 9. *Guill.* P. 3. in voc.

*Block* and *block* is a phraſe uſed, when on hauling on any tackle, hallyard, or the like, to which two *blocks* belong, the two meet and touch; ſo that they can haul no farther. *Manwar.* loc. cit. *Guill.* loc. cit.

The *fiſh-block* is hung in a notch at the end of the davit, ſerving to haul up the flooks of the anchor to the ſhip's bow. *Guill.* P. 3 in voc.

The *ſnatch block* is a large *block* with a ſhiver in it, and a notch cut through one of its cheeks, for the more ready receiving a rope, ſince, by means of this notch, the middle part of the rope may be reeved into the *block*, without paſſing it endwiſe. It is commonly faſtened with a ſtrap about the main-maſt cloſe to the upper-deck, and is chiefly uſed for the fall of the winding-tackle, which is reeved into this *block*, and then brought to the capſtan. *Guill.* P. 3. in voc.

BLOCK, among bowlers, the mark which is aimed at, being a ſmall-ſized bowl led on the green for this purpoſe.

BLOCK-*Battery*, in the military art, denotes a wooden battery on four wheels, moveable from place to place, whereby to fire *en barbe*, or over the parapet; ſometimes alſo uſed in galleries and caſements, where room is wanted. *Fæſch.* Lex. Milit. p. 102.

BLOCK-*Houſe*, a kind of wooden fort or battery, either mounted on rollers, or on a veſſel, and ſerving either on the water, or in counterſcarps and counter-approaches.

The name is ſometimes alſo given to a brick or ſtone fort built on a bridge, or the brink of a river, ſerving not only for its defence, but for the command of the river both above and below; ſuch was that noted *block-houſe* antiently on the bridge of Dreſden, ſince demoliſhed on inlarging the bridge. *Fæſch.* loc. cit.

BLOCKADE *(Cycl.)*—There are two manners of forming *blockades*. The firſt is ſimply by fortifying or ſeizing poſts at ſome diſtance from the place, chiefly on the banks of rivers both above and below, and on the great roads and inlets, where bodies of foot and horſe are placed, communicating with each other, till the place being diſtreſſed for want of neceſſaries, occaſions deſertions of the garriſon, and murmurings or inſurrections of the townſmen, whereby the governor is frequently forced to capitulate.

The other ſort is made nearer the place, by lines of circumvallation, wherein an army is poſted; being chiefly uſed when after a battle, the vanquiſhed party have ſhut themſelves up in ſome town ill provided, and thereby capable of being ſtarved in a ſhort time. *Feuquiere*, Mem. ſur la Guer. art. 77. p. 326.

BLOCKING, in middle-age writers, denotes a kind of burial uſed for perſons dying excommunicated. *Du Cange*, Gloſſ. Lat. T. 3. p. 22. voc. *imblocatus*.

BLOCKY, among jewellers, a name given to a diamond when its ſides are too upright, by its table and collet being larger than they ought to be. *Jeffreys* on Diamonds, p. 25. See TABLE and COLLET.

BLOOD *(Cycl.)*—The *blood*, and other parts of animals, all contain more or leſs of an acid; and this ſeems wholly owing to the effects of their organs of digeſtion upon the aliments they take in, which, in fine, become aſſimilated to, and make part of their fluids and ſolids. All animals do not feed in the ſame manner; but may be divided, in this reſpect, into three different claſſes; the firſt of thoſe uſually called carnivorous animals, that is to ſay, ſuch as have no other food than the fleſh of other animals; the ſecond, of thoſe which never eat of fleſh at all, but feed wholly upon roots, fruits, and other vegetable matters; and the third of thoſe, which feed indifferently both on fleſh and vegetables. This diviſion extends itſelf to the whole animal creation; for there are birds, beaſts, fiſhes, and inſects of all three claſſes.

It ſhould ſeem, that the ſubſtance of thoſe creatures, which feed only on one ſort of animals, ſhould be of a nature nearly allied to that of the animals they feed on, ſince it is that which replaces every part of the creature, and becomes its fleſh and its juices; and we have, indeed, an inconteſtable proof of the truth of this obſervation in the fleſh of ſeveral of the ſea-birds, which, as they feed wholly on fiſh, is ſo ſtrongly rank and fiſhy to the taſte, that it is not eatable. Another very familiar inſtance is in the ſmall-birds with us, which feed on buckthorn berries; for, during the whole time that thoſe berries are in ſeaſon, the fleſh of theſe birds is of a purgative nature.

From hence it ſeems not raſh to conclude, that ſuch animals as feed on things which have acid juices in them, muſt preſerve thoſe acids unaltered in their parts and fluids; for it appears by the above inſtances, that the change of the food into part of the animal, does not conſiſt in an abſolute change of its nature, but merely in a nice and regular arrangement of its parts; and hence the acid, which made part of the food, now becomes part of the animal which eat that food. Hence the fleſh of that animal, and its juices, muſt yield that acid on a chemical analyſis; and that this acid, if it were originally owing to a vegetable, will, after this ſtate, be, at leaſt, wholly equal in ſtrength to that obtained at once from the original plant; nay, there are reaſons, of which hereafter, why it may be more than ſo. All the chemical analyſes that ever were made of the common herbs, fruits, and ſeeds uſed in food, have yielded, among other principles, a liquor manifeſtly acid. This makes a part of the body of the vegetable; and therefore man, who eats theſe vegetables, muſt be ſuppoſed to contain in his fleſh and juices theſe acids unaltered.

It might be ſuppoſed, that this acid, however, ſhould be only found in ſuch animals as eat vegetables, not on ſuch as feed on other creatures; but this doubt will vaniſh when we conſider, that the carnivorous animals ſwallow theſe acids, at leaſt, at ſecond-hand in the fleſh of thoſe animals which had fed on vegetables. This, tho' a very fair way of reaſoning, did not, however, content Mr. Homberg, but that he tried the facts themſelves by a number of experiments, the principal of which for inſtruction are theſe.

He took thirteen pounds of lambs *blood*, and when the ſerum was ſeparated, there remained ſix pounds of the coagulum; this he put without any mixture into a very large glaſs retort, and diſtilled it very gradually by a gentle ſand-heat, till with this degree of fire there aroſe no more vapours from the retort. The veſſels being unluted, there was found in the receiver about five pints of a clear aqueous liquor, which had not the leaſt mark of containing any acid. Another receiver being fitted to the retort, the fire was raiſed to the utmoſt degree of violence. There now came over about eight ounces of a liquor, one half of which was of an oily nature, and the other a red fluid, ſmelling very ſtrong of burning. This red liquor gave equal marks of its containing acid and alkaline particles, for it made an effervescence with ſpirit of ſalt, in the manner of alkali's; and turned a tincture of turnſol red, in the manner of acids. The caput mortuum in the retort was a hard and light ſpungy coal, weighing about five ounces.

The ſame experiment being tried with ſheeps *blood*, the red liquor of the laſt diſtillation was ſomewhat leſs acid than in the other proceſs. Calves and bullocks *blood*, being diſtilled in the ſame manner, gave at the end a red acid liquor of the ſame kind with the former; but in theſe, as in the former trials, the *blood* of the younger animal ſeemed to contain a ſtronger acid than that of the full grown of the ſame ſpecies.

It is remarkable in this liquor, that the acid and alkaline particles of the animal ſubſtance are both blended together in the ſame fluid, without deſtroying one another; which is the caſe in no other known inſtance, theſe two principles always blending intimately together, and forming a third ſubſtance, a ſort of neutral one, which is neither acid nor alkali; but here they appear to be kept diſtinct, and always ready to act upon other bodies, without any power of acting upon one another. The general rules, as to acids and alkali's, ſeem to hold good in the vegetable and mineral kingdoms, but not at all in the animal, where the animal or vegetable acids, and the volatile alkali's, ſeem to obſerve other rules, and require a certain portion of phlegm to ſwim freely in, in order to their acting upon one another. Now in this red liquor there is very little phlegm, and to this it is owing, that they act not at all upon each other, though both are prepared to exert their qualities, on mixing with other ſubſtances.

Human *blood* being diſtilled in the ſame manner, ſix pounds of it, when reduced to a pound and a half, by driving off the aqueous humidity, was put into a retort, and worked by different degrees of fire up to ſo great a one, as to make the retort red hot. The diſtillation afforded in all ſeventeen ounces of liquor; twelve ounces of this was a red aqueous liquor, very full of volatile ſalt, and ſmelling ſtrongly of burning, and the other five ounces were oil. The caput mortuum was a light coal, weighing four ounces and an half.

On rectifying the red liquor by a ſmall fire, in order to ſeparate the volatile ſalt, and the aqueous humidity, there remained at laſt in the retort about an ounce of a red liquor, of a ſtinking, auſtere, and very acid ſmell; this turned the tincture of turnſol to a deep red. Mr. Homberg now imagined, that the acid liquor in the *blood* of animals could not diſengage itſelf perfectly by theſe diſtillations, without addition; as the common ſalts, ſalt petre, and ſea ſalt, yield very little of their acid ſpirits, on a ſimple diſtillation, without mixture; whereas, on barely mixing them with ſome earthy matter, before they are put into the retort, they give all the acid they contain. He therefore determined to diſtil human *blood* with an admixture of ſome other ſubſtance; but as earths contain a ſalt, which might render the operation uncertain, he determined to uſe only the caput mortuum of a former diſtillation of the ſame ſubſtance, To this purpoſe, four pounds of the coagulum of human *blood* being well mixed with a large quantity of this reſiduum, and the whole dried in the ſun, it was put into an earthen retort, and diſtilled in an open fire, raiſed by degrees to the utmoſt violence. The oil being ſeparated from the aqueous liquor, this was rectified; and the effect was, that there came over four pounds of a red acid liquor, which turned the tincture of turnſol to a ſtrong red. All the diſtillations before mentioned of the red liquors being mixed together, and ſeparated from their yet remaining oil, by diluting with water, and careful filtration, were at length diſtilled together; the liquor that came over was as clear as water, and its firſt quantities contained a great deal of volatile ſalt, but the two laſt ounces were found to be as ſour as diſtilled vinegar. Convinced by this, that in carnivorous and fructivorous animals, and in ſuch as eat vegetables alone, the acids of thoſe vegetables remained acids in the parts of the animal; Mr. Homberg tried the ſame experiments on the fleſh and *blood* of the wolf, as a creature that eats only fleſh, and on the duck and the hog, which eat indiſcriminately every ſort of food, and the event proved the ſame in all. All contained a red acid liquor, which had the properties before deſcribed, and in which the alkali and acid were ſo blended together, that they deſtroyed not one another, but each was ready to exert itſelf on occaſion. Mem. Acad. Par. 1712.

Mr. Mery attempted to eſtabliſh the doctrine of air being mixed with the *blood* in the pulmonary vein, and being again diſcharged into the branches of the trachea by the ſmall branches of the pulmonary artery. His principal argument was, that air blown into the trachea, paſſed by the pulmonary veins into the heart; and that by blowing air into the pulmonary artery, it could be forced into the trachea. Mr. Bulffinger obſerved from experiments, that water thrown in at the trachea, ran out at both the pulmonary artery and vein, which neither milk nor air would do. Water injected into the pulmonary artery, paſſed into the trachea, and pulmonary vein, which air alſo did; water injected into the pulmonary vein was puſhed with difficulty, but at laſt ran into the trachea, and not into the pulmonary vein. Hence he concludes Mr. Mery's experiment, and conſequently his ſyſtem, to be falſe. See *Comment. Acad. Petrop.* T. 3. p. 230.

Boerhaave extends the proportion of the ſerum of *blood* to $\frac{5}{8}$ parts of the whole maſs [a]; yet Dr. Morgan ſcruples not to depart from this, and all thoſe mentioned in the Cyclopædia, and makes the cruor and ſerum equal to each other [b]. Indeed in cold, and ſufficiently coagulated *blood*, the tough craſſamentum, and its ſurrounding fluid, ſerum, are ordinarily found to the eye pretty nearly equal to one another [c].—[[a] Med. Eſſ. Edinb. T. 2. p. 90. [b] *Morg.* Phil. Princ. Med. P. 3. Prop. 1. p. 406. [c] *Boyle*, Phil. Works abr. T. 3. p. 252, 460. Med. Eſſ. Edinb. T. 2. p. 91.]

BLOOD *microſcopically examined*—*Blood* makes a very common object for microſcopical obſervations. The method of examining it is this; take a ſmall drop of warm *blood* immediately from the vein, with the nib of a pen, or a hair-pencil, and ſpread it as thin as poſſible on a plate of glaſs; and applying this to the microſcope with the ſecond, or firſt magnifier, the globules will be all ſeen very diſtinctly, and a little practice will enable us to form a judgment on the alterations that may happen in the ſize, figure, or colour of them. If a little warm water be applied to the *blood*, the globules will be divided, and many of them break into a number of ſmaller globules. If warm milk be added inſtead of water, the larger globules will be ſeen very diſtinct; but this ſmaller will be blended with, and loſt in milk, which is itſelf no other than a congeries of ſuch globules. *Baker*'s Microſcop. p. 112.

The mixing of different poiſonous and medicinal liquors with the *blood* may be of great uſe, but the experiments muſt be carefully made, and the apparatus all got ready before the *blood* is let out of the vein, becauſe if it be ſuffered to coagulate firſt, no judgment could be formed of the effects of the mixture.

Mr. Cowper examining by the microſcope a ſolution of opium, found its diſſolved particles in the ſhape of fringed globules; whence he concludes, that ſuch particles circulating in the maſs of *blood*, may eaſily be entangled in its ſerum, and thicken it in ſuch a manner, as to retard its velocity, when over violent, and render its motion calm and equal, whereby all painful ſenſations will be taken off; and, from the ſame principles it is eaſy to account for its other effects, and to conceive how too great a number of ſuch fringed globules muſt cauſe a total ſtagnation of the *blood*, and conſequently be the occaſion of death. Phil. Tranſ. N° 222.

A little *blood* being mixed with about four times its quantity of ſal volatile oleoſum, and viewed by the microſcope, there is ſeen an immediate ſeparation of the globules. They are immediately ſeen much diminiſhed in number as well as ſize, and ſeem quite diſſolved away, only two or three being often left out of twenty in a minute. It is probable hence, that ſal volatile, taken inwardly, may retain the ſame power, and by that means prevent coagulations of the *blood*.

Late writers have purſued the globules of the *blood* to a great length; and found divers orders of them: thoſe large ones viſible to the eye conſtitute the *globules of the firſt order*; each of which, according to Lewenhoeck, is compoſed of ſix ſmaller ſpheres, cluſtered together in a very regular way; and that ſo nicely, in a perfect globule, that the compoſition comes to be imperceptible [d]. But ſometimes the ſame perſon has ſeen a red globule looſening and breaking into theſe compounding ſpherules; and ſometimes has had the good fortune to perceive theſe running together, and beginning the compoſition of a new red globule. Theſe ſmaller ſpherules they call *globules of the ſecond order*. But Lewenhoeck did not ſtop here; he ſaw in the chyle and *blood* a great many particles ſix times leſs than theſe globules of the ſecond order, and thirty-ſix times leſs than the great red globules. So that the globules of the ſecond order are to be looked on as compounded of theſe ſmaller ones; which therefore are juſtly to be reckoned as another claſs, or *globules of the third order* [e]. Further, he finds innumerable *blood*-veſſels in the body, of ſuch ſmallneſs, that none of thoſe hitherto mentioned globules could paſs; ſo that it ſeems neceſſary to ſuppoſe inferior claſſes of *globules of the fourth, fifth, ſixth, &c. orders*. He even ſaw veſſels, the wideneſs of which was leſs than the eighth part of the diameter of a red globule; ſo that the particles paſſing through them, ſhould be upwards of five hundred times leſs than ſuch globules, and conſequently ſmaller than thoſe of the fourth order. What is more, upon a careful examination, he could perceive ſtill ſmaller veſſels, narrower than the tenth part of the diameter of a red globule, and conſequently not capable of tranſmitting ſpherules greater, than if a red globule were broken into a thouſand parts [f]. On

the whole then, the globules of the firſt order are made up of ſix globules of the ſecond, theſe of ſix of the third, theſe of ſix of the fourth, theſe of ſix of the fifth order, and ſo on. And accordingly, we find the globules of the higher orders may be broken down into their compounded particles. That the *blood*, in ſome caſes, might be turned into ſerum, was obſerved by Ariſtotle Nor did ſuch a change of the *blood* eſcape the obſervation of the accurate Dr. Harvey [g].—[[d] Vid. Philoſ. Tranſ. N° 102. p. 23. Item, N° 106. p. 122. and p. 129. It. N° 109. p. 380. It. N° 165. p. 788. ſeq It. N° 263. p. 552. It. N° 380. p. 436. [e] Med. Eſſ. Edinb. T. 2. p. 74. [f] Id. ibid. p. 76. [g] Id. ibid. p. 77.]

Dr. Martine has alſo given us ſome computations of the diameters, magnitudes, weights, *&c.* of the globules of the *blood*. The doctor's computation of the diameter of a red globule agrees with Lewenhoeck's and Dr. Jurin's, being about $\frac{1}{1938}$ of an inch.

The *blood*, as already obſerved, is compoſed of globules of different orders and magnitudes. The diameters of thoſe of the tenth order are eſtimated at leſs than $\frac{1}{100000}$ of an inch. See Medic. Eſſ. ibid. or Abridg. Vol. 1. p. 256. ſeq.

*Elements of the* BLOOD, according to the antients, were,

1. The αἷμα, or the red part, which they conſidered as the true and proper *blood*. 2. The φλεγμα, or ſerum. 3. Bile. And, 4. Μελαγχολια, or *atra bilis:* and from hence did the doctrine of temperaments take its origin. *Martine*, in Medic. Eſſ. Edinb. T. 2. Art. 7. §. 2. p. 68.

The ſeveral temperaments, ſanguine, choleric, phlegmatic, *&c.* took their denominations from the conſtituent parts of the *blood*, as abounding more or leſs in one, or other of theſe elements. *Martine*, loc. cit. §. 6. p. 82. ſeq.[1]

The elements of the *blood*, according to the chemiſts, are water, ſulphur, ſalt and earth. Vid. *Martine*, ibid. §. 3. p. 70. ſeq.

The fibres in the *blood*, ſtrenuouſly aſſerted by Malpighi, are not to be found in its natural ſtate. If they were, they muſt diſturb the circulation. Their appearance ſeems to be entirely owing to a ſubſequent preparation of extravaſated *blood*, whoſe viſcid parts, by the heat of warm water, and conquaſſations, or ſuch artifice, run together into new forms. *Martine*, in Medic. Eſſ. Edinb. Vol. 2. Art. 7.

According to Dr. Martine, the *blood* being unity, and conſiſting of 4873 grains, its elements are in the following proportions.

| | | |
|---|---|---|
| Water | gr. 4086 | $\frac{5}{6}$ |
| Oil | 333 | $\frac{1}{15}$ |
| Salt | 190 | $\frac{1}{25}$ |
| Earth | 65 | $\frac{1}{75}$ |
| Air | 171 | $\frac{1}{28}$ |

The denſity of the *blood* is commonly examined, when it is expoſed to cold air; but as the *blood* thus expoſed muſt differ from what it is, when circulating in the veſſels of the animal, its real and natural denſity ſhould be inveſtigated in a live ſtate. We know that all bodies are condenſed by cold, and expanded by heat; therefore cold *blood* is ſpecifically heavier than the warm fluids circulating in the veſſels of a living animal; but the difference is not eaſy to determine. Dr. Martine, from his obſervations and experiments, concludes the real denſities of water and *blood* to be in theſe proportions.

| | |
|---|---|
| Water in a temperate degree of heat | 1000 |
| —— freezing | 1003 |
| —— of the heat of human *blood* in the body— | 990 |
| *Blood* of the heat of temperate air | 1056 |
| —— in its natural living ſtate | 1045$\frac{5}{8}$ |

Hence we may determine the weight of a given bulk of *blood*, which has not been hitherto done ſo accurately as it deſerves. The doctor from his experiments concludes, that a cubic inch of rain water, weighing 253$\frac{1}{2}$ grains, a cubic inch of warm *blood* will be equal to 264$\frac{3}{4}$ grains; and an ounce of *blood* will be 1,813 inches. An averdupois ounce is found to weigh 437$\frac{1}{2}$ grains, and is therefore in water equal to 1,727 inches; and 1,6526 inches of warm *blood*. See Medic. Eſſ. Edinb. Vol. 2. Art. 7.

The ſame author makes the denſity of cold ſerum 1032, that of rain water being 1000. And the ſerum reduced to the heat of live *blood* 1021$\frac{2}{3}$, or 1022. Dr. Jurin found the denſity of the craſſamentum 1084. but this varies conſiderably in different ſubjects, and Dr. Martine, at a medium, found it 1080; and he thinks the true denſity of a red globule circulating in the *blood* of a living man to be 1093. The reaſon for this increaſe of denſity is, that two thirds of the craſſamentum are taken up by red globules, and the other third by ſerum. This differs ſomething from Dr. Jurin's computation. See Medic. Eſſ. ibid. & Phil. Tranſ. N° 361.

If the red part of the *blood* bears too great a proportion to the ſerum, which is the caſe of athletic perſons, and others who do not take a ſufficient quantity of drink with their meat, the fault may be corrected by leſſening the meat, or by increaſing their drink. Dr. Bryan Robinſon tells us of a young man, who not having for a conſiderable time drank with his meat, had a very florid complexion, and ſcorbutic eruption all over his body, arguments of too great a proportion of the red part of the *blood* to the ſerum, was freed from his diſorder by drinking with his meat, without any farther remedy. Diſſ. on the food and diſcharge of human bodies, p. 65.

In the beginning of fevers, the proportion of the red part of the *blood* to the ſerum is greater, and at the end of them leſs, than it is in health. The change of this proportion is owing to perſons under this diſorder living wholly on drink and liquid nouriſhment. And bodies loaded with ſerous moiſture, an argument of too ſmall a proportion of the red part of the *blood* to the ſerum, have been freed from their load, by abſtaining wholly from drink.

There are other cauſes beſides the bare quantities of meat and drink, which vary the proportion of the red part of the *blood* to the ſerum; for this proportion is greater in country people than in citizens, in perſons who uſe exerciſe than in perſons who are inactive, and in perſons who live upon fleſh meats, and fermented liquors, than in perſons who live upon vegetables and water. In ſhort, this proportion is increaſed by things which dry the body, and ſtrengthen the fibres, and leſſened by things of a contrary nature.

Too great a proportion of the red part of the *blood* to the ſerum, renders bodies ſubject to inflammatory fevers on taking cold. Ibid. p. 66, ſeq.

When extravaſated *blood* is left to itſelf, the red globules run forcibly together, and ſqueeze out the intervening ſerum in ſome animals with a greater, in others with a leſs force; which is a proof, that theſe globules are endowed with an attractive power. This force in deer's *blood* is ſo weak, that it ſcarcely coagulates into a firm craſſamentum. On the contrary, in ſome great and ſtrong beaſts, it becomes a tough, and almoſt indiſſoluble maſs; ſo that the *blood* of bulls was frequently drank by the antients, as a moſt effectual poiſon. See *Herod.* III. 15. *Plin.* Hiſt. Nat. XI. 33. XX. 9. XXIII. 7. *Plutarch*, in vit. Themiſt. See EXTRAVASATED.

Mr. le Cat thinks, that the *blood* is detained in its fluid ſtate by a cauſtic fluid, and that this forms the red globules. But then it needs the aſſiſtance of the animal fluid, which is the principle that preſerves all from corruption, and to which we owe our ſenſation and motion. Med. Eſſ. Edinb. Abrid. vol. 2. p. 481. See SENSITIVE *fluid.*

*Colour of the* BLOOD varies according to the circumſtances of the perſon; a blackneſs ariſes in it from a deficiency of the ſerum; and a paleneſs, from a too great abundance of it. It will always be found, that when globules cohere together in too great a number, they give a black appearance; and when this is found to be the ſtate of the *blood*, the means of diluting it ſhould always be attempted. When Mr. Lewenhoeck found his *blood* too deep-coloured, his method always was to drink four diſhes of coffee in the morning inſtead of two, and ſix diſhes of tea in the afternoon inſtead of three. Theſe he always drank as hot as poſſible, and did not return to his uſual ſtint, till he found the globules of his *blood* grow paler.

*Circulation of the* BLOOD, viewed with the microſcope in the tail of a ſmall eel, affords one very beautiful phænomenon; that is, when the *blood* has paſſed in ſeveral channels to the end of the laſt bone; it there forms one ſimple channel, in which there ſeems to be a valve; and the progreſſive motion of the *blood* is different there from what it is in other places, the whole maſs coming to a ſudden ſtop, yet never getting at all back, and then advancing forward in a ſtrait line with violence; and theſe ſucceſſive progreſſes were ſo quick, that one could ſcarce have time to pronounce a ſyllable between one and the other of them. The veſſels alſo about the head in a very ſmall eel ſhew very beautifully this circulation; and the motion of the heart is eaſily ſeen. See CIRCULATION.

*Motion of the* BLOOD is either progreſſive or inteſtine. The progreſſive motion is its courſe or circulation from the heart by the arteries to the extreme parts, and thence by the veins to the heart [a]; which is differently performed in adults from what it is in a fœtus [b].—[[a] Vid. Hiſt. Acad. Scienc. ann. 1718. p. 21. It. Mem. p. 2810. [b] Vid. *Nent.* Fund. Med. tab. 1. T. 1. p. 7. Mem. Acad. Scienc. ann. 1708. p. 240.] See CIRCULATION and FOETUS.

The propulſion of the *blood*, or the impetus wherewith it is driven along its courſe to the remoteſt capillaries, is owing to the contraction of the left ventricle of the heart and that of the arteries; regurgitation of the *blood* being prevented by the ſigmoid valves. Hiſt. Acad. Scienc. an. 1713. p. 29.

This is great enough in ſome animals to raiſe the *blood* ſix, ſeven, or eight feet high from the orifice it ſpins out at; which, however, is far exceeded by that of the ſap of a vine in bleeding-time, which will ſometimes riſe upwards of forty feet high. *Hales*, Veget. Stat. c. 3. Phil. Tranſ. N° 398. p. 274.

The heat and motion of the *blood* are always greater from a greater